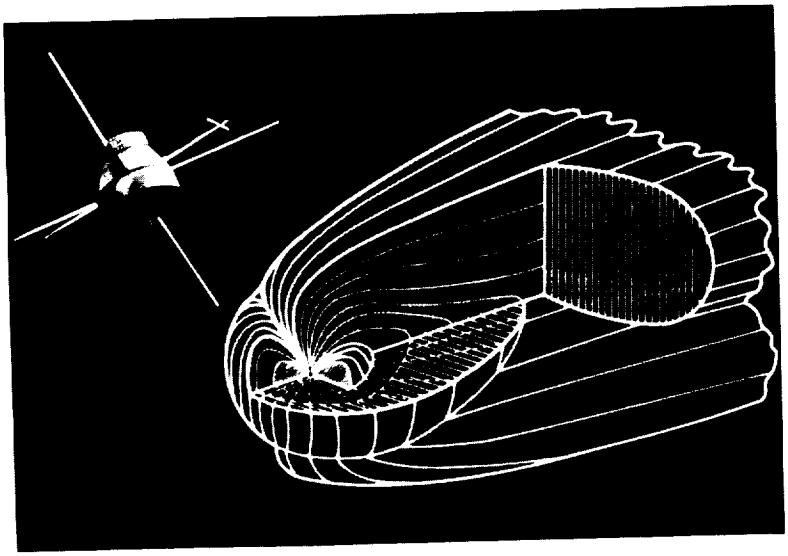
NSSDC NATIONAL SPACE SCIENCE DATA CENTER

WORLD DATA CENTER A for ROCKETS AND SATELLITES 88 - 11

DATA CATALOG SERIES FOR SPACE SCIENCE AND APPLICATIONS FLIGHT MISSIONS

Volume 2B

Descriptions of Data Sets from Geostationary and High-Altitude Scientific Spacecraft and Investigations



May 1988

CATEGORIES OF SPACECRAFT USED IN THIS SERIES

PLANETARY AND HELIOCENTRIC

This category includes probes to the various planets of the solar system and probes designed to make measurements of the characteristics of interplanetary space. Also included are the probes that will pass out of the solar system into interstellar space.

METEOROLOGY AND TERRESTRIAL APPLICATIONS

This category includes geocentric spacecraft whose primary mission is to make remote sensing measurements of the earth and its atmosphere. Spacecraft that carry instrumentation to make geodesy and gravimetry measurements are also included. Technology, engineering, and communications spacecraft or investigations are not included because NSSDC does not archive such data.

ASTRONOMY, ASTROPHYSICS, AND SOLAR PHYSICS

This category consists of scientific satellites designed to conduct investigations of the sun, stellar objects, nonstellar sources, and interstellar phenomena. These satellites are geocentric except for the selenocentric RAE-B.

GEOSTATIONARY AND HIGH-ALTITUDE SCIENTIFIC

This category includes those satellites designed to conduct investigations of the characteristics of near-earth space from orbits with apogees near geostationary altitude and higher. Three of the spacecraft are selenocentric. Communications satellites are not included because NSSDC does not archive such data.

LOW- AND MEDIUM-ALTITUDE SCIENTIFIC

This category includes those spacecraft whose apogees are well below geostationary altitude and whose primary purpose is to conduct investigations in the near-earth environment.

NSSDC/WDC-A-R&S 88-11

DATA CATALOG SERIES FOR SPACE SCIENCE AND APPLICATIONS FLIGHT MISSIONS

Volume 2B

DESCRIPTIONS OF DATA SETS FROM GEOSTATIONARY AND HIGH-ALTITUDE SCIENTIFIC SPACECRAFT AND INVESTIGATIONS

Edited by

Norman J. Schofield
R. Parthasarathy
H. Kent Hills

May 1988

National Space Science Data Center (NSSDC)/
World Data Center A for Rockets and Satellites (WDC-A-R&S)
National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

PREFACE

This document is part of a series (see inside front cover) that describes data sets and related spacecraft and investigations from space science and applications flight investigations. The series describes the data sets held by the National Space Science Data Center (NSSDC) and some of the data sets held by NASA-funded and other investigators. The series comprises documents that point to extensive data sets held and serviced by other Government agencies. This document is the second and last volume of the catalog for the Geostationary and High-Altitude Scientific category. The first volume described the spacecraft and investigations and listed personnel names and affiliations. This volume describes the data sets associated with the various investigations. NSSDC is now beginning to provide remote electronic accessibility of its information files.

We would like to thank the many investigators who have submitted their data for archiving at NSSDC for their cooperation in supplying current status information. We are particularly indebted to the many past and present NSSDC personnel who interacted with the investigators in bringing to NSSDC the flight data and who provided the initial input for many of the descriptions appearing in this catalog. Thanks are also extended to the other NSSDC personnel who have been involved in the information handling necessary to produce this volume. Special acknowledgment is given to Karen Satin and Mary Elsen for their extensive editorial assistance, and to Patricia Ross for her valuable assistance with the computer data base.

The Data Center is continually striving to increase the usefulness of its data holdings, supporting indexes, and documentation. Scientists are invited to submit their space science data and related documentation to NSSDC. Their comments on, and corrections to, the present catalog will be greatly appreciated. Catalog recipients are urged to inform potential data users of its availability.

Norman J. Schofield
R. Parthasarathy
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May 1988

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INTRODUCTION

1. INTRODUCTION

1.1 PURPOSE

The National Space Science Data Center (NSSDC) was established by the National Aeronautics and Space Administration (NASA) to provide data and information from space science and applications flight investigations in support of additional studies beyond those performed as the principal part of any flight mission. This document is part of the 11-volume NSSDC *Data Catalog Series for Space Science and Applications Flight Missions*, which describes (1) the spaceflight investigations for which NSSDC possesses data or can direct people to the data source, (2) available data sets held by NSSDC, (3) some data sets held and serviced by NASA-funded investigators, and (4) some data sets held and serviced by other investigators. The series also points to extensive data sets held and serviced by other Government agencies, particularly the National Oceanographic and Atmospheric Administration (NOAA). There is one major omission from this series: the extensive set of data obtained from the lunar missions conducted by NASA, supplemented by a few small photographic data sets from Soviet missions. These data are described in the *Catalog of Lunar Mission Data* (NSSDC/WDC-A-R&S 77-02) and will not be repeated in this series, except for a few cases. The data from IMP-E, the Apollo 15 subsatellite, and the Apollo 16 subsatellite are included in this series since they are important to disciplines other than those connected with lunar studies. Some of the experiments of the Apollo ALSEP missions also yielded useful data for magnetospheric and interplanetary physics, but these are not included in the series, because the instruments were confined to the surface of the moon. Readers should consult the *Catalog of Lunar Mission Data* if they are interested in such data sets.

The series consists of (1) five volumes that describe the spacecraft and their associated experiments, separated into various categories, (2) five corresponding volumes that describe the available investigation data sets and the available orbital information, and (3) a master index volume. The five categories of spacecraft are (i) Planetary and Heliocentric, which includes planetary flybys and probes; (ii) Meteorology and Terrestrial Applications; (iii) Astronomy, Astrophysics, and Solar Physics, which are all geocentric except the selenocentric RAE-B; (iv) Geostationary and High-Altitude Scientific; and (v) Low- and Medium-Altitude Scientific. It is impossible to provide an organization of categories that separates the investigations cleanly into scientific disciplines, since many missions were multidisciplinary. With the above organization, which is partly discipline-oriented and partly orbit-oriented, it was found that in nearly all cases a given spacecraft belonged clearly to only one of the five categories. The few exceptions encountered have resulted in some data sets appearing in more than one data set volume.

Each volume is organized in a way that is believed to be most useful to the user, and the organization for each volume is described in Section 1.2, Organization. For the standard types of orbital information, i.e., predicted, refined, and extended, the available ephemeris data sets are indicated in tabular form (see Appendix A) to avoid repeating the same brief description an inordinate number of times. The standard description of a data set from an investigation is a free-text brief description, as the wide variety of instruments precludes using a tabular format in most cases.

It is hoped that this series will serve for many years as the source documentation for data in the disciplines that NSSDC handles. The continuing *NSSDC Data Listing* series will be used to update the time intervals for which data are available and to identify, in brief form, the new data sets that become available in the future. The continuing series of NSSDC's *Report on Active and Planned Spacecraft and Experiments* will be used to describe the new spacecraft and experiments that are placed in orbit. However, NSSDC is bringing its information files to a state of remote electronic accessibility so that users can have easy access to the most current information.

1.2 ORGANIZATION

Volumes 2A and 2B of the NSSDC *Data Catalog Series for Space Science and Applications Flight Missions* deal with earth-orbiting spacecraft and investigations mainly at geostationary and higher altitudes. However, proprietary data sets (mainly from Coordinated Data Analysis Workshops, or CDAWs) are omitted. Also included are three lunar-orbiting spacecraft and some others whose apogees did not attain the geostationary altitude. Volume 2A contains descriptions of only those investigations for which NSSDC has data sets (or reasonably expects to receive them), knows of their location and has descriptions of them, or has notice that data no longer exist. There are several investigations for which NSSDC has no data sets and for which no description or information on availability of data could be obtained. These investigations are listed in the Introduction to Volume 2A.

This volume, 2B, contains descriptions of available data sets from the investigations described in Volume 2A. In view of the above selection criteria, a number of the investigations described in Volume 2A do not have corresponding data sets in Volume 2B. However, nearly all the spacecraft and investigation descriptions for the data sets in this volume are given in Volume 2A. The few descriptions that were not in Volume 2A are given in Appendix B of the present volume. Appendix B also contains one spacecraft description (for ISEE 3/ICE) to which significant information has been added since the publication of Volume 2A.

In this volume, the principal subject areas are magnetospheric physics, space plasmas, and fields and particles, but the spacecraft selection is based on the orbit category. No attempt has been made here to reference investigations that are related to the above subject areas but are carried on spacecraft described in other volumes of this series.

For easy reference to Volume 2A, the data set descriptions in Volume 2B are organized in the same manner as the spacecraft and investigation descriptions of Volume 2A. The data set descriptions, therefore, are presented alphabetically by spacecraft common name. Under each spacecraft name, the appropriate investigations are given alphabetically by the name of the principal investigator.

Under each investigation heading, the data set descriptions are arranged according to the NSSDC ID, which is an identification code based on the international ID (see Appendix D for an explanation of the NSSDC ID system). The data set ID is the investigation ID followed by a letter that is assigned (in alphabetical order) whenever a new data set is received at NSSDC. If the data set sequence for an experiment is not continuous (e.g., 01A, 01B, 01D), it means that the omitted data sets do not meet the selection criteria given in the first paragraph of this section.

Each data set entry begins with the following fixed-field information: the data set short and long names, the NSSDC ID, the time period covered, the quantity of data, and the medium on which the data are stored. The 33-character short name is included because it is the only name that appears in the periodic publication *NSSDC Data Listing*, which for many years has been the principal means of announcing NSSDC data.

The data set description, in free text, is given below the fixed-field data. An attempt has been made to indicate first the source of the data set, its basic contents, and its medium. For data contained on magnetic tapes, the stated characteristics are those of the magnetic tapes that currently hold the corresponding data. If these characteristics are not suitable, data users should discuss their requirements with the NSSDC staff; NSSDC may be able to provide the same data in a more convenient tape format. Following the introductory statements, a more detailed description of the data set contents is given. Additional information is typically available at NSSDC for the data sets, and this information is provided either on request or with the information packet that is sent with the requested data.

Certain publications that contain extensive tables of reduced data have been identified as data sets, to provide helpful information for locating these tables. As a general rule, NSSDC does not provide these publications. If the publication of interest is not readily available, as might be the case for an internal agency report, NSSDC in most cases can provide a microfiche of its file copy or, if necessary, a photocopy of the original report.

Section 3, Index of Data Sets, which follows the Data Set Descriptions section, is ordered in the same manner as the data set descriptions. Also included in the index are the spacecraft launch dates, experiment names, data set names and time spans, and pages of this volume on which the data set descriptions may be found.

In many of the NSSDC data sets, the corresponding spacecraft ephemeris data are merged with the data from the investigations. In some cases, the ephemeris data must be obtained from separate standard data sets identified by the spacecraft ID followed by the designation 00A, 00B, or 00C. The 00A, 00B, and 00C data sets are described only once (in Appendix A), since each type is very uniform in content and format. The availability of such data sets for the spacecraft of interest in this volume is indicated by a table given also in Appendix A. In some other cases there may be some additional data sets associated with the spacecraft and designated as 00D, 00E, 00F, etc. These data sets may contain non-standard types of ephemeris information, or they may provide other spacecraft-related data such as tables showing when the spacecraft was turned on or indexes providing a comprehensive summary of available data. Descriptions of spacecraft data sets with designations other than 00A, 00B, and 00C are listed in Section 2, Data Set Descriptions, after the spacecraft name and before the investigation data sets.

Appendix C provides a chronological listing of the spacecraft for which data sets are available and described in this catalog, as well as their typical orbital parameters.

Certain words, phrases, and acronyms used in this volume are defined in Appendix D.

Document Request Forms and Data Request Forms have been provided at the end of this volume.

1.3 NSSDC PURPOSE, FACILITIES, AND SERVICES

The National Space Science Data Center was established by the National Aeronautics and Space Administration to provide data and information from space and earth science and applications investigations in support of additional studies beyond those performed by principal investigators. As part of that support, NSSDC has prepared this series of volumes providing descriptions of archived data, which is divided into five categories as presented in Section 1.1, Purpose. (See also inside front cover.) In addition to its main function of providing selected data and supporting information for further analysis of space science flight experiments, NSSDC produces other publications. Among these are the *Report on Active and Planned Spacecraft and Experiments* and various users' guides.

Virtually all the data available at or through NSSDC result from individual experiments carried on board individual spacecraft. The Data Center has developed an information system utilizing a spacecraft/investigation/data identification hierarchy. This catalog is based on the information contained in that system. The Data Center is developing a new online information base, using a relational data base model, to facilitate easy electronic access by remote users through the Space Physics Analysis Network (SPAN) or by using a telephone dial-up capability (301-286-9000, then "NSSDCA" at prompt). Further details may be obtained by contacting the NSSDC User Support Office (301-286-9794).

NSSDC provides facilities for reproduction of data and for onsite data use. Researchers are invited to study the data while at the Data Center. The Data Center staff will assist users with data searches and with the use of equipment. In addition to spacecraft data, the Data Center maintains some supporting information and data that may be related to the needs of the researchers. The services provided by NSSDC are available to any individual or organization resident in the United States, and to researchers outside the United States through WDC-A-R&S. Normally, a charge is made to cover the cost of reproducing and processing the requested data. The researcher is notified of the charge, and payment must be received prior to processing. However, as resources permit, the director of NSSDC may waive charges for modest amounts of data when they are to be used for scientific studies or for specific educational purposes and when they are requested by an individual affiliated with (1) NASA installations, NASA contractors, or NASA grantees; (2) other U.S. Government agencies, their contractors, or their grantees; (3) universities or colleges; (4) state or local governments; or (5) nonprofit organizations.

Data Request Forms have been provided at the end of this volume to facilitate ordering data from NSSDC. A researcher may also obtain data described in this catalog by letter, telephone request, onsite visit, or electronic mail utilizing SPAN or Telenet. Anyone who wishes to obtain data for a scientific study should specify the NSSDC ID and the time span (and/or location) of interest. A researcher should also specify why and when the data are needed, the subject of the work, organizational affiliation, and any Government contracts acquired to perform the study. The Data Center staff is available to help requesters identify data sets for use.

NSSDC would also appreciate receiving copies of all publications resulting from studies in which data supplied by NSSDC have been used. It is further requested that NSSDC, as well as the investigator, be acknowledged as the source of the data.

Data can be provided in a format or medium other than that described in this catalog. For example, magnetic tapes can be reformatted; some data sets can be provided on floppy disks; computer printout or microfilmed listings can be reproduced from magnetic tape; enlarged paper prints can be made from data on photographic film and microfilm, etc. WORM and CD-ROM optical disks will soon be coming into use. NSSDC/WDC-A-R&S will provide the requester with an estimate of the response time and, when appropriate, the charge for such requests.

The Data Center's address for information (for U.S. researchers) follows:

National Space Science Data Center
Code 633.4
Goddard Space Flight Center
Greenbelt, Maryland 20771
Telephone: (301) 286-6695
Telex No.: 89675 NASCOM GBLT
TWX No.: 7108289716
SPAN Address: NCF::REQUEST

Researchers who reside outside the United States should direct requests for information to the following address:

World Data Center A for Rockets and Satellites
Code 630.2
Goddard Space Flight Center
Greenbelt, Maryland 20771 U.S.A.
Telephone: (301) 286-6695
Telex No.: 89675 NASCOM GBLT
TWX No: 7108289716
SPAN Address: NCF::REQUEST

For access to a menu of information, limited data directory, and limited data display, requesters may use SPAN to log onto the NSSDCA node, with NSSDC as Username. No password is required. NSSDC may also be reached by Telenet; current procedures are available from the NSSDC Network Hotline (301-286-7251). The limited data directory is being continually expanded and developed, and allows users to search for useful data sets by several methods.

1.4 DATA ACQUISITION

NSSDC invites members of the scientific community involved in spaceflight investigations to submit data to the Data Center or to provide information about the data sets that they prefer to make accessible themselves. The Data Center assigns a discipline specialist to work with each investigator or science working team to determine the forms of data that are likely to be most useful to the community of users that obtain data from NSSDC, and to help in preparation of the Project Data Management Plan (PDMP) required of all NASA flight projects. Additional information on PDMPs and on archiving of data is available on request. The pamphlet *Guidelines for Submitting Data to the National Space Science Data Center* can be provided on request.

1.5 COMPOSITE SOLAR WIND FIELD AND PLASMA DATA SET

Most data sets available from NSSDC were obtained from individual instruments flown on individual spacecraft. These data sets are described in the spacecraft/instrument-sorted computer output listings on the following pages. In addition, NSSDC holds some multisource data sets not described in the following pages. Such a data set is described in this section.

NSSDC has created, and periodically updates, a composite, hourly resolution, near-earth solar wind magnetic field and plasma data set. The data now span the period 1963-87. The magnetic field data, from about 12 different spacecraft, include Cartesian components, magnitudes, direction angles, and variances. Geocentric Solar Ecliptic and Geocentric Solar Magnetospheric coordinates are used. The plasma data include proton density, temperature, flow speed and direction angles, and variances, and are also from about 12 different spacecraft. In addition to the in-situ solar wind data, the data set contains selected solar and geomagnetic activity indices (R, C9, Kp, Dst).

The data set is available on magnetic tape (ASCII and binary), on CD-ROM, and in a series of paper books (*Interplanetary Medium Data Book*, NSSDC 77-04 and 77-04A, and supplements, NSSDC 79-08, 86-04, and 86-04A). In addition, the 1973-87 portion of this data set is available on line on the NSSDC VAX via SPAN, other computer networks, and dial-up. Enter NSSDC at the Username prompt, then follow the prompts and menus. Users may list to their screens, or create files to download, any subset of the hourly parameters for any time period of interest.

DATA SET DESCRIPTIONS

AMPTE/CCE

AMPTE/CCE, GLOECKLER
CHARGE-ENERGY-MASS SPECTROMETER(CHEM)

Data set name - COLOR SPECTROGRAMS

NSSDC ID 84-088A-03A, COLOR SPECTROGRAMS,SLIDES

Time period covered - 08/17/84 TO 07/08/85

Quantity of data - 8650 COLOR SLIDES

The slides labeled ENERGY-TIME provide 6.4-min averages of differential energy fluxes of selected ions, in color code and in separate panels. The ions are H+, He+, He++, and O+. There is one slide for a full orbital period. The energy range is from 1 to 300 keV. The L-value, local time (LT), and magnetic latitude (MLT) of the spacecraft are printed along the UT axis. The slides labeled ANISOTROPY-TIME provide pitch angle dependent differential fluxes at selected energy values, for several ions, and in color code. The H+ and O+ spectra are at energies of 2, 20, and 100 keV; the He+ and He++ data are at energies of 20 and 100 keV. Pitch angle is specified by 32 angular sectors; a pair of dotted lines identifies the sectors that correspond to a pitch angle of 90 deg. At the bottom of each slide are indicated the L value, local time (LT), and magnetic latitude of the spacecraft. Time coverage of each slide is a full orbital period. The slides labeled M/Q-TIME provide 6.4-min averaged fluxes of ions (counts/s) in color code as a function of UT and M/Q, in separate panels of approximate mass ranges. These mass ranges are 0.7-2.0, 2.0-3.5, 3.5-4.2, 4.2-8.8, 8.8-13, 13-15, 15-18, 22-26, 26-32, 32-38, and 38-94 amu. The M/Q values are accurate, even if they occasionally exceed the mass range slightly. Along the UT axis are specified the L-value, local time (LT), and magnetic latitude (MLT). The slides labeled MISC-TIME provide particle flux (counts/s) spectra in color code. Each slide has four panels. The first panel provides O++ flux as a function of energy (1-300 keV) and time (UT). The second panel has a similar spectrum for all ions, irrespective of mass or charge. The third panel provides a similar spectra as a function of mass number and UT. The fourth panel is a flux spectrum as a function of M/Q (1-74) and UT. Along the UT axis are marked the L-values, local time (LT), and magnetic latitude. This data set is part of a composite data set, which contains all spectrgrams made during each full orbit from the three experiments, 84-088A-01, 84-088A 02, and 84 088A 03, and is grouped in separate packages.

Data set name - CHARGE-ENERGY MASS SPECTRUM SFDU

NSSDC ID 84-088A-03B, CHARGE ENERGY MASS SPECTRUM SFDU

Time period covered 08/28/84 TO 12/31/84

Quantity of data 2 REELS OF TAPE

These 6.4-min averages of data from the Charge-Energy Mass (CHEM) experiment are written on 9-track magnetic tapes, at 6250 bpi and in SFDU format. Each physical block has a fixed length of 20,480 bytes, written in English/ASCII and VAX binary representation. The volume header file provides an outline of the content and structure of entries. It is followed by an ephemeris file of many blocks, which includes data on GSE Cartesian components of the spacecraft's location and velocity, its latitude and longitude, Cartesian components of the measured magnetic field, SM latitude and local time of the spacecraft, and local time of the subsatellite point, each listed every 5 min. Written next is an attitude file that includes the right ascension and declination of the direction of the spin axis, and the spin rate, listed once every orbit. It is followed by an "events" file that includes information on maneuvers, data gaps, anomalous conditions, etc. The final sequence of files contains the CHEM data ritten as one file per day of data. Each logical record of 5656 bytes includes the following 6.4-min averages: direccional differential fluxes (1/(cm**2 s sr keV/Q) of H+, He+, He++, O+, and O++ from 16 channels covering the range 1.77-300.0 keV/Q; directional fluxes in three energy ranges (only two for He) from each of the 32 angular sectors in the spin plane, of the above five species and in the same units; and 512 matrix elements in a mass vs mass/charge space. Energy values of the matrix elements extend over the entire energy range of the instrument, and intercomparision of the elements should be avoided. Also included are data on the location of the spacecraft and measured GSE Cartesian components of the magnetic field. The header of each file provides adequate information on the content, structure, units, etc., so that little or no external documentation is required to abstract data of interest. Caution: the particle data are not corrected for background counts, and experimenters must be contacted for these counts.

AMPTE/CCE, MCENTIRE
MEDIUM ENERGY PARTICLE ANALYZER (MEPA)

Data set name - COLOR SPECTROGRAMS

NSSDC ID 84-088A-02A, COLOR SPECTROGRAMS,SLIDES

Time period covered - 08/17/84 TO 07/08/85

Quantity of data - 8650 COLOR SLIDES

Each of the 35-mm slides, entitled MEPA ANGULAR DISTRIBUTION, covers a time span of one orbital period and contains two principal panels. These spectrograms provide directional fluxes of ions, in color code, averaged over fairly broad energy bands; one panel is assigned to each ionic species, and it is specified by time and angular sector numbers, 1-32. The fluxes are averages over 6.4 min. A pair of dotted curves specifies the sector numbers that contain 90-deg pitch angle fluxes. As labeled in each panel, the ionic species may be, irrespective of charge number, either H (energy band 56-190 keV), or He (72-240 keV and 680-1900 keV), or C-N-O group (137-365 keV and 910-2320 keV). There are three additional panels, without species discrimination (and, presumably, dominated by H+), covering the energy bands 34-50, 83-151, and 540-1000 keV. At the bottom of each slide is a slim panel that provides the smallest angle made by the viewing cone of the instrument with the magnetic field direction. Zero pitch angle fluxes are sampled only rarely. Another curve in the same panel provides the rms variation of the B-field magnitude during the averaging interval of 6.4 min. Each of the slides labeled MEPA PHA SPECTRUM provides intensities (counts/s) of atomic species, regardless of charge number, as a function of time of flight (over a 10 cm path) and energy, in color code. The intensity in each of the panels in a slide is an average over a few hours and a corresponding band of L-values, both of which are labeled on each panel. There are five tick marks on the energy axis and another five on the time of flight (TOF) axis. They are, from left to right, 50, 100, 500, 1000, and 5000 keV; and, bottom to top, 5, 10, 20, 50, and 100 ns. Each of the color coded sloping lines (or bands) pertains to one atomic species, irrespective of charge number. It is easy to ascertain the atomic species of each line by means of a pair of TOF (which contains velocity information) and energy values on the line. Each of the slides labeled MEPA ENERGY SPECTRUM provides in five separate panels the differential energy fluxes, in color code, of (a) Fe, (b) C-N-O group, (c) He, (d) H, and (e) all ions, irrespective of mass. The fluxes are averages over a 6.4-min period. The pitch angle information contained in the sixth panel is often erroneous. Alongside the time axis are indicated the L values and magnetic local times (MLT) of the spacecraft locations. These slides from the 84-088A-02 experiment are part of a composite data set that contains slides from the other two particle experiments, i.e., 84-088A-01 and 84-088A-03.

Data set name 6.4 MIN, MASS-ENERGY SPECTRA, POOL SFDU DATA

NSSDC ID 84-088A-02B, 6.4-MIN,MASS-ENERGY SPECTRA, POOL

Time period covered - 08/16/84 TO 12/31/84

Quantity of data - 3 REELS OF TAPE

AMPTE/CCE, POTEMRA
CCE MAGNETOMETER (MAG)

Data set name - SURVEY PLOTS ON MICROFICHE

NSSDC ID 84-088A-05A, SURVEY PLOTS, MICROFICHE

Time period covered - 08/27/84 TO 07/18/85

Quantity of data - 65 CARDS OF B/W MICROFICHE

This data set contains data from two experiments: Fluxgate Magnetometer (68-s averages of B field) and Plasma Wave Detector (62 s averages of E field). Each fiche contains 5 days of data in frames of 8 h duration. The B field frames (ID=84-088A-05A) contain plots of X, Y, Z components of the field in GSM coordinates and the magnitude B, all in nT. Also provided are the latitude (theta) and the longitude (phi) of the B vector in GSM, and standard deviations of the components in the spin plane and along the spin axis. In addition to these, the frame also contains 5-50 Hz band outputs of the field component in the X Y plane and BZ, labeled, respectively, X-FILT and Y-FILT. The E-field frames in each fiche contain plots of plasma wave intensities, in five frequency bands

centered at 100 Hz, 730 Hz, 5.4 kHz, 30 kHz, and 178 kHz. The bandwidth of each channel is 30% of its center frequency. The intensities are expressed as logarithms of volts/(m-sqrt Hz). For the four lower frequency channels, the frames also contain the peak values of the intensities in each 62-s interval. Also indicated in each frame are the values of L-parameter, local time, and geomagnetic latitude, and the radial distance of the spacecraft. The NSSDC ID for the E-field experiment is 84-088A-04A.

Data set name - MAGNETIC FIELD VECTOR SFDU DATA ON MAGNETIC TAPE.

NSSDC ID 84-088A-05B, MAGNETIC FIELD VECTOR SFDU

Time period covered - 08/18/84 TO 12/31/84

Quantity of data - 1 REEL OF TAPE

These 68-s averages of magnetic field data are written on 9-track magnetic tapes, at 6250 bpi and in SFDU format. Each physical block has a fixed length of 12,288 bytes, written in English/ASCII and VAX binary representation. The volume header file provides an outline of the content and structure of entries. It is followed by an ephemeris file of many blocks, which includes data on GSE Cartesian components of the spacecraft's location and velocity, its latitude and longitude, Cartesian components of the magnetic field, SM latitude and local time of the spacecraft, and local time of the subsatellite point, each listed every 5 min. Written next is an attitude file that includes the right ascension and declination of the direction of the spin axis, and the spin rate, listed once every orbit. It is followed by an "events" file that includes information on maneuvers, data gaps, anomalous conditions, etc. The final sequence of files contains the magnetic field data, written as one file per day of data. Each logical record of 80 bytes provides time, 68-s averages of GSE and GSM Cartesian components of the field (nT), and standard deviations along and perpendicular to the spin axis. Also provided are components, along and perpendicular to the spin plane, of wave amplitudes (volts) in the 5-50 Hz band. The header of each file provides all necessary information about data content, format, units, etc., so that little or no external documentation is needed to extract data of interest.

AMPTE/CCE, SCARF
PLASMA WAVE EXPERIMENT (PWE)

Data set name - SURVEY PLOTS ON MICROFICHE

NSSDC ID 84-088A-04A, SURVEY PLOTS, MICROFICHE

Time period covered 08/27/84 TO 07/18/85

Quantity of data - 65 CARDS OF B/W MICROFICHE

This data set contains data from two experiments: Fluxgate Magnetometer (68-s averages of B-field) and Plasma Wave Detector (62 s averages of E-field). Each fiche contains 5 days of data in frames of 8 h duration. The B-field frames (ID=84-088A-05A) contain plots of X, Y, Z components of the field in GSM coordinates and the magnitude B, all in nT. Also provided are the latitude (theta) and the longitude (phi) of the B-vector in GSM, and standard deviations of the components in the spin plane and along the spin axis. In addition to these, the frame also contains 5 50 Hz band outputs of the field component in the X-Y plane and BZ, labeled, respectively, X-FILT and Y-FILT. The E-field frames in each fiche contain plots of plasma wave intensities, in five frequency bands centered at 100 Hz, 730 Hz, 5.4 kHz, 30 kHz, and 178 kHz. The bandwidth of each channel is 30% of its center frequency. The intensities are expressed as logarithms of volts/(m-sqrt Hz). For the four lower frequency channels, the frames also contain the peak values of the intensities in each 62-s interval. Also indicated in each frame are the values of L-parameter, local time, and geomagnetic latitude, and the radial distance of the spacecraft. The NSSDC ID for the B-field experiment is 84-088A-05A.

Data set name - 62 SECOND AVERAGE AND PEAK VALUES SFDU DATA ON MAGNETIC TAPE.

NSSDC ID 84-088A-04B, 62-S AVERAGE & PEAK VALUES, SFDU

Time period covered - 08/17/84 TO 12/31/84

Quantity of data - 1 REEL OF TAPE

These 62-s averages of plasma wave data are written on 9-track magnetic tapes, at 6250 bpi and in SFDU format. Each physical block has a fixed length of 12,288 bytes, written in English/ASCII and VAX binary representation. The volume header file provides an outline of the content and structure of entries. It is followed by an ephemeris file of many blocks, which includes data on GSE Cartesian components of the spacecraft's location and velocity, its latitude and longitude, Cartesian components of the measured magnetic field, SM latitude and local time of the spacecraft, and local time of the subsatellite point, each listed every 5 min. Written next is an attitude file that includes the right ascension and declination of the direction of the spin axis, and the spin rate, listed once every orbit. It is followed by an "events" file that includes information on maneuvers, data gaps, anomalous conditions, etc. The final sequence of files contains the plasma wave data, written as one file per day of data. Each logical record of 74 bytes provides time, 62-s averages of power spectra (V/(m Hzee0.5)) and their peak values from five channels (0.10, 0.73, 5.4, 30.0, and 178 kHz), and the number of 0.62-s samples (usually 100) that were averaged. The file header of each file provides all necessary information on content, format, units, etc., so that little or no external documentation is needed to extract data of interest.

AMPTE/CCE, SHELLEY
HOT PLASMA COMPOSITION EXPERIMENT (HPCE)

Data set name - COLOR SPECTROGRAMS

NSSDC ID 84-088A-01A, COLOR SPECTROGRAMS,SLIDES

Time period covered - 08/17/84 TO 07/08/85

Quantity of data - 8650 COLOR SLIDES

This data set consists of 35-mm color slides, grouped together as one package per orbit. Each package contains several slides, depending upon the operational mode of the instrument. Typically, the instrument was operated in the "mass average" mode for about 3 days/month and in the "energy average" mode for 27 days/month. Mass average mode: there are seven such slides per orbit. One slide provides the following 6.4-min averages: differential flux (in color code) of ions, irrespective of mass, in an energy vs time panel; differential fluxes of ions in energy ranges 0-1, 1-4, and 4-18 keV, in three separate panels of pitch angle vs time; and a similar set of 1+3 panels for the electrons. There are three slides, each covering a time span of 1/3 of an orbit, that provide 32-min averages of fluxes (counts/s) in color code, in panels of mass channel number vs energy, from the counts accumulated when the field of view was parallel or antiparallel to the B-field. Likewise, there are three more slides that are based on the fluxes collected perpendicular to the B-field. Energy average mode: there are three slides per orbit. One slide is essentially the same as the 6.4 min slide described above. Another slide provides, in five separate panels, the differential fluxes of H+, O+, He+, He++, and O++, in color code, and on a time vs energy format. The third slide deals with the pitch angle distribution of the H+ and O+ fluxes (color coded) in panels of time vs energy. All three of these slides use 6.4-min averages of the counts. All the above-mentioned slides contain information on the spacecraft coordinates such as magnetic latitude, local time, and L-value. The documentation that is available with the data set provides additional information. The data processing software evolved through about 22 versions and the plotting software through about eight versions before the NSSDC slides were produced at the APL/JHU AMPTE-CCE Data Center. Finally, with a scientific rationale, these slides from the Hot Plasma Composition Experiment are actually a subset of a composite data set that contains slides from the other two ion experiments on CCE, i.e., 84-088A-02 and 84-088A-03, which cover higher energy ranges. The ion mass spectrometer of the 84 088A-01 experiment has been inoperational since April 4, 1985.

Data set name - 6.4-MIN, MASS ENERGY SPECTRA POOL SFDU DATA

NSSDC ID 84-088A-01B, 6.4-MIN, MASS-ENERGY SPECTRA,POOL

Time period covered - 08/16/84 TO 12/31/84

Quantity of data - 3 REELS OF TAPE

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********** AMPTE/IRM **********
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Data set name - ORBITAL PLOTS FOR PROMIS PERIOD

NSSDC ID 84-088B-00D, ORBITAL PLOTS FOR PROMIS PERIOD

Time period covered - 03/29/86 TO 06/16/86

Quantity of data - 3 CARDS OF B/W MICROFICHE

This data set, on microfiche, provides orbital plots of the spacecraft for the PROMIS period, March 29-June 16, 1986. Each frame covers a time interval of 24 h and contains plots of X, Y, and Z components (GSM), in earth radii, of the radius vector to the spacecraft. Also plotted is the distance of the spacecraft from a modeled neutral sheet (D. Fairfield, J. Geophys. Res., vol. 85, p. 775, 1980), in earth radii.

AMPTE/IRM, HAUSLER
PLASMA WAVE SPECTROMETER

Data set name - 5-SECOND AVERAGED PLASMA WAVE AMPLITUDES DATA ON MAGNETIC TAPE

NSSDC ID 84-088B-04B, 5-S AVER PLASMAWAVE AMPLITUDES,TP

Time period covered - 03/21/85 TO 11/09/85

Quantity of data - 23 REELS OF TAPE

This data set is part of a composite set that contains data from four experiments on IRM. Written on 9-track tapes, at 6250 bpi, and in VAX data representation and ASCII text, each tape contains 2 weeks of data, with each file covering one pass over West Germany. Included in each logical record are the 5-s average and peak amplitudes (V/(meHzee.5)) of electric fields, through 16 channels covering the range of 0.031-178.0 kHz, and 5-s average amplitudes of magnetic fields, through 7 channels covering the range of 0.35-10.0 kHz. Also contained in each logical record are the range (km), GSE latitude and longitude (deg), distances (km) above the ecliptic and (modeled) neutral sheets, nominal L value, and measured B-field magnitude (nT).

AMPTE/IRM, HOVESTADT
SUPRATHERMAL IONIC CHARGE ANALYZER
(SULEICA)

Data set name - 5 SECOND AVERAGED SUPRA THERMAL IONS DATA ON MAGNETIC TAPE

NSSDC ID 84-088B-06A, 5-S AVER SUPRATHRMAL IONS, TAPE

Time period covered - 03/21/85 TO 11/09/85

Quantity of data - 23 REELS OF TAPE

This data set is part of a composite set that contains data from four experiments on IRM. Written on 9-track tapes, at 6250 bpi, and in VAX data representation and ASCII text, each tape contains 2 weeks of data, with each file covering one pass over West Germany. Included in each logical record are the 5-s averages of proton fluxes through each of the eight angular sectors in the spin plane, in the energy band of 40-68 keV; omnidirectional fluxes of He+, O+, the C-N-O group (Q>2), and Fe (14<Q<26); proton and helium fluxes in the energy bands of 10-17 keV and 160-270 keV, from directions perpendicular to the spin plane; and background flux in the 40-68 keV band. Also contained in each logical record are the range (km), GSE latitude and longitude (deg), distances (km) above the ecliptic and (modeled) neutral sheets, nominal L value, and mean B-field magnitude (nT).

AMPTE/IRM, LUEHR
MAGNETOMETER

Data set name - 5-SECOND AVERAGED MAGNETIC FIELD VECTOR DATA ON TAPE

NSSDC ID 84-088B-02B, 5-S AVER MAG.FIELD VECTORS, TAPE

Time period covered - 03/21/85 TO 11/09/85

Quantity of data - 23 REELS OF TAPE

This data set is part of a composite set that contains data from four experiments on IRM. Written on 9-track tapes, at 6250 bpi, and in VAX data representation and ASCII text, each tape contains 2 weeks of data, with each file covering one pass over West Germany. Included in each logical record are the 5-s averages of the GSE components (nT) of the magnetic field, magnitude (nT), GSE elevation and azimuth angles (deg) of the vector, and the standard deviation (nT) of the field magnitude. Also contained in each logical record are the range (km), GSE latitude and longitude (deg), distances (km) above the ecliptic and (modeled) neutral sheet planes, and nominal L values.

AMPTE/IRM, PASCHMANN
3-D PLASMA ANALYZER

Data set name - 5-SECOND AVERAGED PLASMA PARAMETERS DATA ON MAGNETIC TAPE

NSSDC ID 84-088B-03B, 5-S AVER PLASMA PARAMETERS, TAPE

Time period covered - 03/21/85 TO 11/09/85

Quantity of data - 23 REELS OF TAPE

This data set is part of a composite set that contains data from four experiments on IRM. Written on 9 track tapes, at 6250 bpi, and in VAX data representation and ASCII text, each tape contains 2 weeks of data, with each file covering one pass over West Germany. Included in each logical record are the 5-s averages of densities (cmee-3) of protons and electrons, bulk flow speed (km/s) of protons and its GSE azimuth and elevation angles (deg), and temperatures (in units of 10ee6 K) of protons and electrons. Also contained in each logical record are the range (km), GSE latitude and longitude (deg), distances (km) above the ecliptic and (modeled) neutral sheets, nominal L value, and mean B-field magnitude (nT).

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********** APOLLO 15 SUBSATELLITE **********
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APOLLO 15 SUBSATELLITE, ANDERSON
LUNAR PARTICLE SHADOWS AND BOUNDARY LAYER

Data set name - 10-MIN AND 2-HR AVERAGED PARTICLE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 71-063D-01A, 10MIN AND 2HR AVE COUNT RATE,TAPE

Time period covered - 08/04/71 TO 01/23/73

Quantity of data - 2 REELS OF TAPE

This data set consists of averaged proton and electron fluxes on two 7-track, 800-bpi, binary magnetic tapes, generated on a CDC 6600 computer. There is one file per tape, and each physical record consists of 276 60-bit words. The first 16 words of a physical record give the orbit number, date, and fractional day of the start of the orbit, followed by the number of minutes of operation over the orbit (2 h) of the 0.53- to 0.68-keV electron mode, and 12 successive 10-min values of this parameter. The next 260 words constitute a 13- by 20-word array, where the first column of the array contains orbit-averaged fluxes for all 20 counting modes, and each of the next 12 columns contains 10-min averaged fluxes for these modes.

Data set name - 24-SEC AND 10-MIN AVERAGED PARTICLE COUNT RATES ON MICROFILM

NSSDC ID 71-063D-01B, 24SEC AND 10MIN AVE COUNT RATE,MF

Time period covered - 08/04/71 TO 01/23/73

Quantity of data - 21 REELS OF MICROFILM

This data set consists of plots of particle fluxes on 21 reels of 35-mm microfilm, as provided by the experimenter. Each time interval is covered by 10 frames, each having two traces, representing all 20 counting modes of the experiment. Although some characters on the microfilm frames are illegible, the supporting documentation permits ready use of the plots. There are two types of plots, one type presenting the finest time scale data (24-s averages) at 2 h per frame and the other presenting 10-min averages at 24 h per frame. For any one time, both types of plots are included (10 of each type). Two-hour averages of all counting modes plotted at 10 days per frame are given in NSSDC data set 71-063D-01C.

Data set name - 2-HR AVERAGED PARTICLE COUNT-RATE PLOTS ON MICROFILM

NSSDC ID 71-063D-01C, 2HR.AVE.CNT RATES(ORB.SUMRY),MFLM

Time period covered - 01/26/72 TO 02/05/72

Quantity of data - 1 REEL OF MICROFILM

This data set consists of plots of particle fluxes on one reel of 35-mm microfilm, as provided by the experimenter. Each time interval is covered by 10 frames, each having two traces, representing all the counting modes of the experiment.

Although some characters on the microfilm frames are illegible, the supporting documentation permits ready use of the plots. Each frame covers 10 days and contains 2-h-averaged fluxes. Finer time scale flux plots are given in NSSDC data set 71-063D-01B.

APOLLO 15 SUBSATELLITE, COLEMAN, JR.
BIAXIAL FLUXGATE MAGNETOMETER

Data set name - 24-SEC TIME RESOLUTION BIAXIAL VECTOR MAGNETIC FIELD MEASUREMENTS ON TAPE

NSSDC ID 71-063D-02A, 24-S VECTOR MAGNETIC FIELD TAPES

Time period covered - 08/04/71 TO 02/03/72

Quantity of data - 29 REELS OF TAPE

This data set contains 24-s-averaged magnetic field data and engineering data every 192 s (the basic cycle time for the subsatellite) on 29 7-track, 800-bpi, odd-parity, Univac 1108 magnetic tapes. These data are blocked with 560 words per physical record. Contained in the data are time, various data relevant to spacecraft position and housekeeping, and the magnetic field measurements transverse and parallel to the spacecraft spin axis, which along with the sun pulse information yield triaxial magnetic field measurements. Times are in milliseconds.

Data set name - PLOTS OF TRIAXIAL 192-SEC AVG MAGNETIC FIELD DATA ON 16-MM MICROFILM

NSSDC ID 71-063D-02B, 192-S VECTOR B-FIELD PLOTS, MFILM

Time period covered - 08/04/71 TO 02/03/72

Quantity of data - 6 REELS OF MICROFILM

This magnetic field data set, on six reels of 16-mm microfilm, contains data in pairs of plots. The first, or "A," plots contain 192 s-averaged X, Y, and Z magnetic field components in "spacecraft coordinates" and total field magnitude plotted against universal time for one orbit per frame. Spacecraft coordinates X and Y are in the spacecraft spin plane, with X along the projection of the earth-sun line. The Z direction lies along the spacecraft spin axis, which is nearly perpendicular to the ecliptic plane. No sensor drift corrections have been applied to the Z component of the data prior to plotting, but drifts are expected to be within +0.27 to -0.87 nT. Offset drifts are tabulated in the documentation, along with instructions on how to apply them. The second, or "B," plots contain engineering parameters, spin periods, and data from the Berkeley particle experiment (71-063D-01) for the shielded and unshielded detectors.

Data set name - MICROFILM LISTINGS OF 192-SEC AVG MAGNETIC FIELD VECTORS AND MAGNITUDE

NSSDC ID 71-063D-02C, 192-S VECTOR B-FIELD LSTNGS, MFLM

Time period covered - 08/04/71 TO 02/03/72

Quantity of data - 6 REELS OF MICROFILM

This magnetic field data set, on six reels of 16 mm microfilm, contains 192-s averaged magnetometer data presented as functions of time. These data listings contain X, Y, and Z magnetic field vector components in "spacecraft coordinates," where the X and Y axes lie in the spacecraft spin plane, with X along the projection of the earth-sun line. The Z axis is along the spacecraft spin axis and is approximately along the northward normal to the ecliptic plane. Also listed are magnetic field magnitude and the shielded counts from the Berkeley particle experiment (71-063D-01), and spacecraft state information.

APOLLO 15 SUBSATELLITE, SJOGREN
S BAND TRANSPONDER

Data set name - JSC RAW DOPPLER FREQUENCY SHIFT DATA TAPES

NSSDC ID 71-063D-03A, JSC RAW DOPPLER FREQ DATA TAPES

Time period covered - 08/05/71 TO 08/08/72

Quantity of data - 703 REELS OF TAPE

The Doppler frequency data are contained on 703 7-track, 800-bpi, binary magnetic tapes created on an IBM 7094 computer. The tapes contain high-speed data only (10 observations per second). Each record consists of 90 36-bit words with 10 observation frames per record. The data include CCATS label, station ID, time of year in tenths of seconds, X-angle or local hour angle, Y-angle or declination angle, mission ID, range-rate data (binary counts of nondestruct Doppler cycles), range data, flag bits for frame rate, real/test data, angle tracking mode, Doppler modes, frequency standard ID (prime or back-up oscillator), range data quality, exciter voltage controlled oscillator indicator, range-rate quality, synchronizing codes, and polynomial error code.

Data set name - SUBSATELLITE ACCELERATION DATA ON MAGNETIC TAPES

NSSDC ID 71-063D-03B, SUB-SATELLITE ACCELERATION TAPES

Time period covered - 07/30/71 TO 07/30/71

Quantity of data - 3 REELS OF TAPE

These experimenter-supplied subsatellite acceleration data are on three 7-track, 800-bpi, binary magnetic tapes. Each 84-byte physical record contains three data words: latitude, longitude, and acceleration in mm/(sec2). These data are time ordered, although time values are not given on the tapes.

Data set name - ANALYSED SUB-SAT ACCELERATION PLOTS AND LISTINGS, FROM RADIO TRACKING ON MICROFILM

NSSDC ID 71-063D-03C, SUB-SAT ACCEL PLOTS+LISTINGS,MFLM

Time period covered - 11/30/71 TO 02/23/73

Quantity of data - 5 REELS OF MICROFILM

This experimenter-supplied data set contains listings and some plots of analyzed subsatellite acceleration data for the time periods of November 30, 1971, to December 19, 1971, and January 23, 1973, to February 23, 1973, on five reels of 16-mm microfilm. The plots show both the spline fit Doppler residual (Hz) and the acceleration (mm/(sec2)), plotted versus time. In the listings, the first four pages of each orbit printout contain selected program parameters. For each orbit printout, the following data are then listed in columns: time (GMT), time in minutes (GMT), time in minutes since the reference epoch, time in minutes on the associated plot for that particular data point, and the Doppler residual (Hz). The Doppler residual is calculated from a theoretical model containing (1) planetary perturbations, (2) earth rotation, (3) precise station locations, (4) tropospheric model, and (5) precise station transit times removed from the returned signal. Also listed are spacecraft altitude, spacecraft selenographic latitude and longitude, theoretical value of the Doppler shift calculated by the spline program used in the least squares fit, acceleration determined by analytic differentiation of the spline at the reference point, and a residual in Hz after the spline has fit the Doppler residuals (good data show an rms residual of about .005 Hz or less).

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********** APOLLO 16 SUBSATELLITE **********
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APOLLO 16 SUBSATELLITE, ANDERSON
LUNAR PARTICLE SHADOWS AND BOUNDARY LAYER

Data set name - 10 MIN AND 2-HR AVERAGED PARTICLE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 72-031D-01A, 10MIN AND 2HR AVE COUNT RATE,TAPE

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 1 REEL OF TAPE

This data set consists of averaged proton and electron fluxes on one 7 track, 800 bpi, binary magnetic tape, written on a CDC 6600 computer. There is one file per tape, and each physical record consists of 276 60-bit words. The first 16 words of a physical record give the orbit number, date, and fractional day of the start of the orbit, followed by the number of minutes of operation during the orbit (2 h) of the 0.53 to 0.68 keV electron mode, and 12 successive 10-min values of this parameter. The next 260 words constitute a 13 by 20 word array, where the first column of the array contains orbit averaged fluxes for all 20 counting modes, and each of the next 12 columns contains 10-min averaged fluxes for these modes.

Data set name - 24 SEC AND 10-MIN AVERAGED PARTICLE COUNT RATES ON MICROFILM

NSSDC ID 72-031D-01B, 24SEC AND 10MIN AVE COUNT RATE,MF

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 4 REELS OF MICROFILM

This data set consists of plots of particle fluxes on four reels of experimenter-supplied, 35-mm microfilm. There are two types of plots, one type presenting the finest time scale data at 2-h per frame and the other presenting 10-min averages at 24-h per frame. For any one time, both types of plots are included (10 each). Each time interval is covered by 10 frames, each having 2 traces, representing all 20 counting modes of the experiment. Although some characters on the microfilm frames are illegible, the supporting documentation permits ready use of the plots. Two-hour averages of all counting modes plotted at 10 days per frame are contained in NSSDC data set 72-031D-01C.

Data set name - 2-HR AVERAGED PARTICLE COUNT-RATE PLOTS ON MICROFILM

NSSDC ID 72-031D-01C, 2HR.AVE.CNT RATES(ORB.SUMRY),MFLM

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of plots of particle fluxes on one reel of 35-mm microfilm. Each frame covers 10 days and contains 2-h averaged fluxes. Each time interval is covered by 10 frames, each having 2 traces, representing all the counting modes of the experiment. Although some characters on the microfilm are illegible, the supporting documentation permits ready use of the plots. Finer time scale flux plots are contained in NSSDC data set 72-031D-01B.

APOLLO 16 SUBSATELLITE, COLEMAN, JR.
BIAXIAL FLUXGATE MAGNETOMETER

Data set name - 24-SEC TIME RESOLUTION BIAXIAL VECTOR MAGNETIC FIELD MEASUREMENTS ON TAPE

NSSDC ID 72-031D-02A, 24-S VECTOR MAGNETIC TAPES

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 10 REELS OF TAPE

This data set contains 24-s-averaged magnetic field data and engineering data every 192 s, the basic cycle time for the subsatellite, on 10 7-track, 800 bpi, odd parity, 36-bit word, Univac 1108 magnetic tapes. These data are blocked with 560 words per physical record. Contained in the data are time, various data relevant to spacecraft position and housekeeping, and the transverse and parallel magnetic field measurements that, along with the sun pulse information, yield triaxial magnetic field measurements. Times are in milliseconds. The magnetic field data were processed with Apollo 15 calibration constants and, therefore, are approximately a factor of 2 too large. For correction details, see pp. 33-43 of W. W. Lauderdale's updated Apollo Scientific Experiments Data Handbook, Aug. 1976, NASA TM X-58131, TRF B22807.

Data set name - PLOTS OF TRIAXIAL 192 SEC AVG MAGNETIC FIELD DATA ON 16-MM MICROFILM

NSSDC ID 72-031D-02B, 192-S VECTOR B-FIELD PLOTS, MFILM

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 1 REEL OF MICROFILM

This magnetic field data set, on one reel of 16-mm microfilm, contains data on pairs of plots. The first, or "A," plots contain 192-s average magnetic field X, Y, and Z components in "spacecraft coordinates" and total field magnitude plotted against universal time for one orbit per frame. "Spacecraft coordinates" X and Y are in the spin plane, with X along the projection of the earth-sun line in the spin plane and Y roughly opposite the direction of planetary motion. The Z direction is northward relative to the ecliptic plane and along the spacecraft spin axis. No sensor drift corrections have been applied to the Z component of the data prior to plotting, but drifts are expected to be within +0.27 to -0.87 nT. Offset drifts are tabulated in the documentation, along with instructions on how to apply them. The magnetic field data were processed with Apollo 15 calibration constants and, therefore, are approximately a factor of 2 too large. For correction details, see pp. 33-43 of W. W. Lauderdale's updated Apollo Scientific Experiments Data Handbook, Aug. 1976, NASA TM X-58131, TRF B22807. The second, or "B," plots contain engineering parameters, spin periods, and data from the shielded and unshielded detectors of the Berkeley particle experiment (72-031D-01). The plots on this reel are erroneously labeled as Apollo 15 data.

Data set name - LISTINGS OF SUBSATELLITE MAGNETOMETER VECTORS ON MICROFILM

NSSDC ID 72-031D-02C, 192-S VECTOR B-FIELD LSTNGS, MFLM

Time period covered - 04/25/72 TO 05/29/72

Quantity of data - 1 REEL OF MICROFILM

This magnetic field data set, on one reel of 16-mm microfilm, contains 192-s averaged magnetometer data presented as functions of time. These data listings contain X, Y, and Z magnetic field vector components in "spacecraft coordinates," where the X axis is along the projection of the earth-sun line onto the spacecraft spin plane, the Y axis is antiparallel to the planetary motion, and the Z axis is along the spacecraft spin axis, approximately along the northward normal to the ecliptic plane. Also listed are magnetic field magnitude, the shielded counts from the Berkeley particle experiment (72-031D-01), and spacecraft state information. The magnetic field data were processed with Apollo 15 calibration constants and, therefore, are approximately a factor of 2 too large. For correction details, see pp. 33-43 of W. W. Lauderdale's updated Apollo Scientific Experiments Data Handbook, Aug. 1976, NASA TM X-58131, TRF B22807.

APOLLO 16 SUBSATELLITE, SJOGREN
S-BAND TRANSPONDER

Data set name - RAW DOPPLER FREQUENCY SHIFT DATA TAPES

NSSDC ID 72-031D-03A, RAW DOPPLER FREQUENCY DATA TAPES

Time period covered - 04/27/72 TO 05/28/72

Quantity of data - 83 REELS OF TAPE

The Doppler frequency data are contained on 83 7-track, 800-bpi, binary magnetic tapes created on an IBM 7094 computer. The tapes contain high-speed data only (10 observations per second). Each record consists of 90 36-bit words with 10 observation frames per record. The data include CCATS label, station ID, time of year in tenths of seconds, X-angle or local hour angle, Y-angle or declination angle, mission ID, range-rate data (binary counts of nondestruct Doppler cycles), range data, flag bits for frame rate, real/test data, angle tracking mode, Doppler modes, frequency standard ID (prime or back-up oscillator), range data quality, exciter voltage controlled oscillator indicator, range-rate quality, synchronizing codes, and polynomial error code.

Data set name - S-BAND TRANSPONDER SUB-SATELLITE ACCELERATION DATA ON MAGNETIC TAPE

NSSDC ID 72-031D-03B, SUB-SATELLITE ACCELERATION TAPES

Time period covered - 04/20/72 TO 04/21/72

Quantity of data - 1 REEL OF TAPE

These experimenter-supplied subsatellite acceleration data are on one 7-track, 800-bpi, binary magnetic tape. Each 84-byte physical record contains four data words: latitude, longitude, spline fit value Doppler residual (Hz), and acceleration (mm/(sec2)). These data are time ordered, although time values are not given on the tapes.

Data set name - ANALYSED SUB-SAT ACCELERATION PLOTS AND LISTINGS, FROM RADIO TRACKING ON MICROFILM

NSSDC ID 72-031D-03C, SUB-SAT ACCEL PLOTS+LISTINGS,MFLM

Time period covered - 05/02/72 TO 05/19/72

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set contains plots and listings of analyzed subsatellite acceleration data from orbits 87 to 298, on one reel of 16-mm microfilm. First on the reel are plots of both the spline fit Doppler residual (Hz) and the acceleration (mm/(sec2)) plotted versus time. In the listings, the first four pages of each orbit printout contain selected program parameters. For each orbit printout, the following data are then listed in columns: time (GMT), time in minutes (GMT), time in minutes since the reference epoch, time in minutes on the associated plot for that particular data point, and the Doppler residual (Hz). The Doppler residual is calculated from a theoretical model containing (1) planetary perturbations, (2) earth rotation, (3) precise station locations, (4) tropospheric model, and (5) precise station transit times removed from the returned signal. Also listed

are spacecraft altitude, spacecraft selenographic latitude and longitude, theoretical value of the Doppler shift calculated by the spline program used in the least squares fit, acceleration determined by analytic differentation of the spline at the reference point, and a residual in Hz after the spline fitted the Doppler residuals (good data show an rms residual of about .005 Hz or less).

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********** ATS 1 **********
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ATS 1, BROWN
PARTICLE TELESCOPE

Data set name - PLOTS OF REDUCED PARTICLE COUNT RATES ON MICROFILM

NSSDC ID 66-110A-05A, BLT PART.TELE.CNT RATE PLOTS,MFLM

Time period covered - 12/09/66 TO 03/01/67

Quantity of data - 7 REELS OF MICROFILM

These reduced count rate data plots, generated at Bell Telephone Laboratories from original data, are on seven reels of 35-mm microfilm. The plots contain data in each of nine experimental modes designated "A" through "I." Each mode letter indicates a specific logical program for the onboard data processing involving the use of coincident and anticoincident circuits to yield a particular particle-species count rate. For each mode, the log of the count rate of each telescope element (involved in that mode) is plotted against time. Eight hours of data are on each plot, and each plot contains data from a single mode. Because each mode was monitored in turn for 5.12 s, and the experimental sampling sequence required 2.73 min to be completed, the plots effectively represent simultaneous measurements of the count rates for each mode. The time periods covered are December 9, 1966, to December 19, 1966, and December 23, 1966, to March 1, 1967.

ATS 1, COLEMAN, JR.
BIAXIAL FLUXGATE MAGNETOMETER

Data set name - 2.5-MIN AVG VECTOR MAGNETOMETER DATA FROM SYNCHRONOUS ALTITUDE ON FILM

NSSDC ID 66-110A-02B, 2.5 MIN AVG VECT. MAG. FIELD-FILM

Time period covered - 11/17/67 TO 12/29/68

Quantity of data - 2 REELS OF MICROFILM

This data set, on one reel each of 35-mm and 16-mm microfilm made at NSSDC from Calcomp plots generated at UCLA, contains 2.5-min-averaged, machine-corrected, reduced magnetometer data presented in the UCLA/ATS dipole VDH coordinate system (described below). Plotted against a common time axis are the three magnetic field Cartesian components, labelled V, D, and H, and an indicator of the satellite state descriptor, labelled S. The plotted value of S is a binary code for the status of various significant spacecraft subsystems, which is useful in identifying offset changes that are not corrected by machine in the plotted data. The spacecraft state descriptor has also been referred to as the spacecraft state vector. The UCLA/ATS dipole VDH coordinate system has the H axis antiparallel to the earth's magnetic dipole axis, the V axis radially outward in the magnetic equatorial plane, and the D axis azimuthally eastward.

Data set name - 2.5-MIN AVG VECTOR MAGNETOMETER DATA FROM SYNCHRONOUS ALTITUDE ON TAPE

NSSDC ID 66 110A-02C, 2.5 MIN AVG VECT MAG FIELD-TAPE

Time period covered - 12/07/66 TO 12/29/68

Quantity of data - 3 REELS OF TAPE

This magnetometer data set is on three experimenter-generated, 7-track, 800-bpi, BCD magnetic tapes, with one file per tape, 80 characters per logical record, and 3204 characters per physical record. These tapes contain time, the spacecraft state descriptor, and 2.5-min averaged Cartesian magnetic field components in the UCLA/ATS dipole VDH coordinate system, described below. The spacecraft state descriptor contains three groups of eight hexadecimal characters. When these are expanded into a binary number, the succesive bits represent on-off states of the various subsystems as well as the order in which some of these were turned on. The spacecraft state descriptor has also been referred to as the spacecraft state vector. These data have been corrected for offsets by machine as much as possible. They still contain some offset errors, but consideration of the spacecraft state descriptor allows correction for these by hand. The UCLA/ATS dipole VDH coordinate system has the H axis antiparallel to the earth's magnetic dipole axis, the V axis radially outward in the magnetic equatorial plane, and the D axis azimuthally eastward.

Data set name - 15-SEC AVG VECTOR MAGNETOMETER DATA FROM SYNCHRONOUS ALTITUDE ON FILM

NSSDC ID 66-110A-02D, 15 SEC VECT MAG FIELD CORR. -FILM

Time period covered - 12/10/66 TO 12/29/68

Quantity of data - 4 REELS OF MICROFILM

This data set, on four reels of 35-mm microfilm made at NSSDC from Calcomp plots generated at UCLA, contains 15-s-averaged, machine-corrected, reduced magnetometer data presented in the UCLA/ATS dipole VDH coordinate system, described below. Plotted against a common time axis are the three magnetic field Cartesian components, labelled V, D and H, and an indicator of the satellite state descriptor, labelled S. The plotted value of S is a binary code for the status of various significant spacecraft subsystems, which is useful in identifying offset changes that are not corrected by machine in the plotted data. The spacecraft state descriptor has also been referred to as the spacecraft state vector. The UCLA/ATS dipole VDH coordinate system has the H axis antiparallel to the earth's magnetic dipole axis, the V axis radially outward in the magnetic equatorial plane, and the D axis azimuthally eastward.

Data set name - 15-SEC AVG VECTOR MAGNETOMETER DATA FROM SYNCHRONOUS ALTITUDE ON TAPE

NSSDC ID 66-110A-02E, 15 SEC VECT MAG FIELD CORR. -TAPE

Time period covered - 12/07/66 TO 12/29/68

Quantity of data - 22 REELS OF TAPE

This magnetometer data set is on 22 experimenter-generated, 7-track, 800-bpi, BCD magnetic tapes with one file per tape, 80 characters per logical record, and 3204 characters per physical record. These tapes contain time, the spacecraft state descriptor, and 15-s averaged Cartesian magnetic field components in the UCLA/ATS dipole VDH coordinate system, described below. The spacecraft state descriptor contains three groups of eight hexadecimal characters. When these are expanded into a binary number, the succesive bits represent on-off states of the various subsystems as well as the order in which some of them were turned on. The spacecraft state descriptor has also been referred to as the spacecraft state vector. Each tape contains about 40 days of data. These data have been corrected for offsets by machine as much as possible. They still contain some offset errors, but consideration of the spacecraft state descriptor allows correction for them by hand. The UCLA/ATS dipole VDH coordinate system has the H axis antiparallel to the earth's magnetic dipole axis, the V axis radially outward in the magnetic equatorial plane, and the D axis azimuthally eastward.

Data set name - SPACECRAFT AND EXPERIMENT COMMAND LOG AS A MULTIDIMENSIONAL VECTOR ON TAPE

NSSDC ID 66-110A-02G, OCTAL COMMAND LOGS ON TAPE

Time period covered - 12/07/66 TO 12/31/68

Quantity of data - 1 REEL OF TAPE

This command log is on one experimenter-generated, 9-track, 800-bpi, odd-parity, EBCDIC magnetic tape, which contains three files, representing operation in 1966, 1967, and 1968. The tape has logical records of 133 bytes blocked to 7182 bytes per physical record. The data contained are the listings of the octal commands sent to the ATS 1 satellite between December 7, 1966, and December 31, 1968. These command logs were required to make the machine corrections applied to the magnetometer data from this spacecraft. A microfilmed listing of the contents of this tape is also available at NSSDC (data set 66-110A-02F).

ATS 1, DARDSA
FARADAY ROTATION

Data set name - PUBLISHED PLOTS OF ANALYZED TOTAL ELECTRON CONTENT DATA

NSSDC ID 66-110A-15A, TOTAL ELECTRON CONTENT PLOTS

Time period covered - 01/01/67 TO 12/31/70

Quantity of data - 4 BOOKS OR BOUND VOLUMES

This analyzed data set consists of hard copy plots of total electron content vs local time (Hawaiian Standard Time). There is one plot for each 24-h period (local day). The data were obtained at Hawaii by measuring the Faraday rotation of the VHF beacon transmissions from the satellite. The data set is contained in a University of Hawaii report, "Atlas of Total Electron Content Plots," prepared by P. C. Yuen and T. H. Roelofs of the Radioscience Laboratory, Department of Electrical Engineering. The entire report consists of six volumes. This data set is contained in volumes 3, 4, 5, and 6. Some electron content data derived from SYNCOM 3 telemetry carrier signals are also contained in these volumes.

Data set name - TOTAL ELECTRON CONTENT, PLOTS AND TABULATIONS

NSSDC ID 66-110A-15B, TEC, PLOTS + TABULATIONS M/FICHE

Time period covered - 01/01/71 TO 12/31/71

Quantity of data - 14 CARDS OF B/W MICROFICHE

This data set consists of several different statistical treatments of total electron content (TEC) values on microfiche. The data are contained in documents titled "Ionospheric Electron Content for 19--," which are unnumbered and are published by Stanford University. The original values were recorded every 5 min (288 observations per day) on ATS 1. They were values of the Faraday rotation of the 137.35 (or 136.47)-MHz telemetry carrier. The magnetic field effect for the entire column is taken to be that at 400 km, which for data reduction purposes is assumed to be at the altitude of maximum electron content (and Faraday rotation). This point of intersection of 400 km and the propagation path is called the ionospheric point (IP), and the values have been converted to the TEC contained in a vertical column through this point. There are four sets of tables that contain TEC-related values, including (1) daily maximum and minimum values (tabulations), (2) TEC change rates and standard deviations for two 2-h periods near dawn (predawn and morning) and also from 1530 to 1730 and 2200 to 2400 h (tabulations), (3) 6-h averages around noon and midnight (tabulations), (4) smoothed 30-min values (tabulations and graphs), (5) 7-day running means at 15-min intervals, (6) daily averages of TEC, (7) 7-day running means of daily averages, (8) standard deviations, daily and for eight 3-h periods each day, (9) ratios of the 3-h standard deviations to the 3-h mean values, and (10) ratios of daily standard deviations to daily mean values (disturbance index). The data were observed from Fort Collins, Colorado (IP near 40 N, 105 W), Clark Lake, California (IP near 30 N, 120 W), Stanford, California (IP near 34 N, 125 W), and Edmonton, Alberta (IP near 47 N, 121 W). The 1967-1968 Stanford data contain no summary data, i.e., only those in (4) above.

Data set name - TOTAL ELECTRON CONTENT DATA ON MAGNETIC TAPE

NSSDC ID 66-110A-15C, TOTAL ELECTRON CONTENT DATA

Time period covered - 01/01/70 TO 12/30/71

Quantity of data - 1 REEL OF TAPE

This data set contains total electron content (TEC) data [from the Faraday rotation of the 137.35 (or 136.47) MHz telemetry carrier] on one 9-track, 800-bpi, IBM/360, binary magnetic tape. Each record is 1196 bytes long and contains data for one day. The original values were recorded every 5 min (288 observations per day) on ATS 1. The magnetic field effect for the entire column is taken to be that at 400 km, which for data reduction purposes is assumed to be at the altitude of maximum electron content (and Faraday rotation). This point of intersection of 400 km and the propagation path is called the ionospheric point (IP), and the values have been converted to the TEC contained in a vertical column through this point. Each record includes a receiving station code, year and day number (UT), modified Julian day number, height of the IP (400 km), latitude and east longitude of the IP, east longitude of ATS 1, the ratio of the originally observed Faraday rotation angle to the original TEC measurement, length of the mean period (7 days), and the 288 values of both the mean TEC and the deviation from the mean. The TEC value, I, for each 5-min period is the sum of the 7-day mean value of the TEC, <I>, centered on the 5-min period, plus the deviation from this mean, delta I, i.e., I = <I> + delta I.

ATS 1, FREEMAN
SUPRATHERMAL ION DETECTOR

Data set name - SUPRATHERMAL ION DATA FROM THE ATS-1 SPECTROMETER ON BCD MAGNETIC TAPE

NSSDC ID 66-110A-01A, 1.88MIN INTERVAL,0-50 EV ION DATA

Time period covered - 12/10/66 TO 02/18/67

Quantity of data - 55 REELS OF TAPE

This experimenter-supplied, low-energy ion count data set is on 55 7-track, 556-bpi, BCD magnetic tapes. There is one short header file and one data file per tape. The data file contains 6 characters per word, 10 words per logical record, 22 logical records per physical record, and approximately 140 physical records per file. Each of the 22 logical records in a physical record includes the count data from one complete angular scan for one energy interval, giving approximately 660 data points per physical record. Also included in each logical record are time and data quality flags. The counts per energy interval per angular window (counts per 0.02 s) must be corrected by the user for telemetry errors and a prescaler. The algorithm for this correction is provided in the documentation.

ATS 1, PAULIKAS
OMNIDIRECTIONAL SPECTROMETER

Data set name - PROTON AND ELECTRON FLUX VALUES ON TAPE

NSSDC ID 66-110A-03A, PROTON & ELECTRON FLUX DATA TAPES

Time period covered - 12/17/66 TO 12/05/68

Quantity of data - 49 REELS OF TAPE

This electron and proton flux data set is on 49 7-track, 800-bpi, CDC 6600, binary magnetic tapes. The data set consists of omnidirectional proton and electron flux values in units of particles/sq cm-s, at 36-s intervals, that were derived from observed count rates. The electron fluxes were for energies greater than 0.3, 0.45, 1.05, and 1.9 MeV, and the proton fluxes were for energies from 5 to 21 MeV and from 21 to 70 MeV. Orbit information is not contained on these tapes. A compressed set of 10 IBM 7094 binary tapes containing the same data is also available (data set 66-110A-03C).

Data set name - ELECTRON AND PROTON OMNIDIRECTIONAL FLUX VS TIME PLOTS ON APERTURE CARDS

NSSDC ID 66-110A-03B, E&P FLUX VS T PLTS,APERTURE CARDS

Time period covered - 12/17/66 TO 12/05/68
(Date supplied by experimenter)

This data set contains 691 electron flux vs time plots and 691 proton flux vs time plots on 35-mm microfilm frames, each of which is mounted on an aperture card. There are two 24-h plots for each day that has any data. The first of these plots displays the omnidirectional integral flux from each of the four electron channels at 40.96-s intervals. The second of these plots displays the 512-s average omnidirectional integral flux from each of the two proton channels at 512-s intervals. All known corrections, such as dead time and temperature corrections, have been made to these flux values. There is no written information on the aperture cards.

Data set name - HOURLY AVERAGED PROTON FLUXES PUBLISHED IN 'SOLAR-GEOPHYSICAL DATA'

NSSDC ID 66-110A-03D, SGD PBLSHD HRLY AVG PROTON FLUXES

Time period covered - 01/01/70 TO 08/31/72

Quantity of data - 32 BOOKS OR BOUND VOLUMES

This data set consists of hourly averaged fluxes of omnidirectional, geosynchronous protons with energies in the intervals 5 to 21 MeV and 21 to 70 MeV, in monthly tabular listings. Data obtained during a given month were published (until September 1972) in "Solar-Geophysical Data (Prompt Reports)," with a 1-month lag.

ATS 1, SUOMI
SPIN-SCAN CLOUDCOVER CAMERA (SSCC)

Data set name - THE ATS METEOROLOGICAL DATA CONTROL ON MICROFICHE

NSSDC ID 66-110A-09A, ATS METEO DATA CAT ON MICROFICHE

Time period covered - 01/01/67 TO 05/25/70

Quantity of data - 42 CARDS OF B/W MICROFICHE

This data set consists of the five-volume "Meteorological Data Catalog for the Applications Technology Satellites," TRF B09264, published by NASA-GSFC, contained on 42 microfiche cards. It describes and indexes the data from the ATS 1 spin scan cloud camera (SSCC), the ATS 3 multicolor spin scan cloud camera (MSSCC), and the ATS 3 image dissector camera system (IDCS). The catalog also contains orbital information and usually one picture per day (normally full disc taken near local noon) as acquired from the three experiments. The first two volumes of this set also serve as a data user's guide for each of the three experiments. In addition to describing each experiment, they contain explanations of the acquisition, categorization, cataloging, and data archiving processes. The five volumes cover the periods January 1 to June 30, 1967 (volume 1); July 1, 1967, to January 31, 1968 (volume 2); February 1 to December 31, 1968 (volume 3); January 1 to July 31, 1969 (volume 4); and August 1, 1969, to May 25, 1970 (volume 5).

ATS 1, WINCKLER
ELECTRON SPECTROMETER

Data set name - 6-MIN AVERAGED COUNT RATES ON MAGNETIC TAPE

NSSDC ID 66-110A-04A, 6-MIN.AVE.COUNT RATE ON MAG.TAPE

Time period covered - 12/19/66 TO 12/30/67

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied, electron count rate data set is on one 7-track, 800-bpi, even-parity, BCD magnetic tape, containing 6-min-averaged count rates for the time period from December 19, 1966, to December 30, 1967. Each logical record contains an 80-character card image, and there are five logical records per physical record. Each card image contains information as to the time, count rate, and background rate for each of the three channels, plus their statistical errors. Note that although tape entries start at December 9, 1966, no data are contained in the first 10 logical records. First data entry occurs on December 19, 1966.

Data set name - 6-MIN AVERAGED COUNT RATE PLOTS ON MICROFILM

NSSDC ID 66 110A-04B, 6 MIN AVE COUNT RATES ON MFILM

Time period covered 12/19/66 TO 12/30/67

Quantity of data - 1 REEL OF MICROFILM

This electron count rate data set is on one reel of 35 mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Presented are 6-min-averaged count rates vs time, each plot giving one day for all three channels. No background information is contained on the plots.

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********** ATS 2 **********
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ATS 2, MCILWAIN
OMNIDIRECTIONAL PROTON AND ELECTRON
DETECTORS

Data set name - REDUCED ELECTRON AND PROTON COUNT RATES ON MAGNETIC TAPE

NSSDC ID 67-031A 05A, REDUCED ELECT+PROT CNT RATES,TAPE

Time period covered 04/07/67 TO 10/23/67

Quantity of data - 31 REELS OF TAPE

This proton and electron count rate data set is on 31 7-track, 800-bpi, CDC 3600, binary magnetic tapes. Each physical record contains 10 logical records of 27 48-bit words each. Each logical record contains data for a 5.12 s telemetry sequence. These data include time, three dead-time-corrected proton count rates, one count rate from a non-proton-discrimination state, ephemeris information (including B and L), temperature and voltage levels, and error flags if appropriate.

ATS 2, STONE

RADIO ASTRONOMY

Data set name - SEVEN-STEP 0.5- TO 3-MHZ RADIO FLUXES ON MAGNETIC TAPE

NSSDC ID 67-031A-01A, 7 STEP .5-3 MHZ MAG TAPE

Time period covered - 04/06/67 TO 10/22/67

Quantity of data - 34 REELS OF TAPE

This experimenter-supplied, 7-channel radiometer data set, on 34 7-track, 556-bpi magnetic tapes, contains the date/time of the observations (in milliseconds of the year for 1967); the spacecraft coordinates (geographical and celestial, including altitude); the solar angle (in degrees); the temperatures of the receiver, preamplifier, and capacitance probe; the coarse antenna temperatures (derived from the receiver error signal); the fine antenna temperatures (derived from the noise source output); and the antenna impedances.

Data set name - RADIO FLUX LISTING ON MICROFILM

NSSDC ID 67-031A-01B, 7STEP .5-3MHZ PRINTOUT (35MM)

Time period covered - 04/07/67 TO 10/23/67

Quantity of data - 3 REELS OF MICROFILM

This data set is a listing of the observed radio noise fluxes, as a function of time, for all seven radiometer channels, contained on three reels of 35-mm microfilm. The data also include spacecraft altitude, colatitude, and longitude.

Data set name - PLOTS OF SINGLE FREQUENCY FLUX VS TIME ON MICROFILM

NSSDC ID 67-031A-01C, 7STEP .5-3MHZ 1FREQ PLOTS (35MM)

Time period covered - 04/09/67 TO 10/23/67

Quantity of data - 8 REELS OF MICROFILM

This experimenter-supplied data set consists of 1-h plots of analyzed radio noise data, on eight reels of 35-mm microfilm. Each plot contains the spacecraft altitude at the beginning and the end of the plot and the logarithm of the output from one radiometer channel as a function of time. Data from all seven channels are plotted, with each plot containing 1 h of data. Both coarse and fine data are given. The coarse data were derived from the error signal that drove the noise source of the Ryle-Vonberg receiver. The fine data were derived from the noise source output and have a longer time constant. The frequencies are labeled on the plots in ascending order (channel 1 is 0.45 MHz, channel 2 is 0.7 MHz, etc.).

Data set name - PLOTS OF MULTIFREQUENCY FLUX VS TIME ON MICROFILM

NSSDC ID 67-031A-01D, 6CHAN .5-3MHZ MULTIFREQ PLTS,MFLM

Time period covered - 04/07/67 TO 10/23/67

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of 10-min, multifrequency plots of analyzed radio noise data on one reel of 35-mm microfilm. Each plot contains the outputs of six channels of the radiometer plotted as a function of time. Channel 3 (0.9 MHz) data are not given because too much interference was present for the data from this channel to be useful. Each plot contains about 10 min of data. The spacecraft altitude is also given at the beginning and end of each plot.

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********** ATS 5 **********
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ATS 5, MCILWAIN
BIDIRECTIONAL LOW-ENERGY PARTICLE
DETECTOR

Data set name - SPECTROGRAMS OF ELECTRON AND PROTON FLUXES

NSSDC ID 69-069A-11A, ELECTRON/PROTON SPECTROGRAMS

Time period covered - 08/18/69 TO 12/31/72

Quantity of data - 8 REELS OF MICROFILM

This experimenter-supplied electron and proton spectrogram data set is on eight reels of 35-mm microfilm. Each reel contains all available data for a given year from a selected pair of the particle detectors, i.e., either the pair looking parallel to the spin axis or the pair looking perpendicular to the spin axis. The data are presented in plots covering periods of about 1 day. For the 4 years, 1969 through 1972, the reels contain 132, 362, 228, and 174 plots, respectively. Each plot contains two sonogram type presentations, one each for electrons and protons, which display the particle flux (encoded by gray scale) as a function of particle energy, in the range 50 eV to 50 keV, and of time. They also contain plots of the magnetic field components measured parallel and perpendicular to the spin axis by the magnetic field monitor (data set 69-069A-13C), calibration gray scales, and other subsidiary data. The format and contents of the plots are described in detail in appendix 1 of the paper by S. E. Deforest and C. E. McIlwain, "Plasma Clouds in the Magnetosphere," J. Geophys. Res., v. 76, p. 3587, 1971.

Data set name - PLASMA SPECTROGRAMS DURING SPACECRAFT CHARGING AND NEUTRALIZATION ON MICROFILM

NSSDC ID 69-069A-11B, PLASMA SPECTGMS WHILE S/C CHARGNG

Time period covered - 02/25/75 TO 04/01/78

Quantity of data - 2 REELS OF MICROFILM

This data set, on 35-mm microfilm, contains energy vs time grey-shaded spectrograms taken during periods of spacecraft charging and periods when the spacecraft neutralizer, consisting of a hot filament emitting electrons, was operating. A log giving the times when the spacecraft was in eclipse and when the neutralizer was operating is on the beginning of each reel of microfilm. Also on each reel there are two sets of spectrograms. One set gives the spectra in the range 50 eV to 50 keV from the perpendicular proton and perpendicular electron analyzers, and the other provides the same information from the parallel proton and electron analyzers. The format and contents of the plots are described in detail in appendix 1 of the paper by S. E. Deforest and C. E. McIlwain, "Plasma Clouds in the Magnetosphere," J. Geophys. Res., v. 76, p. 3587, 1971. The spectrograms are grouped for a period of time such as the spring eclipse season by the perpendicular set followed by the parallel set for the same period. This is followed by the perpendicular set for the next block of time. Frames for periods in 1975, 1976, and

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Data set name - FIRST 4 MOMENTS OF DISTRIBUTION FUNCTION FOR ELECTRONS AND PROTONS DATA ON MAG TAPE

NSSDC ID 69-069A-11C, GEOSYN PLASMA ENVIRON. PICT ATLAS

Time period covered - 11/08/69 TO 11/24/70

Quantity of data - 1 REEL OF TAPE

These geosynchronous orbit, plasma environment picture atlas data are on 7-track, 800 bpi, binary magnetic tape created on a CDC 6600 computer. Each physical record contains 6 sets of 85 words containing 10-min intervals of data, or a total of 1 h of data. The first two words of each physical record are CDC identification words. Each of six sets contains the satellite name; time in year, month, day, hour, average minute, and day of year; number density, flux, energy density, energy flux, and number of values of each for the four detectors on ATS 5 (the electron and ion detectors looking perpendicular and parallel to the spin axis); the colatitude, longitude, radius, perpendicular magnetic B-field component, Z-direction magnetic B-field component, total magnetic B field, and inclination of ATS-5 to the magnetic B-field; and the values of AE average index, AE maximum index, Kp index, and ephemeris information. Data set 74-039A-05B contains much of this same kind of data for ATS 6.

ATS 5, MOZER
TRI-DIRECTIONAL, MEDIUM-ENERGY PARTICLE DETECTOR

Data set name - FLUX OF ELECTRONS CENTERED AT 40,75,120 KEV & OF PROTONS AT 60,120,165 KEV ON TAPE

NSSDC ID 69-069A-04A, 40-120 KV EL,60-165 KV PROTN,TAPE

Time period covered - 09/16/69 TO 04/09/71

Quantity of data - 319 REELS OF TAPE

This experimenter-supplied electron and proton flux data set is on 319 7-track, 800-bpi, CDC 6600 generated, binary magnetic tapes. Each tape contains a two-record identification file followed by a varying number of files containing one data file ID record and one physical data record. Each data record consists of six 81-word logical records, each containing one 5.12-s telemetry sequence. The data file ID record contains miscellaneous housekeeping and reference information. The physical data record includes calibrated log10 of flux measurements of protons and electrons, and measurements from the GSFC magnetometer (69-069A-13). The electron fluxes are from three energy windows centered at 40, 75, and 120 keV; the proton fluxes are from three energy windows centered at 60, 120, and 165 keV. For more detailed information regarding the energy windows and experiment, consult F. H. Bogott and F. S. Mozer, J. Geophys. Res., v. 76, n. 28, p. 6790, 1971.

Data set name - FLUX OF ELECTRONS CENTERED AT 40,75,120 KEV & OF PROTONS AT 60,120,165 KEV ON MFLM

NSSDC ID 69-069A-04B, 40-120 KV EL,60-165 KV PROTN,MFLM

Time period covered - 09/17/69 TO 10/01/70

Quantity of data - 3 REELS OF MICROFILM

This experimenter-supplied data set, on three reels of 35-mm microfilm, contains machine plots depicting time-ordered particle fluxes, energy densities, e-folding energies, and magnetometer data. All plots contain 8 h of data and can be read with about 5-min time resolution. There are four frames for every 8-h time interval containing, respectively: (1) the southward moving part of the energy density and fluxes, (2) the northward moving part of the energy density and fluxes, (3) the radially moving part of the energy density and fluxes, and (4) the magnetic field components, measured by onboard magnetometer (69-069A-13), anticoincidence channel data and e-folding energies. The electron fluxes are from three energy windows centered at 40, 75, and 120 keV; the proton fluxes are from three energy windows centered at 60, 120, and 165 keV. For more detailed information regarding the energy windows and experiment, consult F. H. Bogott and F. S. Mozer, J. Geophys. Res., v. 76, n. 28, p. 6790, 1971. Sunlight contamination occurs during part of each spin in the southward moving energy density, sometimes in the southward moving proton channels, and in all northward moving channels. This contamination is obvious on the plots. For information regarding the magnetic field detector used in this experiment consult "ATS-E Magnetic Field Monitor Instrumentation," by T. L. Skillman, report no. X-645-70-54, GSFC, Greenbelt, MD (TRF B05187-000A).

ATS 5, SUGIURA
MAGNETIC FIELD MONITOR

Data set name - TRIAXIAL 1.5 MIN AVG MAGNETIC FIELD DATA UNCORRECTED FOR SPACECRAFT INTERFERENCE

NSSDC ID 69-069A-13A, B-FIELD COMPONENTS,M/FILM PLOTS

Time period covered - 12/04/69 TO 05/09/70

Quantity of data - 1 REEL OF MICROFILM

This magnetic field data set, on one reel of experimenter-generated 35-mm microfilm, contains 1.5-min-averaged vector magnetic field components plotted 12 h per frame, in the ATS VDH coordinate system (described below). Each frame contains the three components plotted on the same graph. Uncorrected for offset drift or spacecraft interference, the data are intended for use with ground-based magnetograms and other satellite measurements to correlate changes caused by precipitation of trapped particles related to auroral and other ionospheric disturbances. The data are believed to be accurate for relative changes to plus or minus 10 or 20 nT for high or low satellite bit rates, respectively. The telemetry coverage from which these data are derived has been about 50%, related to the operation of ATS 5 applications experiments. A rectangular coordinate system (VDH) was used for the analysis, where the H axis points northward along the spacecraft spin axis, the D axis points eastward, and the V axis points radially outward from the earth.

Data set name - DAILY VARIATIONS IN HOURLY AVERAGED MAGNETIC FIELD PLOTTED IN PUBLISHED REPORT

NSSDC ID 69-069A-13B, HR AVG MAG FIELD DAILY VAR-PUBLIC

Time period covered - 09/01/69 TO 09/30/71

Quantity of data - 1 CARD OF B/W MICROFICHE

This magnetic field data set, on one card of microfiche, contains plots and listings taken from the NASA-GSFC internal publication (X-645-72-301) "Average daily variations in the magnetic field as observed by ATS 5" by T. L. Skillman (TRF B15272-000B). All hourly values for field magnitudes and rotational VDH coordinate system components (described below) obtained between September 1969 and September 1971 have been

grouped according to local time (24 1-hour class intervals), dipole tilt (<= -10 deg, -10 to +10 deg, >= +10 deg), and Kp range (0 to 1, 1 to 2, 2 to 3, and above 3). The values in each of the 1152 groupings were then averaged. These averages were then sorted by tilt and Kp ranges, and plotted and listed vs local time. Standard deviations for the averages are also listed. Also presented are the results of a harmonic analysis of the local time variations. The amplitude and phases are given up to the fourth harmonic. A rectangular coordinate system (VDH) was used for the analysis, where the H axis points northward along the spacecraft spin axis, the D axis points eastward, and the V axis points radially outward from the earth.

Data set name - MAGNETIC FIELD COMPONENTS SUPPLIED IN MCILWAINS PARTICLE DATA SET

NSSDC ID 69-069A-13C, B-FLD COMP.ON PARTICLE PLOTS-FILM

Time period covered - 08/18/69 TO 12/31/72

Quantity of data - 8 REELS OF MICROFILM

This data set is on the eight reels of 35-mm microfilm supplied by C. McIlwain for the data set 69-069A-11A. The data set includes the magnetic field components measured parallel and perpendicular to the spin axis, the magnitude of the field, and the angle between the field and the spin axis. The data are presented in plots covering periods of about 1 day. For the 4 years from 1969 through 1972, the reels contain 132, 352, 228, and 174 plots, respectively. The field data do not contain offset corrections for magnetometer drifts or time changes in the spacecraft current systems. These perturbations can be as large as 15 nT. The format and contents of the plots are described in detail in appendix 1 of the paper by S. E. Deforest and C. E. McIlwain, "Plasma Clouds in the Magnetosphere," J. Geophys. Res., v. 76, p. 3587, 1971.

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********** ATS 6 **********
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ATS 6, ARNOLDY
LOW-ENERGY PROTON/ELECTRON EXPERIMENT

Data set name - LOW ENERGY ELECTRON-PROTON SPECTROGRAMS ON MICROFILM

NSSDC ID 74-039A-03B, ELECT.+PROTON SPECTROGRAMS, MFILM

Time period covered - 06/30/77 TO 02/21/79

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of low-energy electron and proton spectrograms on 35-mm microfilm. Each frame contains three consecutive days of data. Three-minute averages of the data are used in the spectrogram presentation. The spectrograms are photographs of computer hard copy and systematically display a grey scale gradation caused by folds in the hard copy. From July 17, 1977, to September 20, 1977, the electron spectrograms are very poor or nonexistent. This is a result of poor counting statistics caused by detector gain loss. Beyond September 21, 1977, the electron data are again of good quality.

ATS 6, COLEMAN, JR.
MAGNETOMETER EXPERIMENT

Data set name - SIXTY-FOUR SEC. AVERAGE MAGNETIC FIELD VECTORS IN DIPOLE COORDINATES

NSSDC ID 74-039A-02A, 64-SEC AVG B IN DIPOLE COORDINATE

Time period covered - 05/31/74 TO 09/09/75

Quantity of data - 1 REEL OF MICROFILM

This data set consists of Calcomp plots of the UCLA fluxgate magnetometer data on one reel of 16-mm microfilm. The plots show 64-s "sequence averages" and six parameters are displayed versus time, covering 24 h per plot. The parameters displayed are the three dipole VDH Cartesian components (V, D, H) and the three spherical components (BT, theta, phi) of the corrected magnetic field in dipole coordinates. A legend at the top identifies the start time of the plot in the following format: year, day of year, month, day of month, and h:min:s. A legend at the bottom indicates, in a similar manner, the time the plot was generated.

Data set name - SIXTY FOUR SEC. AVERAGE PC-1 BAND ULF INDEX

NSSDC ID 74-039A-02B, 64-SEC AVG PC-1 BAND ULF INDEX

Time period covered - 05/31/74 TO 09/08/75

Quantity of data - 1 REEL OF MICROFILM

This data set consists of 1-day plots of 64-s averages of indices of the X, Y, and Z components of high-frequency ULF wave activity in the Pc 1 band, on one reel of 16-mm microfilm. A filter was applied, with a passband looking like an inverted V peaked at 1 Hz. The usual inverse frequency-squared falloff in ULF wave power was removed by the filter, so that all signals in the Pc 1 band would, on average, produce the same output. The plotted parameters, while expressed in terms of rms power, are indices of occurrence.

ATS 6, FRITZ
MEASUREMENT OF LOW-ENERGY PROTONS

Data set name - 1-MINUTE AVERAGED PROTON AND HEAVY ION SUMMARY FLUX PLOTS ON MICROFILM

NSSDC ID 74-039A-01B, 1-MIN AVGD ION FLUX SUM PLOTS,FLM

Time period covered - 06/11/74 TO 09/08/75

Quantity of data - 16 REELS OF MICROFILM

This experimenter-supplied, 1-min-averaged proton and heavy ion flux data set is on 16-mm microfilm. The data set contains nine individual frames for each 6 h of data. Frames 1, 2, and 3 contain plots of low-energy proton differential flux vs time for six energy channels for each of the three telescopes, A, B, and C, respectively, plus the particles' pitch angle calculated from the UCLA magnetometer data (74-039A-02). Frame 4 contains plots of telescope H data: the eight high-energy proton count rates vs time and the alpha particle count rate vs time. Frame 5 contains four plots of the UCLA magnetometer data (74-039A-02), displayed as the total magnetic field magnitude, plus the three Cartesian components in spacecraft coordinates. Frames 6, 7, and 8 display information from four background channels of telescopes A, B, and C, respectively. The housekeeping data displayed in the lower panel of each of these three frames are without meaning because of an operational defect in the UNH experiment (74-039A-03). Frame 9 displays the eight channels of heavy ion accumulator state information. Anyone wishing to use the heavy ion information should contact the principal investigator to properly identify and reduce these data.

Data set name - HIGH-RESOLUTION PROTON AND HEAVY ION FLUX PLOTS ON MICROFILM

NSSDC ID 74-039A-01C, HI-RES PROTON+ION FLUX PLOTS,MFLM

Time period covered - 06/11/74 TO 08/27/75

Quantity of data - 150 REELS OF MICROFILM

This experimenter-supplied, high-resolution proton and heavy ion flux data set, on 16-mm microfilm, contains 10 individual frames for each 12 min of data. Frames 1, 2, and 3 contain plots of low-energy proton counts/second vs time for seven energy channels for each of the three telescopes, A, B, and C, respectively, plus the particles' pitch angle calculated from the UCLA magnetometer data (74-039A-02). Frame 4 contains plots of telescope H data: the eight high-energy proton count rates vs time and the alpha particle count rate vs time. Frame 5 contains four plots of the UCLA magnetometer data (74-039A-02), displayed as the total magnetic field magnitude, plus the three Cartesian components in spacecraft coordinates. Frame 6 contains energy spectra averaged over 12 min for telescopes A, B, C, and H. The responses of telescopes B and C are offset by factors of 10 and 100, respectively. Frames 7, 8, and 9 display information from four background channels of telescopes A, B, and C, respectively. The housekeeping data displayed in the lower panel of each of these three frames are without meaning because of an operational defect in the UNH experiment (74-039A-03). Frame 10 displays the eight channels of heavy ion accumulator state information in the main panel and the 16-state accumulator status of the first alpha particle channel in the bottom panel. Anyone wishing to use the heavy ion information should contact the principal investigator to properly identify and reduce these data.

ATS 6, MCILWAIN
AURORAL PARTICLES EXPERIMENT

Data set name - PLASMA SPECTROGRAMS DURING SPACECRAFT CHARGING AND NEUTRALIZATION ON MICROFILM

NSSDC ID 74-039A-05A, PLASMA SPECTGMS WHILE S/C CHARGNG

Time period covered - 07/18/74 TO 04/09/77

Quantity of data - 3 REELS OF MICROFILM

This data set, on 35-mm microfilm, contains energy versus time grey-shaded spectrograms taken during periods of spacecraft charging and periods when the spacecraft neutralizer, a low-energy plasma bridge, was operating. A log giving the times when the spacecraft was in eclipse and when the neutralizer was operating is on the beginning of each reel. Also on each reel are two sets of 0 to 81 keV electron and ion spectrograms, labeled N/S or E/W. The day of the year (January 1 equals day 1) and the year and the month/day/year are given on each frame. The time scale is printed at the bottom. The ion spectrogram is the bottom panel and the electron spectrogram is the top one. The energy scale, a combination of linear and log, is printed on the left side. The grey scale used is a function of particle intensity, with higher count rates corresponding to lighter shades. A commonly used option allows the grey scale to overflow into a second grey scale. The base levels are denoted by the values labeled DBE and DBP, for electrons and protons, respectively. The contrast is determined by the value labeled DBS. The magnetic field and its components along with the pitch angle of the appropriate detector are plotted above the spectrograms. The time intervals for the spectrograms can vary from frame to frame but usually cover 1 d or 1 h. The spectrograms are grouped for a period of time such as the spring eclipse season with the N/S set followed by the E/W set for the same period. This is followed by the N/S set for the next block of time. Frames for periods in 1974, 1975, 1976, and 1977 are included in this data set.

Data set name - FIRST 4 MOMENTS OF DISTRIBUTION FUNCTION FOR ELECTRONS AND PROTONS DATA ON MAG TAPE

NSSDC ID 74-039A-05B, GEOSYN PLASMA ENVIRON. PICT ATLAS

Time period covered - 07/05/74 TO 02/17/76

Quantity of data - 1 REEL OF TAPE

This geosynchronous orbit, plasma environment picture atlas data set is on 7-track, 800-bpi, binary magnetic tape created on a CDC 6600 computer. Each physical record contains six sets of 85 words containing 10-min intervals of data, or a total of 1 h of data. The first two words of each physical record are CDC identification words. Each of the six sets contains the satellite name; time in year, month, day, hour, average minute, and day of year; number density, flux, energy density, energy flux, and the number of values of each for the two detectors on ATS 6 (N/S electrons and ions); the temperature correction coefficient, angle of N/S detector, pitch angle, energy step of the photoelectron cutoff, electron cutoff energy, and spacecraft potential; and the values of AE average index, AE maximum index, Kp index, and ephemeris information.

ATS 6, PAULIKAS
OMNIDIRECTIONAL SPECTROMETER

Data set name - ENERGETIC PARTICLE SPECTROMETER DATA ON MAGNETIC TAPE

NSSDC ID 74-039A-07A, ENERGETIC PARTICLE SPECTROMETER

Time period covered - 06/14/74 TO 12/31/77

Quantity of data - 4 REELS OF TAPE

This experimenter-supplied data set is on 9-track, 1600-bpi, binary magnetic tape, recorded on a CDC 7600 computer. Each tape contains one data file with logical records consisting of 496 60-bit words. Each physical record contains 10 logical records and consists of day of year; month; day of month; year; radius; latitude; longitude; and hourly averages for electron, proton, and magnetometer data.

ATS 6, SHENK
GEOSYNCHRONOUS VERY HIGH RESOLUTION RADIOMETER (GVHRR)

Data set name - BLACK AND WHITE VISUAL IMAGES ON FILM

NSSDC ID 74-039A-08A, B/W VISUAL IMAGES ON FILM

Time period covered - 06/07/74 TO 08/15/74

Quantity of data - 750 B/W NEGATIVES

This experimenter-supplied data set consists of full-disk earth images on 70-mm film frames from the visual channel (0.55 to 0.75 micrometers) of the GVHRR instrument. The frames are arranged chronologically, and each frame is identified by date and time. Black and white, positive or negative copies of the film frames are available in uniform density exposure in either transparencies or prints.

Data set name - BLACK AND WHITE INFRARED IMAGES ON FILM

NSSDC ID 74-039A-08B, B/W INFRARED IMAGES ON FILM

Time period covered - 06/07/74 TO 08/15/74

Quantity of data - 750 B/W NEGATIVES

This experimenter-supplied data set consists of full-disk earth images on 70-mm film frames from the infrared channel (10.5 to 12.5 micrometers) of the GVHRR instrument. The frames are arranged chronologically, and each frame is identified by date and time. Black and white, positive or negative copies of the film frames are available in uniform density exposure in either transparencies or prints.

Data set name - GEOSYN. VERY HIGH RESOLUTION RADIOMETER INFRARED DIGITAL IMAGE DATA MAGNETIC TAPES

NSSDC ID 74-039A-08C, GVHRR IR DIGITAL IMAGE DATA,TAPE

Time period covered - 06/17/74 TO 08/20/74

Quantity of data - 1176 REELS OF TAPE

This data set consists of calibrated GVHRR infrared picture information on 1176 9-track, 1600-bpi, BCD magnetic tapes produced by a Univac 1108 data processing system. Each tape contains from one to four files (one file for the full-earth mode and up to four files for the sector mode). Each file consists of a header record and up to 1201 data records. Each file is terminated by an end-of-file mark with the last file terminated by two end-of-file marks. The header record consists of 132 characters written in EBCDIC and contains documentation on processing history and date/time of data. The next record is a data record of 2488 words containing IR calibration information. Each of the remaining data records (2488 words each) contains a line of picture information. Each line consists of 2400 9-bit samples called pixels. The first data record contains the last picture line, and the last data record contains the first picture line. Words 2467 through 2488 of each data record contain 47 orbit/attitude data parameters. Before output to tape, the data were checked for correct line and time sequence and smoothed as required. Pixels were not shifted to account for camera movements on this tape. A detailed format description appears in section 4 of the "Applications Technology Satellite (ATS6) VHRR Guide for Experimenter's Tapes," TRF B25463-000A. These tapes are also called experimenter history tapes.

ATS 6, WINCKLER
PARTICLE ACCELERATION MECHANISMS AND DYNAMICS OF THE OUTER TRAPPING REGION

Data set name - ELECTRON AND PROTON PLOTS VERSUS TIME ON MICROFILM

NSSDC ID 74-039A-04A, ELECTR-PROT PLOTS VS TIME, MFILM

Time period covered - 06/14/74 TO 03/31/75

Quantity of data - 4 REELS OF MICROFILM

This data set consists of electron and proton flux plots vs time, on 35-mm microfilm. The plots show directional differential fluxes of both protons and electrons in the directions of spacecraft west, south, and east. There are three proton energy channels, covering the range 27 to 377 keV for the west and south directions, and 35 to 514 keV for the east direction. The electron energy channels cover 32 to 51 and 150 to 214 keV for both the west and south directions, and 32 to 44 keV for the east direction, plus a channel for energies greater than 500 keV for each of these three directions. The plots cover 24 h each, with both universal time and local time indicated. The dates of data acquisition and processing are given on the plot. There are three types of plots in sequence for each day: "proton flux" for protons in the west and south directions; "electron flux" for electrons in the west and south directions; and "particle flux" for both electrons and protons in the east direction.

EPE-A

EPE-A, CAHILL, JR.
FLUXGATE MAGNETOMETERS

Data set name - PLOTS OF 10-SEC AVERAGED MAGNETIC FIELD COMPONENTS ON MICROFILM

NSSDC ID 61-020A-02B, 10-SEC AVG MAG FLD COMPS PLOTS MF

Time period covered - 08/16/61 TO 12/05/61

Quantity of data - 1 REEL OF MICROFILM

This magnetic field data set is on one reel of 35-mm microfilm that was generated at NSSDC from the data in data set 61-020A-02A. Each frame presents plots of the azimuthal angle of the field vector measured relative to the satellite meridian plane passing through the sun, the polar angle of the field vector measured relative to the satellite spin axis, and the field magnitude (nT). Each data point is a 10-s average computed and plotted once every 5 min. Each frame contains 24 h of data. These data, which are time ordered, contain no ephemeris information and cover approximately 80% of the period from August 16, 1961, to December 5, 1961. Many of the gaps are due to perigee passing (magnitude of the magnetic field is greater than 1000 nT), and these occur with a period of approximately 26.6 h.

Data set name - TEN-SEC AVERAGED MAGNETIC FIELD AND EPHEMERIS INFORMATION ON TAPE

NSSDC ID 61 020A-02C, 10-S AVG B-FIELD COMP+EPHEM, TAPE

Time period covered - 08/16/61 TO 12/05/61

Quantity of data - 1 REEL OF TAPE

This data set is on one 7-track, 556-bpi, unblocked, BCD magnetic tape that was generated at NSSDC by merging the data in the experimenter-supplied data set 61-020A-02A with ephemeris information and certain elements of the 1961 Jensen and Cain geomagnetic field model. Each 120-character logical record includes six measured magnetic field items, four time information items, eight ephemeris information items, and five model geomagnetic field items. The six measured magnetic field values derived from the orthogonal component measurements are the field magnitude and its standard deviation, the polar angle of the field vector (measured relative to the satellite spin axis) and its standard deviation, and the azimuthal angle of the field vector (measured relative to the satellite meridian plane passing through the sun) and its standard deviation. Each of the field values is a 10-s average, and these are presented once every 5 min. The time information items are the day number, hour, minute, and millisecond of the midpoint of the 10 s average. The ephemeris information items are the orbit number, longitude, latitude, geocentric range, right ascension, McIlwain L parameter, and the sun's right ascension and declination. The model field items include the field magnitude, right ascension, declination, and polar and azimuthal angles. These data are time ordered and cover approximately 80% of the period from August 16, 1961, to December 5, 1961. Many of the data gaps are due to perigee passing (magnitude of the magnetic field is greater than 1000 nT), and these occur with a period of approximately 26.6 h.

EPE-A, DAVIS
PROTON ELECTRON SCINTILLATION DETECTOR

Data set name - COMPLETE SET OF REDUCED PROTON AND ELECTRON COUNT RATE DATA ON MAGNETIC TAPES

NSSDC ID 61-020A-05A, REDUCED ELECT+PROT CNT RATES,TAPE

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 20 REELS OF TAPE

This experimenter-supplied data set contains a complete set of reduced proton and electron count rate data for the full life of the experiment with about 80% time coverage, on 20 7-track, 800 bpi, IBM 7094, binary magnetic tapes. Each record is 460 words long and contains one absorber wheel revolution of data. The data include phototube current, count rates, and housekeeping channel readings for 256 telemetry frames. Also included are time (UT), satellite position parameters in geocentric inertial and B,L coordinates, attitude parameters, etc., stored in floating point format. The channel readings for each frame are packed together as binary integers in one 36 bit word. There are five orbits, which amount to about 5.2 days of data, on each tape.

Data set name - ORBIT PLOTS OF PEAK COUNT RATE AND CURRENT READINGS ON MICROFILM

NSSDC ID 61-020A-05B, ORBIT PLOTS OF PEAK RATES, MFILM

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set contains plots of peak electron and proton integral flux data for each satellite spin period as a function of time (UT), on one reel of 16-mm microfilm. The data set contains 101 plots, and each plot contains one orbit of data. Each plot contains: (1) seven curves of the phototube eighth dynode current, which are proportional to electron and proton integral flux with seven low-energy cutoffs, plus a curve of the background current; (2) three curves of the eighth dynode current due to electrons only, plus a curve of the background current; (3) seven curves of the proton integral flux (1/cm**2*ESR) with seven low-energy cutoffs, obtained from the pulse output of the detector, plus a curve of the background flux; and (4) curves of the satellite position parameters in geomagnetic and in GSM coordinates. In addition to the linear time scale there are two nonlinear scales representing the radial distance and McIlwain's L parameter. Included are data for the full life of the satellite, August 16 to December 6, 1961, with about 80% coverage.

EPE-A, MCDONALD
COSMIC RAYS

Data set name - GM + SCINTILLATOR COSMIC RAY COUNT DATA, ENCYCLOPEDIA TAPES

NSSDC ID 61-020A-04A, GM+SCINT CR CNT DATA,ENCYCL TAPES

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 7 REELS OF TAPE

This reduced cosmic ray experiment data set is on seven experimenter-submitted, 7-track, 800-bpi, IBM 7094, binary magnetic tapes. For each 6.83-min telemetry sequence, the data set contains the counts from the Geiger-Mueller (GM) counter and single scintillator detectors during each of 12 1.6-s intervals, the counts from the scintillator telescope during one 5.12-min interval, and the averages of the 12 intervals of GM counter and single scintillator count data. The tapes are blocked with 6.8 min of data per tape record. This data set also contains several time, orbit, and attitude parameters. The data set includes data for the active lifetime of the spacecraft, August 16, 1961, to December 6, 1961, with about 80% coverage. Listings of the same data are available on 10 reels of microfilm in data set 61-020A-04C.

Data set name - GM + SCINTILLATOR COSMIC RAY 1-HR AVERAGE COUNT DATA LOGBOOK TAPE

NSSDC ID 61-020A-04B, GM+SCINT 1-HR CNT DATA LOGBK TAPE

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 1 REEL OF TAPE

This reduced cosmic ray experiment data set is on one experimenter-submitted, 7-track, 800-bpi, IBM 7094, binary magnetic tape. The data set contains 55-min averages of counts from each of the three detectors, the counts from the scintillator telescope during all 5.12-min intervals, the averages of the Geiger-Mueller counter and single scintillator count data for each 6.83-min telemetry sequence, and all 1.6-s interval count values for the lowest discriminator level of the single scintillator, as well as the time and spacecraft height values. Included are data for the active lifetime of the spacecraft, August 16, 1961, to December 6, 1961, with about 80% coverage. Listings of the same data are available on two reels of microfilm as data set 61-020A-04D.

EPE-A, VAN ALLEN
CHARGED PARTICLES

Data set name - COUNT RATES AND ORBITAL DATA ON MAGNETIC TAPE

NSSDC ID 61-020A-03A, PARTICLE COUNT RATE + EPHEM, TAPE

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 3 REELS OF TAPE

This data set contains combined electron, proton, and cosmic ray count rate data, on three 7-track, 556-bpi, BCD magnetic tapes written on an IBM 7094 with five records per block and a logical record length of 342 characters. Each record contains a time reference; base-10 logarithms of the count rates from the omnidirectional Geiger-Mueller (GM) tube, the three electron spectrometer GM tubes, and the three cadmium sulfide crystals; B and L coordinates based on Jensen-Cain coefficients; and orbital data in various systems. The data are in chronological order.

Data set name - GRAPHICAL SUMMARY OF RESPONSES OF DETECTORS ON MICROFILM

NSSDC ID 61-020A-03B, CHARGED PART.DECT. (MICROFILM)

Time period covered 08/16/61 TO 12/06/61

Quantity of data - 1 REEL OF MICROFILM

This data set contains graphs of electron, proton, and cosmic ray count rates vs time (UT), on one reel of 35-mm microfilm. There is a pair of plots for each orbit. One plot contains separate graphs of each of the seven detector count rate responses (counts/s). The other plot contains graphs of trajectory parameters: GSE and GSM latitude and longitude; geomagnetic latitude; geocentric radial distance; and McIlwain's L parameter. Also included on the microfilm are a format for the master file of orbital data merged with science data (data set 61-020A-03A) and a cover letter for the EPE-A data from Dr. L. A. Frank.

Data set name - L-ORDERED AND L-INTERPOLATED ELECTRON COUNT RATES ON MAGNETIC TAPE

NSSDC ID 61-020A-03C, L-ORDERED ELECTRN COUNT RATE,TAPE

Time period covered - 08/16/61 TO 12/06/61

Quantity of data - 1 REEL OF TAPE

The data set consists of L-interpolated, dead-time corrected, electron count rates from the type 302 Geiger-Mueller counter (from data set 61-020A-03A) in the form of card images on file 5 of one NSSDC-generated, 7-track, 556-bpi, IBM 7094, even-parity, BCD magnetic tape. The data records (one logical record per physical record) are ordered by L value. Each data record within the file is 80 characters long, is preceded by a 60-character header record, and is followed by a two-character trailer record. The experimental data have been interpolated to L= 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0, 11.0, and 12.0 and are grouped by L value. The data are time ordered within a given L-value group. The data format also includes time (local, UT, solar rotation), geomagnetic latitude, geographic latitude, B/B0, and McIlwain's L value. A similar data set (62-051A-03D) from Explorer 14 (EPE-B) is also contained on this tape (files 1 through 4).

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EPE-B

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EPE-B, CAHILL, JR.
FLUXGATE MAGNETOMETERS

Data set name - TEN SEC AVERAGES OF FIELD COMPONENTS AT 5-MIN INTERVALS ON TAPE

NSSDC ID 62-051A-02A, B FLD COMP,10 SEC AVG EVERY 5 MIN

Time period covered - 01/01/63 TO 05/30/63

Quantity of data - 6 REELS OF TAPE

This magnetic field data set is on six experimenter-supplied, 7-track, 556-bpi, BCD magnetic tapes. Information related to a single observation occupies three 112-character records. Two of these records contain 10-s averages of eight magnetic field items presented every 5 min. These items, derived from the orthogonal component measurements, are the right ascension, declination, and magnitude of the field, the polar angle of the field vector (measured relative to the satellite spin axis), the azimuthal angle of the field vector (measured relative to the satellite meridian plane passing through the sun), and the standard deviation of each of the three Cartesian components. The third record contains the following: day number (from day of launch); hour, minute, millisecond; geocentric longitude, latitude, and radius; McIlain's L parameter; and the theoretical field magnitude based on the 1962 model of Jensen and Cain. These data are time ordered and cover approximately 70% of the period from January 1, 1963, to May 30, 1963. Many of the data gaps are due to perigee passing (magnitude of the magnetic field is greater than 500 nT), and these occur with a period of approximately 36.4 h.

EPE-B, DAVIS
PROTON-ELECTRON SCINTILLATION DETECTOR

Data set name - COMPLETE SET OF REDUCED PROTON AND ELECTRON DATA ON MAGNETIC TAPES

NSSDC ID 62-051A-05A, TRAPPED RAD REDUC DATA, 69 TAPES

Time period covered - 10/02/62 TO 08/10/63

Quantity of data - 69 REELS OF TAPE

This experimenter-supplied data set contains a complete set of reduced electron and proton count rate data for the life of the experiment with about 80% time coverage, on 69 7-track, 800-bpi, IBM 7094, binary magnetic tapes. Each record is 460 words long and contains one absorber wheel revolution of data. The data include phototube current, count rates, and housekeeping channel readings for 256 telemeter frames. Also included are time (UT), satellite position parameters in geographic and B and L coordinates, right ascension, attitude parameters, etc., stored in floating point format. The channel readings for each frame are packed together as binary integers in one 36-bit word. There are three orbits, which amount to about 4.6 days of data on each tape.

EPE-B, MCDONALD
COSMIC RAYS

Data set name - GM + SCINTILLATOR COSMIC RAY COUNT DATA, ENCYCLOPEDIA TAPES

NSSDC ID 62-051A-04A, GM+SCINT CR CNT DATA,ENCYCL TAPES

Time period covered - 10/02/62 TO 08/11/63

Quantity of data - 17 REELS OF TAPE

This reduced cosmic ray experiment data set, on 17 experimenter-submitted, 7-track, 800-bpi, IBM 7094, binary magnetic tapes contains, for each 6.83-min telemetry sequence, the counts from the Geiger-Mueller (GM) counter and single scintillator detectors during each of 12 1.6-s intervals, the counts from the scintillator telescope during one 5.12-min interval, and the averages of the GM counter and single scintillator count data. This data set also contains several time, orbit, and attitude parameters. The tapes are blocked with 6.83 min of data per tape record. Included are data for periods when the spacecraft encoder was working, from October 2, 1962, to January 10, 1963, and from January 24, 1963, to August 11, 1963, with about 80% coverage. Listings of the same data are available on 27 reels of microfilm in data set 62-051A-04C.

Data set name - GM + SCINTILLATOR COSMIC RAY 1-HR AVERAGE COUNT DATA LOGBOOK TAPE

NSSDC ID 62-051A-04B, GM+SCINT 1-HR CNT DATA LOGBK TAPE

Time period covered - 10/02/62 TO 08/11/63

Quantity of data - 3 REELS OF TAPE

This reduced cosmic ray experiment data set is on three experimenter-submitted, 7-track, IBM 7094, binary magnetic tapes, two written at 556 bpi and one written at 800 bpi. The data set contains 55-min averages of counts from each of the three detectors, the counts from the scintillator telescope during all 5.12-min intervals, the averages of the Geiger-Mueller counter and single scintillator count data for each 6.83-min telemetry sequence, and all 1.6-s interval count values for the lowest discrimination level of the single scintillator, as well as the time and spacecraft height values. Data are included for periods when the spacecraft encoder was working, from October 2, 1962, to January 10, 1968, and from January 24, 1963, to August 11, 1963, with about 80% coverage. Listings of the same data are available on five reels of microfilm in data set 62-051A-04D.

EPE-B, VAN ALLEN
TRAPPED PARTICLE RADIATION

Data set name - COMPACTED GEIGER TUBE COUNT RATES AND ORBITAL DATA ON MAGNETIC TAPE

NSSDC ID 62-051A-03C, COMPACTED GM TUBE CNT RATES+ORBIT

Time period covered - 10/02/62 TO 08/11/63

Quantity of data - 2 REELS OF TAPE

In this data set, the count rate and ephemeris data in data set 62-051A-03B (eight experimenter-supplied magnetic tapes) have been compacted onto two 7-track, 556-bpi, IBM 7094, even-parity, BCD magnetic tapes. In this data set, the data include time-ordered counting rates of the trapped particle detectors merged with B (gauss), McIlwain's L parameter (earth radii), Kp index, and additional ephemeris data.

Data set name - L-ORDERED AND L-INTERPOLATED ELECTRON COUNT RATES ON MAGNETIC TAPE

NSSDC ID 62-051A-03D, L-ORDERED ELECTRN COUNT RATE,TAPE

Time period covered - 10/02/62 TO 08/11/63

Quantity of data - 1 REEL OF TAPE

This NSSDC-generated data set consists of L-interpolated, dead-time corrected, electron count rates (from data set 62-051A-03A) in the form of card images, on one 7-track, IBM 7094, even-parity, BCD magnetic tape. There are four tape files (files 1 through 4) for these data containing, respectively, count rates from the type 302, 213A, 213B, and 213C Geiger Mueller counters. The data records (one logical record per physical record) are ordered by L value. Each data record within a file is 80 characters long and is preceded by a 60-character header record and followed by a two-character trailer record. The experimental data have been interpolated to L = 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0, 11.0, and 12.0, and are grouped by L value. The data are time ordered within a given L-value group. The data set also includes time (local time, UT, solar rotation time), geomagnetic latitude, geographic latitude, B/B0, and McIlwain's L parameter. A similar data set (61-020A-03C) from Explorer 12 (EPE A) is contained on file 5 of this tape.

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********** EPE-C **********
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EPE-C, BROWN
ELECTRON AND PROTON SOLID-STATE DETECTORS

Data set name - REDUCED L-ORDERED PROTON-ELECTRON COUNT DATA FOR L FROM 1.1 TO 4.8 ON MAG TAPE

NSSDC ID 62-059A-01A, L-ORDERED PROTN+ELECTN COUNT TAPE

Time period covered - 10/27/62 TO 01/01/63

Quantity of data - 1 REEL OF TAPE

These reduced electron and proton count data generated at Bell Telephone Laboratories are on one 7-track, 800-bpi, odd-parity, BE-SYS, IBM 7094, BCD/binary magnetic tape with a block size of 166 36-bit words. Data are interpolated to 62 McIlwain L values ranging from 1.10 to 4.8 and ordered first by L and then by time. Count data from the two omnidirectional and the two medium aperture (half-angle of 20 deg) detectors are presented for high and low bias modes of operation. Data from the 2.9-MeV electron mode are not valid beyond December 23, 1962. An IBM fortran IV program written for the IBM 7094 is available to read out the data on the tape and determine the maximum and minimum flux values for each detector for each file.

EPE-C, DAVIS
PROTON-ELECTRON SCINTILLATION DETECTOR

Data set name - COMPLETE SET OF REDUCED PROTON AND ELECTRON DATA ON MAGNETIC TAPES

NSSDC ID 62-059A-05A, TRAPPED RAD REDUC DATA, 18 TAPES

Time period covered - 10/28/62 TO 01/27/63

Quantity of data - 18 REELS OF TAPE

This experimenter-supplied data set contains a complete set of reduced electron and proton count rate data for the life of the experiment with about 90% time coverage, on 18 7-track, 556 and 800 bpi, IBM 7094, binary magnetic tapes. Each record is 460 words long and contains one absorber wheel revolution of data. The data include phototube current, count rates, and housekeeping channel readings for 256 telemeter frames. Also included are time (UT), satellite position parameters in geographic and B and L coordinates, right ascension, attitude parameters, etc., stored in floating point format. The channel readings for each frame are packed together as binary integers in one 36-bit word. There are 24 orbits, which amount to about 5.2 days of data on each tape.

EPE-C, MCILWAIN
DIRECTIONAL AND OMNIDIRECTIONAL ENERGETIC PROTONS AND ELECTRONS

Data set name - TIME-ORDERED REDUCED ELECTRON AND PROTON COUNT RATES ON CDC BINARY TAPES

NSSDC ID 62-059A-02A, TIME-ORDERED PARTICLE COUNT RATES

Time period covered - 10/27/62 TO 01/30/63

Quantity of data - 6 REELS OF TAPE

This experimenter-supplied electron and proton count rate data set is on six 7-track, 556-bpi, CDC 3600, binary magnetic tapes. There are 12 48-bit words per logical record and 10 logical records per physical record. Each logical record contains time; a dead-time corrected count rate; a flag indicating which of the four discrimination states is involved; spacecraft latitude, longitude, and altitude; computed magnetic field magnitude and direction; computed L-value; and other housekeeping data. The tapes are time ordered, covering about 75% of the interval October 27, 1962, to January 30, 1963.

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********** EPE-D **********
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EPE-D, BROWN
SOLID STATE ELECTRON DETECTOR

Data set name - REDUCED ELECTRON COUNT RATE DATA ON MAG TAPE (6 THRESHOLDS 0.3 TO 3.5 MEV)

NSSDC ID 64-086A-01A, 0.3 - 3.5 MEV ELECT CNT RATE,TAPE

Time period covered 12/21/64 TO 05/15/67

Quantity of data - 68 REELS OF TAPE

This electron count rate data set is on 68 7-track, 800-bpi, BE-SYS, IBM, BCD/binary magnetic tapes generated at Bell Telephone Laboratories from the original data, in a time-ordered sequence. The data include the count rates from the integral counters (E1, E2, E3, E5, E6, and E7) in a digital format, magnetic coordinates (L, X) (where X=[1-(B0/B)]**[1/2]), the angle between the detector and (omega x B) (where omega is the satellite spin vector), geographic satellite position, satellite spin rate, time (UT), temperature (plus or minus 1 deg C), and various control parameters. Counters E1, E2, and E3 were omnidirectional, and counters E5, E6, and E7 were directional. The thresholds for counting electrons for the six counters were 1, 3.5, 2.5, 0.3, 0.45, and 1.7 MeV, respectively. This data set comprises all the useful data that are available from this experiment.

Data set name - L-ORDERED OUTER ZONE ELECTRON COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 64-086A-01D, L ORDERED ELECTRON CNT RATE TAPES

Time period covered - 12/21/64 TO 05/15/67

Quantity of data - 6 REELS OF TAPE

These electron count rate data are on six 556-bpi, 7-track, even-parity, BCD magnetic tapes, one for each of the six detectors of experiment 64-086A-01, generated at NSSDC from data set 64-086A-01A. Each tape contains L-interpolated electron count rates, magnetic field, time, and positional information. Data are interpolated to L values from 3.5 to 7.5 earth radii in increments of 0.5 earth radii. The data are sorted by L-value and ordered chronologically within each L-set.

EPE-D, CAHILL, JR.
FLUXGATE MAGNETOMETERS

Data set name - SIX-HOUR MAGNETIC VECTOR PLOTS ON MICROFILM

NSSDC ID 64-086A-03A, MAGNETIC FIELD VCTRS, MFILM PLOTS

Time period covered - 02/01/65 TO 06/30/65

Quantity of data - 1 REEL OF MICROFILM

This magnetic field vector data set is on one reel of 35-mm microfilm generated at NSSDC from hard copy plots supplied by the experimenter. Each frame contains 6 h of data. Magnetic vectors are given once every 5 min. Each vector is specified in terms of (1) the difference between the observed field magnitude and a model field magnitude (Jensen and Cain, 1962), (2) the angle (alpha) between the measured vector and the spacecraft spin axis, and (3) the field azimuthal angle (psi) relative to the spacecraft-sun direction. Time and ephemeris information (distance, latitude, local time, L) are given once an hour. Samples of the plots are used and explained in greater detail in L. J. Cahill, J. Geophys. Res., v. 71, n. 19, p. 4505, 1966. Data coverage is essentially complete between February 1 and June 30, 1965.

EPE-D, MCILWAIN
OMNIDIRECTIONAL AND UNIDIRECTIONAL
ELECTRON AND PROTON FLUXES

Data set name - L-ORDERED COUNT RATES ON TAPE

NSSDC ID 64-086A-02A, L-ORDERED PARTICLE CNT RATE TAPES

Time period covered - 12/21/64 TO 02/28/66

Quantity of data - 2 REELS OF TAPE

This experimenter-supplied analyzed electron and proton count rate data set is on two 7-track, 556-bpi, BCD magnetic tapes. There are 10 144-character logical records per physical record. The data have been interpolated to about 65 discrete L values between 1.15 and 7.00, and are ordered by B and L values. Count rates for both discrimination levels of both detectors are presented. For each set of four count rates, time (UT), computed magnetic field magnitude, and spacecraft position (altitude, latitude, longitude) and orientation are given.

Data set name - TIME-ORDERED REDUCED PARTICLE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 64-086A-02B, TIME ORDERED PARTICLE COUNT RATES

Time period covered - 12/21/64 TO 05/21/67

Quantity of data - 42 REELS OF TAPE

This reduced electron and proton count rate data set is on 42 experimenter-generated, 7-track, 556-bpi, CDC 3600, binary magnetic tapes. There are 10 96-character logical records per physical record. Time-ordered reduced count rates for both discrimination levels of both detectors, along with noise flags, spacecraft ephemeris information (latitude, longitude, altitude, computed B and L), and housekeeping information, are presented in each logical record.

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********** ERS 13 **********
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ERS 13, VETTE
CHARGED PARTICLE DETECTORS

Data set name - ORIGINAL CORRECTED ELECTRON AND PROTON COUNT RATES ON MAGNETIC TAPE

NSSDC ID 64-040C-01A, ELECTRON+PROTON COUNT RATES, TAPE

Time period covered - 07/17/64 TO 11/29/64

Quantity of data - 1 REEL OF TAPE

This electron and proton count rate data set is on one 7-track, 556-bpi, CDC 3600, binary magnetic tape containing card images. To create these data, the count rates from the four discriminators were scaled from analog strip charts. Each rate channel was sampled for approximately 10 s in sequence. A single rate averaged over this sample period was determined. Both temperature and voltage corrections were made before the subcarrier oscillator frequency was converted to a count rate. Approximately 20,000 data points from over 400 h of data were obtained and put on punched cards. Besides the count rates, the time of year (decimal days), longitude, radial distance, geomagnetic equatorial radius (earth radii), geomagnetic latitude, L shell (earth radii), B/B0, and the card number appear.

Data set name - 10-SEC AVERAGED, L-ORDERED ELECTRON FLUX DATA ABOVE 700 KEV ON TAPE

NSSDC ID 64-040C-01B, ELECTRONS ABOVE 700 KEV,L-ORDERED

Time period covered - 07/18/64 TO 11/29/64

Quantity of data - 1 REEL OF TAPE

This integral electron flux data set is on one 7-track, 556-bpi, IBM 7094, even-parity, BCD magnetic tape. The count rates from the lithium-drifted silicon detector electron channel were interpolated to the fixed L values 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, and 8.0, and converted to the flux of electrons greater than 700 keV using a multiplicative factor equal to 300. Besides the flux, local time (h), solar rotation time (days), universal time (h), month, day of month, year (minus 1900), geographic latitude, east longitude, orbit number, and L value (earth radii) are given. The data are ordered by L value and are in the form of card images. The data set was used in constructing the AE-4 model electron environment. This data set and data set 65-058C-01D appear as separate files on the same tape.

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********** ERS 17 **********
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Data set name - HOUSEKEEPING DATA PLOTTED VS TIME ON MICROFILM

NSSDC ID 65-058C-00F, HOUSEKEEPING DATA PLOTTED VS TIME

Time period covered - 07/20/65 TO 11/04/65

Quantity of data - 1 REEL OF MICROFILM

This data set contains plots of housekeeping parameters on one reel of 16-mm microfilm. This reel also contains data from data sets 65-058C-00E and 65-058C-01B on each plot. The structure temperature, high- and low-frequency reference values, and sun sensor output frequency are plotted vs time (UT). Each plot includes 15 h of data.

ERS 17, VETTE
CHARGED PARTICLE DETECTORS

Data set name - MERGED CHARGED PARTICLE DETECTOR COUNT RATES ON TAPE

NSSDC ID 65-058C-01A, MERGED,4.5 SEC AVG, 05 SEC TAPE

Time period covered - 07/20/65 TO 11/03/65

Quantity of data - 32 REELS OF TAPE

This data set, on 32 7-track, 800-bpi, BCD magnetic tapes, contains identification and header information, time, subcarrier frequency, 4.5-s charged particle detector count rates, flags, orbital coordinates, and all of the count rate data sampled 20 times per second. These tapes also contain data from data sets 65-058C-02A and 65-058C-03A within each logical record. The detector count rates were obtained by averaging over each 4.5-s sample of each detector in the satellite. The ephemeris data also include geographic, geomagnetic, and GSE coordinates. The BCD tape format consists of eight 120-character logical records per physical record. The time period covered is from 0849 UT on July 20, 1965, to 2332 UT on November 3, 1965, with numerous time gaps in the interval. Approximately 1500 h of data were acquired in this time period.

Data set name - CHARGED PARTICLE DETECTOR COUNT RATES PLOTTED VS TIME ON MICROFILM

NSSDC ID 65-058C-01B, COUNTING RATES PLOTTED VS TIME

Time period covered - 07/20/65 TO 11/03/65

Quantity of data - 1 REEL OF MICROFILM

This data set contains electron and proton count rate plots on one reel of 16-mm microfilm. This reel also contains data from data sets 65-058C-00E and 65-058C-00F on each plot. The count rates for all detector channels of the satellite except for the quasi-digital channels are plotted vs time (UT). The following measurements are included: (1) electrons greater than 100 keV, (2) electrons greater than 320 keV, (3) electrons greater than 3.2 MeV, (4) protons 3.5 to 27 MeV, (5) protons 8 to 21 MeV, (6) protons greater than 35 MeV, (7) gamma rays 30 to 100 keV, (8) cosmic-ray protons greater than 30 MeV, and (9) solar X-rays 1- to 14-A or electrons above 40 keV. The measurements listed in (7) and (8) are data from experiment

65-058C-03, and the measurements listed in (9) are from experiment 65-058C-02. Each plot contains 15 h of data.

Data set name - L-ORDERED ELECTRON AND PROTON COUNT RATES ON TAPE

NSSDC ID 65-058C-01D, L-ORDERED ELEC+PROT CNT RATES,TAP

Time period covered - 07/20/65 TO 10/31/65

Quantity of data - 1 REEL OF TAPE

This data set contains electron count rates from the Lithium Drifted Silicon Detector (SSD) electron channel and the two channels of the Plastic Scintillation Counter (LEPM) on one 7-track, 556-bpi, even-parity, IBM 7094, BCD magnetic tape. These count rates were interpolated to the following L values: 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 8.0, 9.0, 10.0, 11.0, and 12.0. The corrected count rate, B/B0, local time, solar rotation time (days), time (UT), month, day of month, year (minus 1900), geomagnetic latitude (deg), geographic east longitude, geographic latitude, and L value appear as card images on the tape. The data are organized into separate files for each energy threshold. Within each file the data are ordered by L value. The LEPM responded to electrons above 100 keV in one channel and to both electrons above 600 keV and protons between 3.5 and 27 MeV in the other channel. The SSD electron channel responded to electrons above 320 keV. The data have been corrected for detector dead times. The 100 keV and 320 keV data were used in the construction of the AE-4 model electron environment. The three files for this data set and a file for the data set 64-040C 01B (ERS 13) are included on the same tape.

ERS 17, VETTE
X-RAY DETECTORS

Data set name - MERGED X-RAY DETECTOR COUNT RATES ON TAPE

NSSDC ID 65-058C-02A, MERGED,4.5 SEC AVG, .05 SEC TAPE

Time period covered 07/20/65 TO 11/03/65

Quantity of data - 32 REELS OF TAPE

This data set, on 32 7 track, 800-bpi, BCD magnetic tapes, contains identification and header information, time, subcarrier frequency, 4.5 s Geiger-Mueller (GM) tube count rates, flags, orbital coordinates, and all of the count rate data sampled 20 times per second. These tapes also contain data from data sets 68-058C-01A and 65-058C-03A within each logical record. The count rate sum for each of the three GM tubes was obtained by averaging over each 4.5-s sample. The 0.05-s samples of the data and the quasi digital channel are also available. The ephemeris data also include geographic, geomagnetic, and GSE coordinates. The BCD tape format consists of eight 120-character logical records per physical record. The time period covered on the tapes is from 0849 UT on July 20, 1965, to 2332 UT on November 3, 1965, with numerous time gaps in the interval. The GM tube count rates are zero after September 15, 1965. Plots of the data are contained in data set 65-058C-01B.

ERS 17, VETTE
GAMMA RAY DETECTOR

Data set name - MERGED GAMMA RAY DETECTOR COUNT RATES ON TAPE

NSSDC ID 65-058C-03A, MERGED, 4.5 SEC AVG, .05 SEC TAPE

Time period covered 07/20/65 TO 11/03/65

Quantity of data 32 REELS OF TAPE

This data set, on 32 7 track, 800-bpi, BCD magnetic tapes, contains identification and header information, time, subcarrier frequency, 4.5 s gamma ray detector count rates, flags, orbital coordinates, and all the count rate data sampled 20 times per second. These tapes also contain data from data sets 65-058C-01A and 65-058C-02A within each logical record. The count rates of the 0.03- to 0.1-MeV channel and the greater than 10-MeV channel were obtained by averaging over each 4.5-s sample. The 0.05-s samples of the data from these channels and the four quasi-digital channels are available. The ephemeris data also include geographic, geomagnetic, and GSE coordinates. The BCD format consists of eight 120-character logical records per physical record. The time period covered is from 0849 UT on July 20, 1965, to 2332 UT on November 3, 1965, with numerous time gaps in the interval. Plots of the 0.03- to 0.1-MeV channel and the greater than 10-MeV channel count rates are contained in data set 65-058C-01B.

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********** ESA-GEOS 1 **********
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Data set name - PRINTOUT OF MAGNETIC CONJUNCTIONS ON MICROFILM

NSSDC ID 77-029A-00D, MAGNETIC CONJUNCTIONS, MFILM

Time period covered - 05/01/77 TO 01/13/79

Quantity of data - 2 REELS OF MICROFILM

This data set consists of a printout of magnetic conjunctions microfilmed at NSSDC. The conjunctions involve pairs of spacecraft, one of which is fixed as ESA-GEOS 1. The other member of a pair is: (1) AE-C, (2) DMSP-5D-F1, (3) DMSP-5D-F2, (4) EXOS 1, (5) EXOS 2, (6) ESA-GEOS 2, (7) ISEE 1, (8) ISIS 1, (9) ISIS 2, (10) TRIAD, (11) S3 2, or (12) S3-3. The first line of the tables is labeled int/ext models: n/m. This line denotes the internal and external magnetic field models being employed in the program. For example, n/m equals 3/6 indicates the Barraclough internal field model and the Olsen-Pfitzer external field with tilt model. The second line, labeled mo 6 12, indicates that the target satellite bin (flux tube size) is 6 latitude deg wide and 12 longitude deg long. This is the standard bin size, but other bin sizes may be selected. The third line lists the satellites being used in the run with the target satellite appearing first, followed by the non-target satellite list. The fourth line gives the start and stop times of the run in the yearyear daydayday hourhour.hour (yy ddd hh.h) format. For example, 77 121 10.0 77 121 20.0 indicates that the run covered the time period May 1, 1977, from 10.0 to 20.0 h UT. The fifth line is a program instruction to begin the run. The table header line notation is as follows. Column 1 - bin: This column shows the center of the flux tube bin for the target satellite. Column 2 - satid: This column identifies the satellite associated with each pair of lines in the table. The first satellite appearing under satid is the target satellite. This is followed by line pairs for each satellite that enters into magnetic conjunction with the target satellite bin under consideration during the time interval being used (see column 3). Column 3 - dddhh.hh: This column denotes the day of the year and the hour of the day. The first pair of lines are associated with the target satellite and indicate the length of time it is within the bin defined in column 1. Following the pair of time lines for the target satellite are pairs of time lines associated with each non target satellite. These latter pairs of time lines show the beginning and ending times of the conjunction with the target satellite. Column 4: This column contains the words "starts" and "stops" for the target satellite and "enters" and "leaves" for the non target satellites. For conjunctions of short duration, the word "crosses" follows the single non target satellite time line. Column 5 - slat/slon: This column gives the satellite's geographical latitude and east longitude at the time indicated in the third column. Column 6 - alt>geoid: This column gives the altitude, in kilometers, of the satellite above the geoid of the earth. The notation 3.2E+02 equals 320 km. The geoid radius is taken as 6378.16 km. Column 7 - gsep: This column indicates the geometric separation, in kilometers, of the target satellite and non target satellite, i.e., the line of sight distance between them. Column 8 - arclength: This column gives the distance, in kilometers, along the magnetic field line passing through the satellite to the surface of the earth. Column 9 - tlat/tlon: This column gives the geographical latitude and east longitude of the earth of the magnetic field line passing through the satellite.

ESA GEOS 1, GEISS
LOW-ENERGY ION COMPOSITION

Data set name LOW ENERGY ION COMPOSITION PLOTS

NSSDC ID 77-029A-03A, LOW ENERGY ION COMPOSITION PLOTS

Time period covered 08/17/77 TO 06/23/78

Quantity of data 1 REEL OF MICROFILM

This data set is on one reel of 16-mm microfilm made at NSSDC from the hard copies supplied by ESTEC. The plots are the proton count rates. No correction has been made for the background spacecraft potential or for the energy dependence of the geometric factor. The curves display a double envelope caused by mode changes. Generally, the upper envelope represents the counts in the thermal mode (0-110 eV), and the lower envelope represents the counts in the survey mode (25 eV-16.4 keV). Disregard data prior to October 3, 1977.

ESA-GEOS 1, GENDRIN
MAGNETIC WAVE FIELDS

Data set name - MAGNETIC WAVE FIELD SUMMARY PLOTS

NSSDC ID 77 029A-06A, MAGNETIC WAVE FIELD DATA SUM PLTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

This data set is on one reel of 16-mm microfilm made at NSSDC from hard copies supplied by ESTEC. It contains a number of magnetic field parameters: (1) V-component, (nT) in the direction of the local vertical; (2) D-component, (nT) eastward; (3) H-component, (nT) northward; (4) standard deviation of the total field strength (nT); (5) total magnetic power flux at < 5 Hz, perpendicular to spin axis; (6) flux at < 1.5 Hz, parallel to spin axis; and (7) rms magnetic power flux in frequency bands 0.2 0.6 kHz, 0.6 1.2 kHz, 1.2-2.5 kHz, and 2.5-5.0 kHz. Parameters 5, 6, and 7 are not in physical units but in arbitrary relative decibels.

ESA GEOS 1, HULTQVIST
LOW-ENERGY ELECTRON AND PROTON PITCH ANGLE DISTRIBUTION

Data set name - LOW ENERGY ELECTRON AND PROTON PITCH ANGLE PLOTS

NSSDC ID 77-029A-04A, LOW-ENERGY ELECTRON+PROT PTCH ANG

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

This data set, on one reel of 16-mm microfilm, was made at NSSDC from hard copies supplied by ESTEC. It provides plots of energy flux of electrons (ergs/sq cm-s-sr) in the range 0.5-25 keV, arriving parallel to the spin axis of the spacecraft. Also plotted are the fluxes of electrons in the same energy range (electrons/sq cm-s-sr) from two directions, one parallel and the other perpendicular to the spin axis. Disregard data prior to October 3, 1977.

ESA GEOS 1, MARIANI
TRIAXIAL FLUXGATE MAGNETOMETER

Data set name - DC MAGNETIC FIELD COMPONENTS AS PRELIMINARY SUMMARY PLOTS

NSSDC ID 77 029A 09A, DC MAGNETIC FIELD COMPONENT PLOTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

These plots, on 16-mm microfilm, are the same as those included in data set 06A, i.e., V, D, and H components of the field and the standard deviation of the total field.

ESA-GEOS 1, PEDERSEN
DC FIELDS BY DOUBLE PROBE

Data set name - DC FIELD BY DOUBLE PROBE SUMMARY PLOTS

NSSDC ID 77-029A-07A, DC FIELD BY DOUBLE PROBE PLOTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

These 16-mm microfilm plots are of low quality and validity.

ESA-GEOS 1, UNGSTRUP
ELECTRIC WAVE FIELDS

Data set name - ELECTRIC WAVE FIELD PLOTS

NSSDC ID 77-029A-10A, ELECTRIC WAVE FIELD PLOTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

This data set, on one reel of 16 mm microfilm, contains plots of rms power in five frequency bands: 0.2-0.6, 0.6-1.2, 1.2-2.5, 2.5-5.0, and 5.0-10.0 kHz. They are not in physical units but in relative decibels.

ESA-GEOS 1, WILKEN
ELECTRON AND PROTON PITCH ANGLE DISTRIBUTION

Data set name - ELECTRON AND PROTON COUNT RATES ON PRELIMINARY SUMMARY PLOTS

NSSDC ID 77-029A-01A, ELECTRON AND PROTON CNTRATE PLOTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

This data set, on one reel of 16 mm microfilm, contains plots of electron and proton fluxes in sets of six panels. Panel 1 (top panel) is a plot of the integrated flux of electrons in range 0.5-500 eV. The points are 3 min averages. The counted flux is subject to the uncertainty of the spacecraft potential. Data before October 3, 1977, must be rejected. Panel 2 provides the proton count rates in two alternating modes. The upper envelope is the count rate in the thermal mode, 0-110 eV, and the lower envelope is the count rate in the 25 eV-16.4 keV range. The points are 3 min averages. Panel 3 provides 3-min average fluxes (erg/sq cm-s-sr) in the direction of the spin axis. Panel 4 is similar to 3, but provides the average of the fluxes parallel and perpendicular to the spin axis. It is particle flux (particles/sq cm-s-sr) and not energy flux. Panel 5 provides electron fluxes in the range 20-250 keV, in the directions parallel and perpendicular to the spin axis. Panel 6 is a plot of the proton fluxes in the range 20 keV 3.3 MeV, in directions parallel and perpendicular to the spin axis.

ESA GEOS 1, WRENN
THERMAL PLASMA FLOW

Data set name - THERMAL PLASMA FLOW PLOTS

NSSDC ID 77-029A-02A, THERMAL PLASMA FLOW PLOTS

Time period covered - 08/17/77 TO 06/23/78

Quantity of data - 1 REEL OF MICROFILM

This data set is on one reel of 16-mm microfilm made at NSSDC from hard copies supplied by ESTEC. The data set contains plots of electron count rates in the energy range of 0.5-500 eV. The data were obtained by integrating the counts from two electrostatic analysers, one viewing parallel and the other perpendicular to the spin axis. In order to suppress the photoelectrons emitted by the spacecraft, the collimator was biased to minus 1.5 V. This entailed rejection of low energy plasma electrons also. The data set is valid only from October 3, 1977.

********** ESA-GEOS 2 **********

Data set name - PRINTOUT OF PREDICTED MAGNETIC CONJUNCTIONS ON MICROFILM

NSSDC ID 78-071A-00D, PREDICTED MAG CONJUNCTIONS, MFILM

Time period covered - 03/15/79 TO 02/17/81

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed listings of magnetic conjunctions computed at NSSDC. The target satellite is ISEE 1, and the orbits of ESA-GEOS 2 and STP P78-2 were examined to determine magnetic conjunctions, i.e., times when those satellites were located on (or within a specified distance of) the same magnetic field line that passed through the target satellite. In addition to the time period, the listing provides spacecraft locations, separation distance, distance to the surface of the earth along the field line, and identification of the magnetic field model used.

ESA-GEOS 2, BEGHIN

WAVE FIELD IMPEDANCE

Data set name - WAVE FIELD IMPEDANCE PLOTS

NSSDC ID 78-071A-11A, WAVE FIELD IMPEDANCE PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data - 3 REELS OF MICROFILM

This data set, on three reels of 16-mm microfilm, contains a panel providing plots of cold plasma density derived from resonances in the impedance of the antenna. They are plotted as logarithms of number density/cc. The data are very incomplete; the documentation is inadequate.

ESA-GEOS 2, GENDRIN
MAGNETIC WAVE FIELDS

Data set name - MAGNETIC WAVE FIELD SUMMARY PLOTS

NSSDC ID 78-071A-06A, MAGNETIC WAVE FIELD SUMMARY PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data - 3 REELS OF MICROFILM

This data set, on three reels of 16-mm microfilm, was made at NSSDC from hard copies supplied by ESTEC. It contains a number of magnetic field parameters: (1) V-component, (nT) in the direction of the local vertical; (2) D-component, (nT) eastward; (3) H-component, (nT) northward; (4) standard deviation of the total field strength (nT); (5) total magnetic power flux at < 5 Hz, perpendicular to spin axis; (6) flux at < 1.5 Hz, parallel to spin axis; and (7) rms magnetic power flux in frequency bands 0.2-0.6 kHz, 0.6-1.2 kHz, 1.2-2.5 kHz, and 2.5-5.0 kHz. Parameters 5, 6, and 7 are not in physical units but in arbitrary relative decibels.

ESA-GEOS 2, HULTQVIST
LOW-ENERGY ELECTRON AND PROTON PITCH
ANGLE DISTRIBUTION

Data set name LOW ENERGY ELECTRON AND PROTON PITCH ANGLE PLOTS

NSSDC ID 78-071A-04A, LOW-ENERGY ELECTRON PROT PTCH ANG

Time period covered 08/15/78 TO 07/01/82

Quantity of data 3 REELS OF MICROFILM

This data set, on three reels of 16-mm microfilm made at NSSDC from hard copies supplied by ESTEC, provides plots of energy flux of electrons (ergs/sq cm s sr) in the range 0.5-25 keV, arriving parallel to the spin axis of the spacecraft. Also plotted are the fluxes of electrons in the same energy range (electrons/sq cm-s-sr) from two directions, one parallel and the other perpendicular to the spin axis. Disregard data prior to October 3, 1977.

ESA-GEOS 2, MARIANI
TRIAXIAL FLUXGATE MAGNETOMETER

Data set name DC MAGNETIC FIELD COMPONENTS AS PRELIMINARY SUMMARY PLOTS

NSSDC ID 78-071A-09A, DC MAGNETIC FIELD COMPONENT PLOTS

Time period covered 08/15/78 TO 07/01/82

Quantity of data 3 REELS OF MICROFILM

These plots, on 16-mm microfilm, are the same as those included in data set 06A, i.e., V, D, and H components of the field and the standard deviation of the total field.

ESA GEOS 2, PEDERSEN
DC FIELDS BY DOUBLE PROBE

Data set name - DC FIELD BY DOUBLE PROBE SUMMARY PLOTS

NSSDC ID 78-071A-07A, DC FIELD BY DOUBLE PROBE PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data - 3 REELS OF MICROFILM

These 16-mm microfilm plots are of low quality and validity.

ESA-GEOS 2, UNGSTRUP
ELECTRIC WAVE FIELDS

Data set name - ELECTRIC WAVE FIELD PLOTS

NSSDC ID 78-071A-10A, ELECTRIC WAVE FIELD PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data - 3 REELS OF MICROFILM

These plots, on 16-mm microfilm, display rms power in five frequency bands: 0.2-0.6, 0.6-1.2, 1.2-2.5, 2.5-5.0, and 5.0-10.0 kHz. They are not in physical units but in relative decibels.

ESA-GEOS 2, WILKEN
ELECTRON AND PROTON PITCH ANGLE
DISTRIBUTION

Data set name - ELECTRON AND PROTON COUNT RATES ON PRELIMINARY SUMMARY PLOTS

NSSDC ID 78-071A-01A, ELECTRON AND PROTON CNTRATE PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data - 3 REELS OF MICROFILM

This data set, on three reels of 16-mm microfilm, contains plots of electron and proton fluxes in sets of six panels. Panel 1 (top panel) is a plot of the integrated flux of electrons in range 0.5-500 eV. The points are 3-min averages. The counted flux is subject to the uncertainty of the spacecraft potential. Data before October 3, 1977, must be rejected. Panel 2 provides the proton count rates in two alternating modes. The upper envelope is the count rate in the thermal mode, 0-110 eV, and the lower envelope is the count rate in the 25 eV-16.4 keV range. The points are 3-min averages. Panel 3 provides 3-min average fluxes (erg/sq cm-s-sr) in the direction of the spin axis. Panel 4 is similar to 3, but provides the average of the fluxes parallel and perpendicular to the spin axis. It is particle flux (particles/sq cm-s-sr) and not energy flux. Panel 5 provides electron fluxes in the range 20-250 keV, in the directions parallel and perpendicular to the spin axis. Panel 6 is a plot of the proton fluxes in the range 20 keV 3.3 MeV, in directions parallel and perpendicular to the spin axis.

ESA GEOS 2, WRENN
THERMAL PLASMA FLOW

Data set name - THERMAL PLASMA FLOW PLOTS

NSSDC ID 78-071A-02A, THERMAL PLASMA FLOW PLOTS

Time period covered - 08/15/78 TO 07/01/82

Quantity of data 3 REELS OF MICROFILM

This data set is on three reels of 16 mm microfilm made at NSSDC from hard copies supplied by ESTEC. The data set contains plots of electron count rates in the energy range of 0.5-500 eV. The data were obtained by integrating the counts from two electrostatic analysers, one viewing parallel and the other perpendicular to the spin axis. In order to suppress the photoelectrons emitted by the spacecraft, the collimator was biased to minus 1.5 V. This entailed rejection of low-energy plasma electrons also. The data set is valid only from October 3, 1977.

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********** EXPLORER 6 **********
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Data set name - MICROFILM PLOTS OF GEOMAGNETIC LATITUDE VS RANGE

NSSDC ID 59-004A-00F, GEOCEN.DIST VS GEOMAG LATITUDE

Time period covered - 08/07/59 TO 10/07/59

Quantity of data - 1 REEL OF MICROFILM

This data set is on one reel of 35-mm microfilm. Each frame contains a plot for one full orbit, showing spacecraft geomagnetic latitude vs geocentric range. Plots are given for the first 115 orbits, covering the first 2 months of spacecraft operation. The plots were generated by personnel at the University of Minnesota.

EXPLORER 6, SIMPSON
PROPORTIONAL COUNTER TELESCOPE

Data set name - SINGLE AND TRIPLE COINCIDENCE COUNT RATES VS TIME ON MICROFILM

NSSDC ID 59-004A-01A, PLOTS TRIP.+SINGLE DATA VS TIME

Time period covered - 08/07/59 TO 10/06/59

Quantity of data - 1 REEL OF MICROFILM

This data set consists of plots of triple coincidence (TC) counting rates and single counting rates vs time on one reel of 35-mm microfilm. The data are time ordered with approximately 15 days per plot. Digitized TC count listings and single detector count listings are also available on microfilm (data set 59-004A-01B).

EXPLORER 6, SONETT
SCINTILLATION COUNTER

Data set name - PUBLISHED PLOTS OF REDUCED COUNT RATE VS TIME ON MICROFILM

NSSDC ID 59-004A-02A, PLOTS OF COUNT RATE,POSITION, T

Time period covered - 08/08/59 TO 09/10/59

Quantity of data - 1 REEL OF MICROFILM

This data set of scintillation counter count rate plots is a microfilmed copy of a published report, on one reel of 35-mm microfilm. The data have been published in "Final Report, Reduction and Analysis of Explorer 6 and Pioneer 5 Data, Vol. II," TRW 8626-6006-RU-000, November 30, 1962. Each plot is about 3 h long, and the plots are time ordered. These count rates have been corrected for the saturation effects inherent in the instrument, but the detection efficiency curves must be used to interpret these data. Also on each plot is a nomograph giving the geomagnetic latitude and radial distance from earth associated with the plotted count rate at any instant of time. These data cover the period August 8, 1959, to September 10, 1959, and there is an 80% coverage. Data set 59-004A-04A is also contained on this reel.

Data set name - RAW MULTI-EXPT. DIGITAL TELEMETRY DATA LISTINGS AND EPHEMERIS DATA ON MICROFILM

NSSDC ID 59-004A-02B, MULTI-EXPT TELEM, LISTINGS+EPHEM

Time period covered - 08/07/59 TO 10/02/59

Quantity of data - 3 REELS OF MICROFILM

This data set, supplied by TRW, consists of digital electron scintillation counter data on three reels of 16-mm microfilm. The listings show the digital outputs converted to base 10. Time, date, and ground station are indicated. Data sets 59-004A-00E and 59-004A-04D are also contained on these reels.

Data set name - SANBORN OSCILLOGRAMS OF RAW TELEMETRY CHANNEL DATA (FILTERED) ON MICROFILM

NSSDC ID 59-004A-02D, SANBORN OSCILLOGRAMS (FILTERED)

Time period covered - 08/08/59 TO 09/20/59

Quantity of data - 13 REELS OF MICROFILM

These data, supplied by TRW, consist of Sanborn oscillograms (plots of frequency vs time for each telemetry channel), on 13 reels of 35-mm microfilm, made from the analog magnetic tapes using comb filtering additional to that used in producing the initial oscillograms. This additional filtering was done primarily for times when the scintillation counter was operating at its highest rate. The initial oscillograms are also available at NSSDC on microfilm (data set 59-004A-02C). Data set 59-004A-04C is also contained on these plots.

Data set name - L-ORDERED AND L-INTERPOLATED COUNT RATES VS TIME, ON MAGNETIC TAPE

NSSDC ID 59-004A-02F, L-ORDERED COUNT RATE VS TIME,TAPE

Time period covered - 08/08/59 TO 09/04/59

Quantity of data - 1 REEL OF TAPE

This L-ordered count rate data set is contained in the form of card images in one 7-track, 556-bpi, even-parity, BCD magnetic tape. This data set was derived at NSSDC from data sets 59-004A-02A and 59-004A-00D (ephemeris data) by interpolation to the following L values: L = 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, and 8.0. The data are L-ordered (the secondary ordering parameter is time) and consist of count rate, B/BO, local time, solar rotation time (in days starting with the first day of the current solar rotation), universal time, month, day, year, geographic longitude, and geographic latitude.

EXPLORER 6, SONETT
SEARCH-COIL MAGNETOMETER

Data set name - PLOTS OF REDUCED MAGNETIC FIELD DATA ON MICROFILM

NSSDC ID 59-004A-04A, PLOTS OF B (AMP,PHASE) VS T,ORBIT

Time period covered - 08/08/59 TO 09/10/59

Quantity of data - 1 REEL OF MICROFILM

This data set consists of linear graphs of the phase angle and semilog plots of the perpendicular field component vs time, on one reel of 35-mm microfilm. This data set contains plots of all the available reduced magnetic field data (analog and digital) obtained by this experiment. The phase angle was the angle between the component of the field perpendicular to the spacecraft spin axis and the projection into the spacecraft equatorial plane of a unit vector pointing in the direction of the sun. Data points that were derived from analog data are indicated, as is the receiving station. Data points that were derived from digital data are also indicated. In addition to the magnetometer data, the graphs contain curves representing theoretical values of the phase angle and the perpendicular field component. These were based on an eight-coefficient, spherical harmonic expansion of the geomagnetic field. The data are time ordered and have a 70% coverage for the time period indicated. Data set 59-004A-02A is also contained on this reel.

EXPLORER 6, WINCKLER
ION CHAMBER AND GM COUNTER

Data set name - LISTING OF COUNTS AND PULSES ON MICROFILM

NSSDC ID 59-004A-03A, COUNTS,PULSES + EPHEM LSTNG,MFILM

Time period covered - 08/07/59 TO 10/06/59

Quantity of data - 2 REELS OF MICROFILM

This electron and proton count and ephemeris data set is on two reels of 35-mm microfilm that were generated from experimenter-submitted listings. Each frame contains the designation of the Sanborn chart from which the data were taken, the chart speed, the date and time (UT) of the observation, and the spacecraft pass number. Also presented are the number of ion chamber pulses and Geiger-Mueller (GM) tube counts and the time interval over which these were accumulated. Pulse and count rates are also calculated, with saturation corrections being made in the case of the GM tube. Ephemeris information (range, latitude, and longitude) is given in both geographic and geomagnetic coordinates.

Data set name - CALIBRATED DIGITAL GM TUBE AND ION CHAMBER COUNT RATE DATA ON MICROFILM

NSSDC ID 59-004A-03B, GM+ION-CHAMB CNT RATES VS T,MFILM

Time period covered - 08/07/59 TO 10/02/59

Quantity of data - 2 REELS OF MICROFILM

This data set contains Geiger-Mueller (GM) tube and ion chamber electron and proton count rates on two reels of 35-mm microfilm that were generated from experimenter-submitted

computer listings. Each frame lists the date and time (UT) of the observations and the station at which the data were received. The contents of the GM tube and ion chamber registers are presented. Ephemeris information is given as geocentric range, right ascension, declination, and east longitude of the spacecraft. These data are time ordered. Also presented are the contents of the University of Chicago proportional counter registers from experiment 59-004A-01.

Data set name - PLOTS OF ELECTRON COUNT RATES AND ION PULSE RATES ON MICROFILM

NSSDC ID 59-004A-03C, ELEC CNT RATE&ION PULSE RATE PLTS

Time period covered - 08/07/59 TO 10/06/59

Quantity of data - 2 REELS OF MICROFILM

This electron and proton pulse and count rate data set is on two reels of 35-mm microfilm that were generated from experimenter-submitted plots. One reel contains plots vs time (UT) of (1) the logarithms of the ion chamber pulse rate, the Geiger-Mueller (GM) tube count rate, and the ratio of the two rates, and (2) geocentric range. Each frame contains 2 h of data. The second reel contains plots vs geocentric distance of the logarithms of both the GM tube count rate and the ion chamber count rate. Each frame on both reels is identified according to pass number and date.

Data set name - MERGED L-ORDERED COUNT RATES ON TAPE

NSSDC ID 59-004A 03D, MERGED L-ORDERED COUNT RATE TAPES

Time period covered - 08/07/59 TO 10/06/59

Quantity of data 1 REEL OF TAPE

This electron and proton count rate and ephemeris data set is on one 7-track, 556-bpi, BCD magnetic tape that was generated at NSSDC on an IBM 7094 computer. These data are an L value sorted version of the Geiger-Mueller (GM) tube and ion chamber count rate data found in data set 59-004A-03C, merged with ephemeris information from data set 59-004A-00D. Data are presented for the following L values: 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, and 8.0. Data from the GM tube and the ion chamber are presented in separate files. Each 84 character logical record contains the count rate, ratio of the magnetic field strength to the equatorial magnetic field strength (for the same L value), local time, universal time, month, day, year, geographic longitude and latitude, and L value.

****
********** HEOS 1 **********
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Data set name - GEI, GSE AND GEOGRAPHIC COORDINATE EPHEMERIS DATA ON MICROFILM

NSSDC ID 68 109A 00F, GEI,GSE+GEOG EPHEM LISTINGS,MFILM

Time period covered 12/05/68 TO 09/06/70

Quantity of data 1 REEL OF MICROFILM

This data set consists of microfilmed computer listings of ephemeris points of the satellite at 2 h intervals (satellite period about 4 days) in the following coordinate systems: GEI (X, Y, Z in km), geographic [altitude in km, longitude (Greenwich=0) and latitude in deg], and GSE (X, Y, Z in earth radii). The data set was generated on one reel of 16 mm microfilm at NSSDC from listings submitted by the experimenter. The geocentric solar ecliptic coordinates are on a separate printout from the first two coordinate systems.

HEOS 1, BAROUCH
COSMIC-RAY PARTICLE FLUX

Data set name - PLOTS OF PROTON HOURLY AVERAGED DIFFERENTIAL PARTICLE FLUX ON HARDCOPY

NSSDC ID 68 109A 06A, PROTON FLUX PLOTS, HC

Time period covered 01/01/69 TO 11/06/71

Quantity of data 3 PAGES OF UNBOUND HARDCOPY

This experimenter supplied data set consists of semilog plots of hourly averaged, differential particle flux (particles/sq cm s sr) vs time on three sheets of hard copy. Fluxes are given for energy channels 5, 9, 13, 17, and 14, which correspond to proton energies of 3.8 to 4.9 MeV, 4.3 to 5.2 MeV, 5.2 to 7.1 MeV, 7.1 to 23 MeV, and 23 to 68 MeV, respectively. Each sheet covers a 1-year period, and the data set covers the period from January 1, 1969, through November 6, 1971.

Data set name - PROTON COUNTS ON MAGNETIC TAPE

NSSDC ID 68-109A-06B, PROTON COUNTS ON MAGNETIC TAPE

Time period covered - 01/01/69 TO 12/24/72

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied, proton count data set is contained on one 2-file, 9-track, 1600-bpi, IBM 360 binary magnetic tape. Data for 1969 and 1970 are on the first file, and data for 1971 and 1972 are on the second. Each physical record contains a control word and four logical records. Each logical record of 6020 bytes contains a control word, an energy window identifier, the start time for subsequent data, and 3000 successive count rates (counts per 24-second accumulation period) for the indicated window (defined in terms of energy loss in first sensor and coincidence requirement). Thus each logical record contains data for about 4.4 days, and 20 successive logical records contain all the experiment data for 4.4 days. No spacecraft ephemeris or orientation information is on the tape.

Data set name - 27 DAY PARTICLE FLUX PLOTS ON MICROFILM

NSSDC ID 68-109A-06C, 27 DAY PARTICLE FLUX PLOTS,M FILM

Time period covered - 01/04/69 TO 12/19/72

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a microfilmed version of the Centre d'Etudes Nucleaires de Saclay document "Intensite du rayonnement cosmique dans l'espace interplanetaire measuree a bord du satellite HEOS annees 1969-1972" by E. Barouch, M. Gros, and P. Masse, on one reel of 16-mm microfilm. The document presents a discussion (in French) of the instrument and data processing, and presents a series of semilog plots, two for each 27-day solar rotation period. The data on the pair of plots for a given solar rotation are a background rate, fluxes for seven proton energy channels (thresholds at 3.8, 4.3, 5.2, 7.1, 23, 68, and 220 MeV), and geocentric spacecraft distance plotted versus time. Perigee counting has been deleted. Solar rotation plots containing transitions between calendar years were inadvertently omitted from the original document.

HEOS 1, ELLIOT
FLUXGATE MAGNETOMETER

Data set name - HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON MAGNETIC TAPE

NSSDC ID 68 109A 02A, HR AVGD INTPL B FIELD VECTS,TAPE

Time period covered - 12/11/68 TO 10/27/75

Quantity of data 4 REELS OF TAPE

This experimenter supplied data set, on three BCD and one binary, 7 track, 800 bpi, magnetic tapes, contains hourly averaged interplanetary magnetic field data. The data are recorded in the GSE coordinate system and are expressed as hourly averages of the three Cartesian B-field components and of the individual B field vector magnitudes and polar direction angles. The rms deviations from the hourly averaged field magnitude and polar direction angles are given together with the number of measurements used in each hour. This data set uses the convention that January 1 is day 0. No data are available for the May to August periods of 1969, 1970, and 1971 because of HEOS 1 orbit characteristics. These tapes also contain HEOS 2 data from data set 72-005A-01A. The data for the period August 1974 through October 1975 (after the HEOS 2 reentry on August 5, 1974) are very intermittent and are contained on the binary tape. The field magnitude and direction data have been plotted and are found in data sets 68-109A-02B and 72-005A-01B.

Data set name HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON MICROFILM

NSSDC ID 68-109A-02B, HR-AV INPL B FIELD VECT PLTS,MFLM

Time period covered - 12/11/68 TO 10/27/75

Quantity of data - 2 REELS OF MICROFILM

This experimenter-supplied interplanetary magnetic field data set is on two reels of 35-mm microfilm. Each frame contains plots of hourly averaged interplanetary magnetic field magnitude and direction (theta and phi in GSE coordinates) for a 27-day period. These data are taken from magnetic tape data set 68-109A-02A. The plots also contain HEOS 2 data from data set 72-005A-01A, unless labeled otherwise. The tape data sets use the convention that January 1 is day 0, while the microfilm plots use the convention that January 1 is day 1.

Data set name - DAILY PLOTS OF VECTOR FIELD FOR COSPAR/ STIP INTERVAL SEPT. 8 25, 1975

NSSDC ID 68-109A-02C, 1-D PLOTS B VECT,STIP PERIOD,MFLM

Time period covered 09/08/75 TO 09/25/75

Quantity of data - 1 REEL OF MICROFILM

This data set consists of plots of magnetic field measurements on one reel of 35-mm microfilm, obtained during COSPAR's first "Special Interval for Studying Traveling Interplanetary Phenomena." The data are displayed in two ways. One set of plots shows the field magnitude together with the vector direction in the GSE coordinate system. The other displays the field magnitude together with the three Cartesian field components in the GSM coordinate system. In the latter plots, the component scales are limited to plus or minus 10 nT, since it is anticipated that they will be used most for correlating the interplanetary measurements with magnetospheric events. These Cartesian plots also show the satellite position in GSM coordinates. The position data appear at 2-h intervals provided that telemetry coverage existed at that time (i.e., no orbit interpolation has been performed). On each type of plot, one frame contains one day of data. The day number displayed is day-of-year with January 1 = day 1.

Data set name - REFORMATTED HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTOR TAPES

NSSDC ID 68 109A-02D, REFORMTD HR AV INPL B-FIELD VECTS

Time period covered - 12/10/68 TO 10/25/75

Quantity of data - 1 REEL OF TAPE

These reformatted hourly averaged interplanetary magnetic field vector data are on one 9-track, 1600-bpi, IBM 360, EBCDIC magnetic tape. Each 8000 byte physical record contains 100 80-byte card image logical records. The data are recorded in the GSE coordinate system and are expressed as hourly averages of the three Cartesian B-field components and of the individual B-field vector magnitudes and polar direction angles. The rms deviations from the hourly averaged field magnitude and polar direction angles are given together with the number of measurements used in each hour. Time is expressed as year and decimal day at the start and end of the averaging interval. The data are the reformatted version of the 7-track, 800 bpi, BCD magnetic tapes of data sets 68-109-02A and 72-005A 01A. This data set is the same as data set 72-005A-01C.

Data set name - SINGLE POINT MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 68-109A-02E, SINGLE POINT MAG FIELD DATA, TP

Time period covered - 12/11/68 TO 12/31/75

Quantity of data - 5 REELS OF TAPE

This data set contains individual magnetic field data points on 7-track, 800-bpi, even-parity, BCD magnetic tapes created on a CDC 6600 computer. The records are unlabeled, with a maximum block size of 1280 characters. The logical record length is 40 characters. The data consist of year, day of year, hour of day (0.001 h), spacecraft GSE coordinates, and GSE coordinates of the B-field (0.1 nT). Similar data from HEOS 2 are contained in data set 72-005A-01D.

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HEOS 2

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HEOS 2, ELLIOT
FLUXGATE MAGNETOMETER

Data set name - HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON MAGNETIC TAPE

NSSDC ID 72-005A-01A, HR-AVGD INTPL B-FIELD VECTS, TAPE

Time period covered - 01/31/72 TO 08/01/74

Quantity of data - 3 REELS OF TAPE

This experimenter-supplied interplanetary magnetic field data set, on three 7-track, 800-bpi, BCD magnetic tapes, contains hourly averaged interplanetary magnetic field data. The data are recorded in the GSE coordinate system and are expressed as hourly averages of the three Cartesian field components and of the individual vector magnitudes and polar direction angles. The rms deviations from the hourly averaged field magnitude and polar direction angles are given together with the number of measurements used in each hour. This data set uses the convention that January 1 is day 0. No data are available for the May to August periods of 1969, 1970, and 1971 because of HEOS 1 orbit characteristics. These tapes also contain HEOS 1 data from data set 68-109A 02A. The data are very intermittent for the period August 1974 through October 1975 (after the HEOS 2 reentry on August 5, 1974). The field magnitude and direction data have also been plotted and are found in data sets 68-109A 02B and 72-005A-01B.

Data set name - HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON MICROFILM

NSSDC ID 72-005A-01B, HR-AVGD INTPL B FIELD VECTS,MFILM

Time period covered - 01/31/72 TO 10/27/75

Quantity of data - 2 REELS OF MICROFILM

This experimenter-supplied interplanetary magnetic field data set is on two reels of 35-mm microfilm. Each frame contains plots of the hourly averaged interplanetary magnetic field magnitude and direction (theta and phi in GSE coordinates) for a 27-day period. These data are taken from magnetic tape data set 72-005A-01A. The plots also contain HEOS 1 data from data set 68-109A-02A, unless labeled otherwise. The tape data sets use the convention that January 1 is day 0, while the microfilm plots use the convention that January 1 is day 1.

Data set name REFORMATTED HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTOR TAPES

NSSDC ID 72 005A 01C, REFORMTD HR AV INPL B FIELD VECTS

Time period covered - 01/31/72 TO 10/25/75

Quantity of data - 1 REEL OF TAPE

These reformatted hourly averaged interplanetary magnetic field vector data are on one 9 track, 1600 bpi, IBM 360, EBCDIC magnetic tape. Each 8000-byte physical record contains 100 80-byte card-image logical records. The data are recorded in the GSE coordinate system and are expressed as hourly averages of the three Cartesian field components and of the individual vector magnitudes and polar direction angles. The rms deviations from the hourly averaged field magnitude and polar direction angles are given together with the number of measurements used in each hour. Time is expressed as year and decimal day at the start and end of the averaging interval. The data are the reformatted version of the 7-track, 800-bpi, BCD tapes of data sets 68-109-02A and 72-005A-01A. This data set is the same as data set 68-109A-02D.

Data set name SINGLE POINT MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 72-005A-01D, SINGLE POINT MAG FIELD DATA

Time period covered - 02/05/72 TO 08/02/74

Quantity of data 8 REELS OF TAPE

This data set contains individual magnetic field data points on 7-track, 800-bpi, even-parity, BCD magnetic tape created on a CDC 6600 computer. The records are unlabeled, with a maximum block size of 1280 characters. The logical record length is 45 characters (a 5-character "dummy" item is in each HEOS 2 record). The data consist of year, day of year, hour of day (0.001 h), spacecraft GSE coordinates, and GSE coordinates of the magnetic B-field (0.1 nT). Data set 72-005A-01E contains a reformatted version of this data set. Similar data from HEOS 1 are contained in data set 68-109A-02E.

Data set name - REFORMATTED SINGLE POINT MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 72-005A-01E, REFORMATTED SINGLE POINT MAG FLD

Time period covered - 02/05/72 TO 08/02/74

Quantity of data - 2 REELS OF TAPE

This set of individual magnetic field data points is the reformatted version of data set 72-005A-01D, on 9-track, 1600-bpi, IBM 360/75, binary magnetic tape. The physical records are variable length (maximum of 12,000 bytes). Each logical record of 10 32-bit words contains the year, day of year, hour of day (0.001 h), spacecraft GSE coordinates, GSE coordinates of the magnetic B-field (0.1 nT), and a dummy (file) word.

HEOS 2, ROSENBAUER
SOLAR WIND MEASUREMENTS (230 EV-16 KEV)

Data set name - 1 HOUR AVERAGES SOLAR WIND PROTON DATA ON MAGNETIC TAPE

NSSDC ID 72-005A-06A, 1 HR AVGS SOLAR WIND PROTON DATA

Time period covered - 02/06/72 TO 08/11/74

Quantity of data - 1 REEL OF TAPE

These experimenter-supplied, hourly averaged solar wind proton data are on 9-track, 1600-bpi, IBM 360, ASCII magnetic tape. Each 80-byte record contains time in year, month, day of month, and hour of day; and parameters for proton density, speed, and average temperature. For normal data coverage, about 15 sets of the three-dimensionally resolved parameters were averaged for the hourly intervals.

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********** IMP-A **********
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Data set name - MULTI-COORDINATE SYSTEM EPHEMERIS AND MODEL MAGNETIC FIELD DATA ON TAPE

NSSDC ID 63 046A-00G, MULT-COORD SYS EPHEM&B-MODEL TAPE

Time period covered - 12/21/63 TO 12/30/64

Quantity of data - 1 REEL OF TAPE

This ephemeris data set is contained on one blocked, 7-track, 800-bpi, IBM 7094, binary magnetic tape generated at NSSDC from unblocked tapes submitted by N. F. Ness. There are five logical records per physical record. The tapes contain the following information at 5-min intervals: (1) geodetic and geomagnetic latitude and longitude, and radial distance of the spacecraft, (2) Cartesian representations of the spacecraft position in GSE and GSM coordinates, (3) geomagnetic latitude and longitude of the subsolar point, (4) the angle between the spacecraft spin axis and the satellite-sun line, and (5) model magnetic field information. The coverage is greater than 80%. A separate data set (63-046A-00H) with one set of ephemeris parameters per hour is available on an NSSDC-generated microfilm reel.

IMP-A, ANDERSON
ION CHAMBER AND GM COUNTERS

Data set name - TIME-ORDERED GM TUBE AND ION. CHAMBER COUNT DATA ON MAGNETIC TAPE

NSSDC ID 63-046A-05B, TIME-SORTED GM&ION.CHAM CNTS,TAPE

Time period covered - 11/28/63 TO 03/26/65

Quantity of data - 1 REEL OF TAPE

This ionization chamber and Anton 213 Geiger-Mueller (GM) tube count data set is contained on one 7-track, 556-bpi, BCD magnetic tape that was generated at NSSDC by time ordering the experimenter-supplied, geomagnetically trapped electron and proton data. The first file on the tape is a 12-character index that identifies the original GSFC tape from which the data were taken. Following the index file are a variable number of files containing 1032-character data records, each of which consists of 18 56-character logical records and a 24-character group that again identifies the data with respect to the original GSFC tape. Each logical record contains the universal time (d, h, min, and ms), one accumulation each from the ion chamber and GM tube B, two accumulations from GM tube A, the azimuthal and polar solar angles, the satellite spin period, and several processing error flags.

Data set name - PLOTS OF COUNT RATES VS TIME ON MICROFILM

NSSDC ID 63-046A-05C, GRAPHS OF GM+ION.CHAMBER DATA

Time period covered - 11/27/63 TO 12/28/64

Quantity of data - 1 REEL OF MICROFILM

This pulse rate data set was generated at NSSDC from plots submitted by the experimenter and is contained on one reel of 35-mm microfilm. Presented are the pulse rate of the ion chamber times 100 and the count rates of Geiger-Mueller tubes A and B times 1 and 10, respectively. These rates are plotted on a logarithmic scale vs time. The day of the year is given on each frame. These data are time ordered, with no ephemeris information.

Data set name - 4-HOUR PLOTS OF GM AND ION CHAMBER COUNT RATES VS TIME ON MICROFILM

NSSDC ID 63-046A-05D, GM&ION.CHAMB. 4-H RATE PLOTS,MFLM

Time period covered - 11/27/63 TO 02/28/64

Quantity of data - 1 REEL OF MICROFILM

This pulse rate data set was generated at NSSDC from plots submitted by the experimenter and is contained on one reel of 16-mm microfilm. Presented are the pulse rate of the ion chamber times 100, the count rates of Geiger-Mueller (GM) tubes A and B times 1 and 10, respectively, and the ratio of the count rates of GM tube A to GM tube B times 0.1. These rates are plotted on a logarithmic scale vs time. The day of the year is given on each frame. Each frame contains approximately 4 h of data. These data are time ordered, with no ephemeris information, and cover approximately 40% of the period from November 27, 1963, to February 28, 1964. This data set also contains a separate set of plots presenting 1.25-h averages of the count rate of GM tube A vs time. These data are also time ordered, with no ephemeris information, and cover approximately 90% of the period from November 27, 1963, to February 28, 1964.

Data set name - MERGED L-ORDERED ELECTRON COUNT RATES ON MAGNETIC TAPE

NSSDC ID 63 046A-05E, L-ORDERED ELECTRON CNT RATE TAPE

Time period covered 11/27/63 TO 05/27/64

Quantity of data - 1 REEL OF TAPE

This energetic electron data set is an L-value-sorted version of the Geiger-Mueller tube A count rate data found in microfilm data set 63-046A-05C, merged with ephemeris information. It is contained on one 7-track, 556-bpi, BCD magnetic tape that was generated at NSSDC on an IBM 7094 computer. Data are presented for the following L values: 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0, 11.0, and 12.0. Data are presented in one file consisting of 84-character logical records. Each logical record contains the count rate (corrected for detector dead time), the ratio of the magnetic field strength to the equatorial magnetic field strength (for the same L value), local time, universal time, month, day, year, geomagnetic latitude, geographic latitude and longitude, and L value.

IMP-A, BRIDGE
FARADAY CUP

Data set name THREE-HR AVERAGED PLASMA PARAMETERS ON MAGNETIC TAPE

NSSDC ID 63 046A 07A, 3-HR AVGS. OF PLASMA PARAMS.,TAPE

Time period covered 11/27/63 TO 12/16/64

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains 3-h averages of the plasma convected velocity, proton density, plasma energy density, and plasma flux. The data are on one 7-track, 556-bpi, BCD magnetic tape with 84 characters per logical record and one logical record per physical record. One to eight averages are given per day, and, for convenience, the Kp index is also given. These data were derived from the irregular interval plasma parameters in data set 63-046A-07B.

Data set name - PLASMA PARAMETERS FOR IRREGULAR TIME INTERVALS ON MAGNETIC TAPE

NSSDC ID 63-046A-07B, PLASMA PARAMETERS,IRREG. INTERVAL

Time period covered - 11/27/63 TO 12/16/64

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied plasma parameter data set, on one 7-track, 556-bpi, BCD magnetic tape, was derived through analysis of the superimposed cup current plots (data set 63-046A-07C). This analysis included corrections for aberration (which were consistently self-verified using widely spaced epochs). Based on the corrected data, values for bulk velocity and most probable thermal speed were determined. A convected Maxwellian distribution was fitted to the six ranges of energy-window data. A proton plasma density was then determined. The data on the tape include (1) convected plasma velocity and uncertainty in velocity, (2) upper and lower limits of the most probable thermal speed, (3) proton plasma density, and (4) plasma temperature assuming an isotropic Maxwellian distribution, all given as functions of time. These plasma parameter data are presented for irregular time intervals (while the spacecraft was in interplanetary space). There are 84 characters per logical record and one logical record per physical record.

Data set name - SUPERIMPOSED CUP CURRENTS PLOTTED VS DETECTOR LOOK DIRECTION ON MICROFILM

NSSDC ID 63-046A-07C, PLASMA CURRENT VS LOOK DIR. PLOTS

Time period covered - 11/27/63 TO 12/28/64

Quantity of data - 2 REELS OF MICROFILM

This experimenter-supplied data set consists of semilog plots of superimposed detector cup collector current data vs azimuthal look-angle, on two reels of 16-mm microfilm. Each frame contains six plots, one for each of the six experiment energy intervals (between 45 and 5400 eV). Collector current data for each energy interval of a variable number of successive spectra are superimposed and plotted vs azimuthal angle in the satellite equatorial plane, with the zero angle at the meridian plane containing the satellite-sun line. For a quiet steady plasma, these data indicate the average nature of the solar wind. The time period covered by each plot, which is proportional to the number of spectra superimposed, is variable and is given on each frame. This time period has been determined by the experimenter and roughly indicates the interval over which the plasma may be considered steady state. There is about 70% coverage from November 27, 1963, to May 7, 1964, and about 60% coverage from September 17, 1964, to December 28, 1964.

Data set name - REDUCED PLASMA MEASUREMENTS ON MAGNETIC TAPE

NSSDC ID 63-046A-07D, CHGD PART. FLUXES VS E &TIME,TAPE

Time period covered - 11/27/63 TO 01/13/65

Quantity of data - 5 REELS OF TAPE

All available measurements made by the MIT Faraday cup experiment have been converted by the experimenter to what can best be described as "engineering" units, on five 800-bpi, 7-track, FORTRAN IV, BCD magnetic tapes produced on an IBM 360. This process has taken into account the instrument's nonlinear temperature-dependent transfer function, and the data have been converted to fluxes of charged particles in terms of measured electrical current within a specified energy window. The samples in each energy window are presented in the sequence taken as functions of time during the time period indicated.

IMP-A, MCDONALD
COSMIC RAYS

Data set name - SCINTILLATOR & GM HOURLY AVERAGED COSMIC RAY ION & ELECTRON COUNT RATES ON TAPE

NSSDC ID 63-046A-04A, 1-H AVG C.R. ION&ELECT RATES,TAPE

Time period covered - 11/27/63 TO 05/26/64

Quantity of data - 1 REEL OF TAPE

This data set consists of hourly averaged cosmic-ray ion and electron count rates for the scintillator telescope and for the two Geiger-Mueller telescopes (directional and omnidirectional modes). It is contained on one experimenter-generated, 7-track, 556-bpi, odd-parity, binary magnetic tape written on an IBM 7040/7094 direct coupled system. Each logical record contains data from 1 day in 652 words (control words not included).

Data set name - SCINTILLATOR & GM 1-H AVERAGED COSMIC-RAY ION & ELECTRON RATE LISTINGS ON MICROFILM

NSSDC ID 63-046A-04B, HRLY C.R. ION&ELEC RATE LIST,MFLM

Time period covered - 11/27/63 TO 03/18/64

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied scintillator and Geiger-Mueller (GM) cosmic-ray ion and electron count rate data set is contained on one reel of 16-mm microfilm that also contains data sets 63-046A-04C and -04D. The data consist of tabular listings of time, spacecraft altitude, and hourly averaged count rates for all the counting modes of the scintillator telescope and the GM tubes. There are no significant data gaps between November 27, 1963, and February 29, 1964. There are no data for the first 15 days of March, but there are data for March 16 to 18, 1964.

Data set name - SCINTILLATOR & GM 5-MIN RESOLUTION COSMIC RAY ION & ELECTRON RATE MICROFILM LISTINGS

NSSDC ID 63-046A-04C, 5MIN C.R. ION&ELEC RATE LIST,MFLM

Time period covered - 11/27/63 TO 03/18/64

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied scintillator and Geiger-Mueller (GM) cosmic-ray ion and electron count rate data set is contained on one reel of 16-mm microfilm that also contains data sets 63-046A-04B and -04D. The data consist of tabular listings of time, spacecraft altitude, and all count rates (5-min resolution) for all the counting modes of the scintillator telescope and the GM tubes. There are no significant data gaps between November 27, 1963, and February 29, 1964. There are no data for March 1 to 15, 1964, but there are data for March 16 to 18, 1964.

Data set name - SCINTILLATOR DE/DX VS E MATRICES FOR COSMIC RAY IONS AND ELECTRONS ON MICROFILM

NSSDC ID 63-046A-04D, C.R. SCINT DE/DX-E MATRICES,MFILM

Time period covered - 11/27/63 TO 03/14/64

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of dE/dx vs E pulse-height-analyzer-channel matrices for the scintillator telescope contained on one reel of 16-mm microfilm that also contains data sets 63-046A-04B and -04C. Each matrix was constructed using data taken during one full spacecraft orbit (3.8 days), except that data taken below about 11 earth radii were excluded. Start and end times are given for each matrix. Data for the first 28 orbits are presented (November 27, 1963, to March 14, 1964).

IMP-A, NESS
FLUXGATE MAGNETOMETER

Data set name - 5.46-MIN VECTOR MAGNETIC FIELD DATA MERGED WITH EPHEMERIS DATA ON TAPE

NSSDC ID 63-046A-02B, MERGED MAGNETOMETER + EPHEMERIS

Time period covered - 11/27/63 TO 05/30/64

Quantity of data - 1 REEL OF TAPE

This data set contains experimenter-supplied fluxgate magnetometer data merged with complete ephemeris data on one 7-track, 800-bpi, IBM 7094, binary magnetic tape generated at NSSDC. The fluxgate data consist of 5.46-minute-averaged vector magnetic field data in both Cartesian GSE and spherical polar GSE coordinates. The ephemeris data (from data set 64-060A-00G) are given in GSE and GSM coordinates.

Data set name - HOURLY AVERAGED VALUES OF INTERPLANETARY MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 63-046A-02D, INTPLAN B-FIELD HOURLY AVGD TAPE

Time period covered - 11/27/63 TO 02/15/64

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied interplanetary magnetic field data set is contained on a single 9-track, 800-bpi, EBCDIC magnetic tape. The data include spacecraft position and hourly averaged vector magnetic field data in both Cartesian and spherical polar GSE coordinates. Only data obtained in interplanetary space are included. A microfilmed listing of

the contents of this data set is also available in data set 63-046A-02E. The data are at least 80% complete over the time period indicated.

Data set name - HOURLY AVERAGED VALUES OF MAGNETOSPHERIC MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 63-046A-02F, MSPHERIC B-FIELD HOURLY AVGD,TAPE

Time period covered - 02/28/64 TO 05/26/64

Quantity of data - 1 REEL OF TAPE

This magnetospheric magnetic B-field data set is contained on one 9-track, 800-bpi, EBCDIC magnetic tape provided by the experimenter. The data include spacecraft position and hourly averaged vector magnetic field data in both Cartesian and spherical polar GSM coordinates. Only hourly averages within the magnetosphere are included. A microfilmed listing of the contents of this data set is also available in data set 63-046A-02G.

IMP-A, SERBU
RETARDING POTENTIAL ANALYZER

Data set name - SEMILOG PLOTS OF COLLECTOR CURRENT VS RETARDING POTENTIAL VOLTAGE ON MICROFILM

NSSDC ID 63-046A-01A, PLOTS OF I VS VOLT(11/27/63 ONLY)

Time period covered - 11/27/63 TO 11/27/63

Quantity of data - 1 REEL OF MICROFILM

These electrostatic analyzer detector data consist of 100 semilogarithmic plots of calibrated collector current in amperes vs retarding potential voltage on one reel of 35-mm microfilm. The plots are for altitudes from 6280 to 193,885 km and cover approximately 20 h of continuous data. Each spectrum is plotted on a separate page, and data contaminated by solar UV background or other interference effects not indicated by instrument calibration curves have not been removed. Most data have been thus affected. Data for positive ions and electrons in the two retarding potential ranges 0 to 28 V and 0 to 100 V are included.

IMP-A, SIMPSON
COSMIC RAY RANGE VS ENERGY LOSS

Data set name - COSMIC RAY COUNT RATE PLOTS FOR FOUR ENERGY INTERVALS, ON MICROFILM

NSSDC ID 63-046A-03B, C.R. COUNT RATE PLOTS,4 E INTVALS

Time period covered - 11/27/63 TO 05/30/64

Quantity of data - 1 REEL OF MICROFILM

The data set consists of 32 Calcomp cosmic ray count rate plots on one reel of 35-mm microfilm. There are eight plots for each of the four telescope sensor combinations D1, D1D2, D1D2D3, and D1D2D3D4, which correspond to proton energy intervals of 0.9 to 190, 6.5 to 190, 19 to 190, and 90 to 190 MeV, respectively. Each plot gives the count rate (logarithmic) vs time (day number) for one solar rotation. The time interval covered is from solar rotation number 1783 (November 27, 1963) through 1790 (May 30, 1964).

Data set name - REDUCED COSMIC RAY COUNT ACCUMULATION DATA ON MAGNETIC TAPE

NSSDC ID 63-046A-03C, REDUCD C.R. COUNT ACCUMLATNS,TAPE

Time period covered - 11/27/63 TO 06/06/64

Quantity of data - 1 REEL OF TAPE

This experimenter supplied data set consists of reduced cosmic-ray count accumulations on one 7-track, 800-bpi, odd parity, binary magnetic tape written in a time-ordered format using an XDS 930 computer. There are 48 orbits of data on the tape. Each logical record contains the cosmic-ray telescope coincidence accumulations D1, D1D2, D1D2D3, and D1D2D3D4, corresponding to proton energy intervals of 0.9 to 190, 6.5 to 190, 19 to 190, and 90 to 190 MeV, respectively. Also included in the format are the time of observation and data quality information.

Data set name - REDUCED COSMIC RAY PULSE HEIGHT ANALYZER EVENT SUMMARY DATA ON MAGNETIC TAPE

NSSDC ID 63-046A-03D, C.R. P.H.ANAL. EVENT SUMMARY,TAPE

Time period covered - 11/27/63 TO 06/07/64

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set consists of reduced cosmic-ray pulse height analyzer data on one 7-track, 800-bpi, odd-parity, binary magnetic tape written in a time-ordered format using an XDS 930 computer. There are 48 orbits of data on the tape. Each logical record contains the following data: D1 and D3 detector element pulse heights, time of observation, orbit number, and data quality information. The output from the two 128-channel analyzers was obtained for one incident particle every 41 s and read out along with the detector count rate data.

Data set name - FIVE-MINUTE AVERAGE COSMIC-RAY COUNT RATE SUMMARIES ON MAGNETIC TAPE

NSSDC ID 63-046A-03E, 5-MIN AVG C.R.CNT RATE SUMRY TAPE

Time period covered - 11/27/63 TO 05/31/64

Quantity of data 1 REEL OF TAPE

This data set consists of reduced cosmic-ray telescope counting rates averaged over four sequence counts (approximately 328 s), on one 7-track, 800-bpi, blocked, BCD magnetic tape written in a time-ordered format using an XDS 930 computer. Each logical record contains the cosmic-ray telescope D1, D1D2, D1D2D3, and D1D2D3D4 coincidence rates, corresponding to proton energy intervals of 0.9 to 190, 6.5 to 190, 19 to 190, and 90 to 190 MeV, respectively. Also included in the format are the time of observation, sequence count, satellite geocentric distance, AE index, Kp index, and data quality information.

IMP-A, WOLFE
SOLAR WIND PROTONS

Data set name - PLOTS OF ION FLUX VS TIME AND RADIAL DISTANCE ON MICROFILM

NSSDC ID 63-046A-06A, PLOTS OF ION FLUX VS TIME,R,CYCLE

Time period covered 11/27/63 TO 04/03/64

Quantity of data 1 REEL OF MICROFILM

These reduced ion flux data plots were supplied by the experimenter and microfilmed by NSSDC onto one reel of 16 mm microfilm. On each plot, ion flux (converted to normal incidence flux: ions/sq cm-s) is presented vs time and radial distance for each of the three sectors of the satellite's equatorial plane. A single plot contains 2 days (one half of an orbit) of data. For each time period, there is one plot for each of the 600, 1700, 2970, and 3700 eV energy levels. The data cover the time periods November 27, 1963, to March 22, 1964, and March 31 to April 3, 1964. These correspond to orbits 1 through 30 plus orbit 33. There is a 90% coverage for the first time period and a 5% coverage for the second time period.

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********** IMP-B **********
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Data set name - MULTI-COORDINATE SYSTEM EPHEMERIS AND MODEL MAGNETIC FIELD DATA ON TAPE

NSSDC ID 64-060A-00G, MULT COORD SYS EPHEM&B-MODEL TAPE

Time period covered - 10/05/64 TO 09/30/65

Quantity of data - 1 REEL OF TAPE

This ephemeris data set is contained on one blocked, 7-track, 800-bpi, IBM 7094, binary magnetic tape generated at NSSDC from unblocked tapes submitted by N. F. Ness. There are five logical records per physical record. The tapes contain the following information at 5-min intervals: (1) geodetic and geomagnetic latitude and longitude and radial distance of the spacecraft, (2) Cartesian representations of the spacecraft position in GSE and GSM coordinates, (3) geomagnetic latitude and longitude of the subsolar point, (4) the angle between the spacecraft spin axis and the satellite sun line, and (5) model magnetic field information. The coverage is greater than 80%. A separate data set (64-060A-00H) with one set of ephemeris parameters per hour is available on NSSDC-generated microfilm.

IMP-B, ANDERSON

ION CHAMBER AND GM COUNTERS

Data set name - TIME-ORDERED GM TUBE AND ION. CHAMBER COUNT DATA ON MAGNETIC TAPE

NSSDC ID 64-060A-05B, TIME SORTED GM&ION.CHAM CNTS,TAPE

Time period covered - 10/05/64 TO 04/05/65

Quantity of data - 1 REEL OF TAPE

This ionization chamber and Anton 213 Geiger-Mueller (GM) tube count data set is contained on one 7-track, 556-bpi, BCD magnetic tape that was generated at NSSDC by time ordering the experimenter-supplied, geomagnetically trapped electron and proton count data. The first file on the tape is a 12-character index that identifies the original GSFC tape from which the data were taken. Following the index file are a variable number of files containing 1032 character data records, each of which consists of 18 56-character logical records and a 24-character group that again identifies the data with respect to the original GSFC tape. Each logical record contains the universal time (d, h, min, and ms), one accumulation each from the ion chamber and GM tube B, two accumulations from GM tube A, azimuthal and polar solar angles, satellite spin period, and a number of processing error flags.

Data set name - PLOTS OF COUNT RATES AND PULSE RATES VS TIME ON MICROFILM

NSSDC ID 64-060A-05C, GRAPHS OF GM+ION. CHAMBER DATA

Time period covered - 10/04/64 TO 09/23/65

Quantity of data - 1 REEL OF MICROFILM

This energetic electron and proton count rate data set is contained on one reel of 35 mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Presented are the pulse rate of the ion chamber times 100 and the count rates of Geiger-Mueller tubes A and B times 1 and 10, respectively. These rates are plotted on a logarithmic scale vs time. The day of the year is given on each frame. The data are time ordered and contain no ephemeris information. The data cover approximately 70% of the periods from October 4, 1964, to February 9, 1965; March 3 to April 7, 1965; and September 12 to September 23, 1965. This reel also contains data set 65-042A-05B.

IMP-B, BRIDGE
FARADAY CUP

Data set name - REDUCED PLASMA MEASUREMENTS ON MAGNETIC TAPE

NSSDC ID 64-060A-07A, CHGD PART. FLUXES VS E &TIME,TAPE

Time period covered - 10/04/64 TO 09/24/65

Quantity of data - 4 REELS OF TAPE

All available measurements made by the MIT Faraday cup experiment have been converted by the experimenter to what can best be described as "engineering" units and put on four 800-bpi, 7-track, FORTRAN IV, BCD magnetic tapes produced on an IBM 360. This process has taken into account the instrument's nonlinear temperature-dependent transfer function, and the data have been converted to fluxes of charged particles in terms of measured electrical current within a specified energy window. The samples in each energy window are presented in the sequence taken as functions of time during the period indicated.

IMP-B, NESS
FLUXGATE MAGNETOMETER

Data set name - 5.46-MIN VECTOR MAGNETIC FIELD DATA MERGED WITH EPHEMERIS DATA ON TAPE

NSSDC ID 64-060A-02D, MERGED MAGNETOMETER + EPHEMERIS

Time period covered - 10/04/64 TO 04/05/65

Quantity of data - 1 REEL OF TAPE

This data set contains experimenter-supplied fluxgate magnetometer data merged with complete ephemeris data on one 7-track, 800-bpi, IBM 7094, binary magnetic tape generated at NSSDC. The fluxgate data consist of 5.46-min-averaged vector magnetic field data in both Cartesian and spherical polar representations in GSE coordinates. The ephemeris data (from data set 64-060A-00G) are given in GSE and GSM coordinates.

IMP-B, SERBU
RETARDING POTENTIAL ANALYZER

Data set name - ANALYZED ELECTRON TEMPERATURE AND DENSITY VALUES ON MAGNETIC TAPE

NSSDC ID 64-060A-01A, ELECTRON T,N,V,PLUS ORBIT

Time period covered - 10/04/64 TO 04/05/65

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains analyzed electron data on one 7-track, 800-bpi, IBM 7094, even-parity, BCD magnetic tape with 18 155 character logical records per physical record. The time-ordered tape contains a measure of the electron density, the temperatures for a two-energy component Maxwellian fit to the data, and a measure of the spacecraft potential. Ephemeris data are included. The data taken at radial distances of less than five earth radii will probably be the most useful.

IMP-B, SIMPSON
COSMIC-RAY RANGE VS ENERGY LOSS

Data set name - COSMIC RAY COUNT RATE PLOTS FOR FOUR ENERGY INTERVALS, ON MICROFILM

NSSDC ID 64-060A-03C, C.R. COUNT RATE PLOTS,4 E INTVALS

Time period covered - 10/04/64 TO 04/07/65

Quantity of data - 1 REEL OF MICROFILM

The data set consists of 32 experimenter-supplied, machine-generated, cosmic-ray count rate plots on one reel of 35-mm microfilm. There are eight plots for each of the four telescope sensor combinations D1, D1D2 not D3, D1D2D3 not D4, and D1D2D3D4, which correspond to the proton energy intervals of 0.9 to 190, 6.5 to 19, 19 to 90, and 90 to 190 MeV, respectively. Each plot gives the count rate (logarithmic) vs time (day number) for one solar rotation. The time interval covered is from solar rotation number 1795 (October 4, 1964) through 1802 (April 7, 1965).

Data set name - REDUCED COSMIC RAY COUNT ACCUMULATION DATA ON MAGNETIC TAPE

NSSDC ID 64-060A-03D, REDUCD C.R. COUNT ACCUMLATNS,TAPE

Time period covered - 10/04/64 TO 04/02/65

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set consists of reduced cosmic-ray count accumulations on one 7-track, 800-bpi, odd-parity, binary magnetic tape written in a time-ordered format using an XDS 930 computer. There are 134 orbits of data on the tape. Each logical record contains the following cosmic-ray telescope coincidence accumulations: D1, D1D2 not D3, D1D2D3 not D4, D1D2D3D4, and D5, corresponding to proton energy intervals of 0.9 to 190, 6.5 to 19, 19 to 90, 90 to 190, and about 1 MeV, respectively. Also included in the format are the time of observation and data quality information.

Data set name - REDUCED COSMIC RAY PULSE HEIGHT ANALYZER EVENT SUMMARY DATA ON MAGNETIC TAPE

NSSDC ID 64-060A-03E, C.R. P.H.ANAL. EVENT SUMMARY,TAPE

Time period covered - 10/04/64 TO 03/27/65

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set consists of reduced cosmic-ray pulse height analyzer data on one 7-track, 800-bpi, odd-parity, binary magnetic tape written in a time-ordered format using an XDS 930 computer. There are 134 orbits of data on the tape. Each logical record contains the following data: D1 and D3 detector element pulse heights, time of observation, orbit number, and data quality information. The output from the two 128-channel analyzers was obtained for one incident particle every 41 s and read out along with the detector count rate data.

Data set name - FIVE-MINUTE AVERAGE COSMIC-RAY COUNT RATE SUMMARIES ON MAGNETIC TAPE

NSSDC ID 64-060A-03F, 5-MIN AVG C.R.CNT RATE SUMRY TAPE

Time period covered - 10/05/64 TO 04/02/65

Quantity of data - 1 REEL OF TAPE

This data set consists of reduced cosmic-ray telescope counting rates averaged over four sequence counts (approximately 328 seconds) on one 7-track, 800-bpi, blocked BCD magnetic tape written in a time-ordered format using an XDS 930 computer. Each logical record contains the cosmic-ray telescope coincidence rates D1, D1D2 not D3, D1D2D3 not D4, D1D2D3D4, and D5, corresponding to proton energy intervals of 0.9 to 190, 6.5 to 19, 19 to 90, 90 to 190 MeV, and about 1 MeV, respectively. Also included in the format are the time of observation, sequence count, satellite geocentric distance, AE index, Kp index, and data quality information.

IMP-B, WOLFE
SOLAR WIND PROTONS

Data set name - PLOTS OF COLLECTOR CURRENT VS TIME AND RADIUS FOR ALL ENERGY LEVELS ON MICROFILM

NSSDC ID 64-060A-06A, POS ION I VS TIMEAR,MFILM PLOTS

Time period covered - 10/05/64 TO 12/23/64

Quantity of data - 1 REEL OF MICROFILM

This reduced ion flux data set consists of semilogarithmic plots of the peak collector plate current vs time and radial distance, for each energy channel and for each sector. These plots were supplied by the experimenter and microfilmed by NSSDC onto one reel of 35-mm microfilm. Individual plots cover one orbit (1.44 days), the orbit number is included on each plot, and the positions of satellite perigee are marked. Each frame contains data from four energy levels for the same sector. The data cover the time periods October 5 to December 4, 1964, and December 9 to December 23, 1964. These correspond to orbits 1 to 43 and 46 to 57, with a 90% coverage for all orbits. The local time of apogee varies from noon at the start of the data coverage to just before the dawn meridian at the end of the data coverage.

********** IMP C **********

Data set name - MULTICOORDINATE SYSTEM EPHEMERIS DATA ON TAPE

NSSDC ID 65-042A-00G, S.ECLPTIC AND MSPHERIC EPHMS TAPE

Time period covered - 05/29/65 TO 05/11/67

Quantity of data - 4 REELS OF TAPE

This data set contains ephemeris data on four blocked, 7-track, 800-bpi, IBM 7094 binary magnetic tapes generated at NSSDC from unblocked tapes submitted by N. F. Ness. There are five logical records per physical record. The data consist of the following information given for 5-min intervals: (1) geodetic and geomagnetic latitude and longitude, and radial distance of the spacecraft, (2) Cartesian representations of the spacecraft position in GSE and GSM coordinates, (3) geomagnetic latitude and longitude of the subsolar point, (4) the angle between the spacecraft spin axis and the satellite-sun line, and (5) model magnetic field information. The coverage is greater than 80%. A separate data set (65-042A-00H) on microfilm with one set of ephemeris parameters per hour is available.

Data set name - HOURLY SOLAR ECLIPTIC EPHEMERIS PARAMETER LISTING ON MICROFILM

NSSDC ID 65-042A-00H, HOURLY SOLAR ECLIPTIC EPH, LISTNG

Time period covered - 05/29/65 TO 05/11/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of selected ephemeris data listed on one reel of 16-mm microfilm. This data set was generated at NSSDC from data set 65-042A-00G. One set of spacecraft ephemeris parameters for each 1-h interval is given. Quantities listed include (1) time and (2) Cartesian coordinates, radial distance, azimuthal angle, and polar angle, all in GSE coordinates. Coverage is complete between May 29, 1965, and May 11, 1967, except for a gap between November 1, 1966, and December 25, 1966.

IMP-C, ANDERSON
ION CHAMBER AND GM COUNTERS

Data set name - ORIGINAL ION CHAMBER AND GEIGER TUBE ACCUMULATION DATA ON MAGNETIC TAPE

NSSDC ID 65-042A-05A, ORIG. GM&ION. CHAMBER COUNTS,TAPE

Time period covered - 05/29/65 TO 01/03/67

Quantity of data - 6 REELS OF TAPE

This experimenter-supplied data set contains Geiger-Mueller (GM) tube and ionization chamber accumulation data on six 7-track, BCD, 800-bpi magnetic tapes. The first file on each tape is a 12-character index that identifies the original GSFC tape from which the data were taken. Following each index are a variable number of 1032-character data records, each consisting of 18 56-character logical records and a 24-character group that again identifies the data with respect to the original GSFC tape. Each logical record contains time, one accumulation each from the ion chamber and GM tube B, two accumulations from GM tube A, the azimuthal and polar solar angles (i.e., sun-spacecraft-sensor angle and spin axis-spacecraft-sun angle), satellite spin period, and a number of processing error flags. These data, which are not time ordered, cover approximately 80% of the period from May 29, 1965, to January 3, 1967.

Data set name - PLOTS OF COUNT RATES AND PULSE RATES VS TIME ON MICROFILM

NSSDC ID 65-042A-05B, GRAPHS OF GM+ION.CHAMBER DATA

Time period covered - 05/29/65 TO 01/01/66

Quantity of data - 1 REEL OF MICROFILM

This data set contains Geiger-Mueller (GM) tube and ionization chamber energetic particle count rate data on one reel of 35-mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Presented are the pulse rate of the ion chamber times 100 and the count rates of GM tubes A and B times 1 and 10, respectively. These rates are plotted on a logarithmic scale vs time. The day of the year is given on each frame. The data are time ordered and contain no ephemeris information. The data cover approximately 70% of the period from May 29, 1965, to January 1, 1966.

Data set name - ION CHAMBER AND GEIGER TUBE ACCUMULATIONS ORDERED BY DAY OF YEAR ON MAGNETIC TAPE

NSSDC ID 65-042A-05C, REORDERED GM&ION.CHAM COUNTS,TAPE

Time period covered - 05/29/65 TO 01/03/67

Quantity of data - 6 REELS OF TAPE

This data set contains Geiger-Mueller (GM) tube and ionization chamber energetic particle count data on six 7-track, BCD, 800-bpi magnetic tapes that were generated at NSSDC from an experimenter-supplied data set (65-042A-05A) that was not time ordered. Each tape has one file with a variable number of 1028-character physical records, each consisting of 18 56-character logical records. Each logical record contains the time, one accumulation each from the ion chamber and GM tube B, two accumulations from GM tube A, the azimuthal angle (sun, spacecraft, optical sensor angle), the polar solar angles (spin axis, spacecraft, sun angle), the satellite spin period, and a number of processing error flags. The data are ordered by day of year. However, although the year number appears in the format, the data are not ordered by year. The data cover approximately 80% of the period from May 29, 1965, to January 3, 1967. This data set differs from 65-042A-05A in format and in ordering, and certain nonscientific fields have been deleted.

IMP-C, NESS
FLUXGATE MAGNETOMETER

Data set name - 5.46-MIN AVERAGES OF VECTOR MAGNETIC FIELD DATA ON BINARY TAPE

NSSDC ID 65-042A-02A, 5.46 MIN AVG VECTOR MAG FIELD

Time period covered - 05/29/65 TO 05/11/67

Quantity of data - 9 REELS OF TAPE

This experimenter-supplied data set contains magnetic field data on nine 9 track, 800-bpi, binary magnetic tapes written on an IBM 360 computer. The data set includes 5.46-min averaged vector magnetic field data from one uniaxial fluxgate magnetometer in both Cartesian and spherical representations of CSE coordinates. Incomplete ephemeris information (radial

distance only) is contained on the tapes. The data coverage is 90% during the time span covered.

Data set name - 5.46-MIN VECTOR MAGNETIC FIELD DATA MERGED WITH EPHEMERIS DATA ON TAPE

NSSDC ID 65-042A-02C, MERGED MAGNETOMETER + EPHEMERIS

Time period covered - 05/29/65 TO 05/11/67

Quantity of data - 3 REELS OF TAPE

This experimenter-supplied data set contains merged magnetic field vector data and ephemeris data on three 7-track, 800-bpi, IBM 7094, binary magnetic tapes. The data set contains analyzed fluxgate magnetometer data from data set 65-042A-02A, merged at NSSDC with ephemeris data given in GSE and GSM coordinates. The data include 5.46-min-averaged magnetic field vectors in both Cartesian and spherical representations in the GSE coordinate system.

Data set name - 5.46-MIN AVERAGES OF VECTOR MAGNETIC FIELD DATA ON REFORMATTED TAPE

NSSDC ID 65-042A-02D, FLUXGATE MAGNETOMETER,PACKED

Time period covered - 05/29/65 TO 05/11/67

Quantity of data - 3 REELS OF TAPE

This data set contains magnetic field data from data set 65-042A-02A on three 7-track, 800-bpi, IBM 7094, binary magnetic tapes. The tapes were generated at NSSDC with the data blocked ten logical records per physical record. The data set contains 5.46-min averaged vector magnetic field data from one uniaxial fluxgate magnetometer in both Cartesian and spherical representations of GSE coordinates. Incomplete ephemeris information (radial distance only) is contained on the tapes. The data coverage is 90% during the time span covered.

Data set name - HOURLY AVERAGED VALUES OF INTERPLANETARY MAGNETIC FIELD DATA

NSSDC ID 65-042A-02E, INTERPLANETARY B FIELD,HRLY.AVGS

Time period covered - 06/01/65 TO 01/29/67

Quantity of data - 2 REELS OF TAPE

This experimenter-provided data set contains hourly averaged interplanetary magnetic field vector data and spacecraft position data on two 9-track, 800-bpi, IBM 360, EBCDIC magnetic tapes. The spacecraft position and hourly averaged vector magnetic field data are given in both Cartesian and spherical representations in GSE coordinates. Only data obtained in interplanetary space are included. The periods June 1, 1965, to January 26, 1966, and July 1, 1966, to January 29, 1967, are covered with 90% completeness. A microfilmed listing of the contents of this data set is also available (see data set 65-042A-02F).

Data set name - HOURLY AVERAGED VALUES OF INTERPLANETARY MAGNETIC FIELD DATA ON MICROFILM

NSSDC ID 65-042A-02F, MICROFILM OF 65-042A-02E

Time period covered - 06/01/65 TO 01/29/67

Quantity of data - 1 REEL OF MICROFILM

This data set contains hourly averaged interplanetary magnetic field data and spacecraft position data (the contents of data set 65-042A-02E) on one reel of 35-mm microfilm. The spacecraft position and magnetic field data are given in both Cartesian and spherical representations in GSE coordinates. Only data obtained in interplanetary space are included. The periods June 1, 1965, to January 26, 1966, and July 1, 1966, to January 29, 1967, are covered with 90% completeness.

Data set name - HOURLY AVERAGED VALUES OF MAGNETOSPHERIC MAGNETIC FIELD DATA ON TAPE

NSSDC ID 65-042A-02G, MAGNETOSPHERIC B FIELD,HRLY AVGS

Time period covered - 05/29/65 TO 05/10/67

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains hourly averaged magnetospheric magnetic field vector data and spacecraft position data on one 9-track, 800-bpi, IBM 360, EBCDIC magnetic tape. The spacecraft position and magnetic field data are given in both Cartesian and spherical representations in GSM coordinates. Only hourly averages within the magnetosphere are included. Data coverage is about 20% during the time period covered. A microfilmed listing of the contents of this data set is also available (see data set 65-042A-02H).

Data set name - HOURLY AVERAGED VALUES OF MAGNETOSPHERIC MAGNETIC FIELD DATA ON MICROFILM

NSSDC ID 65-042A-02H, MICROFILM OF 65-042A-02G

Time period covered - 05/29/65 TO 05/10/67

Quantity of data - 1 REEL OF MICROFILM

This data set contains magnetospheric magnetic field data and spacecraft position data (the contents of data set 65-042A-02G) on one reel of 35-mm microfilm. The spacecraft position and magnetic field data are given in both Cartesian and spherical representations in GSM coordinates. Only hourly averages within the magnetosphere are included. Data coverage is about 20% during the time period covered.

Data set name - MULTISPACECRAFT HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON TAPE

NSSDC ID 65-042A-02I, MULTI-S/C HR AVG INPL B VRS, TAPE

Time period covered - 06/01/65 TO 05/06/67

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains multi-spacecraft interplanetary magnetic field data on one 9-track, 800-bpi, EBCDIC card image magnetic tape. The data set was generated from IMP-C, IMP-D, IMP-E, and IMP-F data to provide as complete a record as possible of the interplanetary magnetic field, with 1-h time resolution, over the period June 1965 through December 1968. Each card image contains data for 1 h as obtained on one spacecraft. No hour is covered by more than one spacecraft. Each record contains time, spacecraft identification and location (radial distance and GSE Cartesian coordinates), hourly averaged magnetic field vector magnitude, GSE latitude and longitude angles, and Cartesian components with their standard deviations. This data set is identical to each of the data sets 66-058A-01D, 67-070A-04C, and 67-051A-11C.

IMP-C, SERBU
RETARDING POTENTIAL ANALYZER

Data set name - ANALYZED ELECTRON TEMPERATURE AND DENSITY VALUES ON MAGNETIC TAPE

NSSDC ID 65-042A-01A, ELECTRON I,N,V, PLUS ORBIT

Time period covered - 05/29/65 TO 05/05/67

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains electron and ion spectral data on one IBM 7094, 7-track, 800-bpi, even-parity, BCD magnetic tape with 18 155-character logical records per physical record. The time-ordered data includes integral electron and ion spectral data in the 0 to 45 eV range, electron density data, temperatures for a two-energy component Maxwellian fit to the data, and spacecraft potential and ephemeris data. The data taken at radial distances of less than five earth radii are the most useful.

IMP-C, SIMPSON
COSMIC-RAY RANGE VS ENERGY LOSS

Data set name - REDUCED ACCUMULATOR COUNT AND PULSE HEIGHT ANALYSIS DATA ON MAGNETIC TAPE

NSSDC ID 65-042A-03A, RATES + P.H. REDUC.DATA,MAG. TAPE

Time period covered - 05/29/65 TO 04/29/67
(Date supplied by experimenter)

Quantity of data - 15 REELS OF TAPE

This data set consists of reduced cosmic-ray count rate and pulse height analysis data on 7-track magnetic tapes that were written on an IBM 7094 at 556 bpi in binary format, odd parity, and 36-bit words (six characters per word). The tapes are available from the experimenter and contain extensive read errors. The data are time ordered for the period from May 29, 1965, to April 29, 1967, and contain no orbit/attitude information. Each tape contains a number of physical records, each of which is 804 words (4824 characters) long. Each

physical record contains six 134-word logical records. Each tape contains two files. The preferred form of these data is available from NSSDC in data sets 65-042A-03C (pulse height data) and 65-042A-03D (count accumulation data).

Data set name - COUNT RATE PLOTS ON MICROFILM

NSSDC ID 65 042A-03B, COUNT RATE PLOTS ON MICROFILM

Time period covered 05/29/65 TO 05/02/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of galactic and solar cosmic-ray count rate vs time data on one reel of 35-mm microfilm. The 108 machine-generated count rate plots are for the telescope sensor combinations (D1, D1D2 not D3, D1D2D3 not D4, and D1D2D3D4) that correspond to the following energy intervals for protons: 2.6 to 190 MeV, 13.3 to 26 MeV, 26 to 94 MeV, and 94 to 190 MeV. There are 27 plots for each of the four sensor combinations. Each plot gives the count rate (logarithmic) vs time (day number) for one solar rotation. The time interval covered is from solar rotation number 1804 (May 29, 1965) through 1830 (May 2, 1967).

Data set name - REDUCED PULSE HEIGHT ANALYZER DATA ON MAGNETIC TAPE

NSSDC ID 65-042A-03C, REDUCED PHA (PHAEST) DATA, TAPE

Time period covered 05/29/65 TO 04/28/67

Quantity of data 1 REEL OF TAPE

This data set, supplied by the experimenter, consists of reduced solar and galactic cosmic-ray pulse height analyzer data on one 7-track, odd-parity, binary magnetic tape written at 800 bpi in a time ordered format using an XDS 930 computer. There are 120 orbits of data on the tape. Each logical record contains the following data: D1 and D3 detector element pulse heights, time of observation, orbit number, and data quality information.

Data set name REDUCED COUNT ACCUMULATION DATA ON MAGNETIC TAPE

NSSDC ID 65 042A 03D, COSMIC RAY COUNT DATA, TAPE

Time period covered 05/29/65 TO 04/28/67

Quantity of data 1 REEL OF TAPE

This data set, supplied by the experimenter, consists of reduced cosmic ray count accumulations on one 7-track, odd-parity, binary magnetic tape written at 800 bpi in a time ordered format using an XDS 930 computer. There are 120 orbits of data on the tape. Each logical record contains the following cosmic ray telescope coincidence accumulations: D1, D1D2 not D3, D1D2D3 not D4, D1D2D3D4, and D5 corresponding to proton energy intervals 2.6 to 190 MeV, 13.3 to 26 MeV, 26 to 94MeV, 94 to 190 MeV, and about 1 MeV, respectively. Also included in the format are the time of observation and data quality information.

Data set name 5-MIN AVERAGE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 65 042A-03E, RATE SUMRYS (5 MIN AVE)

Time period covered 05/29/65 TO 04/29/67

Quantity of data 2 REELS OF TAPE

This data set consists of reduced cosmic ray telescope counting rates on two 7 track, blocked BCD magnetic tapes written at 800 bpi in a time-ordered format using an XDS 930 computer. The count rates are averaged over four sequence counts (approximately 328 s). There are 90 files on the first tape and 30 files on the second tape. Each logical record contains the following cosmic ray telescope coincidence rates: D1, D1D2 not D3, D1D2D3 not D4, D1D2D3D4, and D5 corresponding to proton energy intervals 0.9 to 190 MeV, 6.5 to 19 MeV, 19 to 90 MeV, 90 to 190 MeV, and about 1 MeV, respectively. Also included in the format are the time of observation, sequence count, satellite geocentric distance, AE index, Kp index, and data quality information.

IMP-D

Data set name - SOLAR ECLIPTIC AND SOLAR MAGNETOSPHERIC EPHEMERIS PLOTS ON MICROFILM

NSSDC ID 66-058A-00D, SOL ECLPT,SOL MAGSPHRC EPHM PLOTS

Time period covered - 07/01/66 TO 10/29/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of IMP-D (Explorer 33) ephemeris data plotted on one reel of 35-mm microfilm. The plots are shown in geocentric solar magnetospheric and geocentric solar ecliptic coordinates. X-Z and X-Y projections in GSM coordinates are available for the time periods from July 1, 1966, to February 14, 1967 (orbits 1 to 15), and from May 31, 1967, to September 8, 1967 (orbits 24 to 29). X-Z and X-Y projections in GSE coordinates are available for the time period from July 1, 1966, to October 29, 1971 (orbits 1 to 85). The moon's orbit is plotted on the GSE projections of orbits 1 to 5. Tick marks are shown every 3 h for the GSM coordinate projections and every 6 h for the GSE projections.

Data set name - SOLAR ECLIPTIC EPHEMERIS PLOTS

NSSDC ID 66 058A 00F, SOLAR ECLIPTIC EPHEM PLOTS MFICHE

Time period covered - 07/01/66 TO 02/28/70

Quantity of data - 2 CARDS OF B/W MICROFICHE

This data set describes trajectories of IMP-D, IMP-F, and IMP-E on microfiche. The first part of this data set contains information from the publication "Trajectories of Explorers 33, 34, and 35, July 1966 - April 1969," written by K. W. Behannon, K. H. Schatten, D. H. Fairfield, and N. F. Ness (NASA GSFC X-692-70-64, February 1970), which describes the trajectories of IMP-D (Explorer 33), IMP-E (Explorer 35), and IMP F (Explorer 34) from launch to April 1969 (except for Explorer 34, for which there are no plots after March 1969) as projected into the X-Y plane in GSE coordinates. Tick marks indicating 1-day intervals are shown for Explorers 33 and 35, and, where possible, for Explorer 34. This publication also has the X Z GSE orbit projections of these satellites for January 1969 to April 1969. Computed average positions of the bow shock and magnetopause are shown. A continuation of this data set contains information from the publication "Trajectories of Explorer 33, 35, 41, 43, and 47, May 1969 - December 1972," written by D. H. Fairfield, K. W. Behannon, R. P. Lepping, and N. F. Ness (NASA-GSFC X-692-73-291, October 1973). Explorer 33 data are found in this document through February 28, 1970. This data set is self documented and has the NSSDC TRI numbers B02041 and B17902.

Data set name MULTICOORDINATE SYSTEM EPHEMERIS TAPES

NSSDC ID 66 058A 00F, MULTI COORD SYS EPHEMERIS TAPES

Time period covered 07/01/66 TO 03/01/70

Quantity of data 49 REELS OF TAPE

This data set consists of multicoordinate system ephemeris data on 49 7-track, 556-bpi, BCD, IBM 360 tapes. Each tape consists of 1 month of data on one file. The data records on the tapes are blocked with five logical records per physical record, each logical record containing 51 words (204 characters). Each tape contains one header record that is a physical record blocked the same as the data records. The following information is contained on these tapes at 5-min intervals: time, GSE coordinates of moon and spacecraft, GSM coordinates of moon and spacecraft, selenocentric solar ecliptic coordinates of spacecraft, and geomagnetic latitude and longitude of spacecraft subsatellite point. Except for January through March 1969 and January 1970, tapes covering the time period indicated are available.

Data set name - 12-HOUR SOLAR ECLIPTIC EPHEMERIS PARAMETER LISTING ON MICROFILM

NSSDC ID 66-058A-00G, 12-HR SOLAR ECLIPTIC EPH, LISTING

Time period covered 07/01/66 TO 02/28/70

Quantity of data - 1 REEL OF MICROFILM

This data set consists of selected GSE ephemeris data on a reel of 16-mm microfilm. The data set was generated at NSSDC from tape data set 66-058A-00F. Spacecraft ephemeris information is given in GSE coordinates once for each 12-h interval. Parameters given include Cartesian coordinates,

radial distance, and polar and azimuthal angles. GSE Cartesian coordinates of the moon are also given for the same 12-h intervals. Coverage is complete between July 1, 1966, and February 28, 1970, except that there are no data for March 1969.

Data set name - COMPACTED VERSION OF DATA SET 66 058A-00F

NSSDC ID 66-058A-00H, COMPACT VERSION OF DATA SET -00F

Time period covered - 07/01/66 TO 12/31/70

Quantity of data - 5 REELS OF TAPE

This data set consists of compacted multicoordinate system ephemeris data on 7 track, 800 bpi, BCD magnetic tapes. The data set was generated at NSSDC on an IBM 7094 computer from data set 66 058A 00F. Logical records have been blocked with 20 records to one physical record. Overlapped data at the beginning and end of individual months have been deleted. Information contained on these tapes include time, GSE coordinates of moon and spacecraft, GSM coordinates of moon and spacecraft, selenocentric solar ecliptic coordinates of spacecraft, and geomagnetic latitude and longitude of spacecraft subsatellite point.

IMP-D, ANDERSON
ION CHAMBER AND GM COUNTERS

Data set name - ORIGINAL REDUCED ION CHAMBER AND GM COUNTS ON TAPE

NSSDC ID 66 058A-04A, ORIG GM&ION CHAMBER COUNTS, TAPE

Time period covered - 07/01/66 TO 06/09/67

Quantity of data - 7 REELS OF TAPE

This experimenter supplied data set contains energetic electron and proton count data on 7-track, BCD, 800 bpi magnetic tapes. Each file on a tape has a 12 character index, which identifies the original GSFC tapes from which the data were taken, and a variable number of 865-character data records. Each data record contains four data sequences. A sequence contains the time (UT) of the observation, two accumulations each from Geiger Mueller (GM) tubes A and B and the ion chamber, the time between the first pair of ion chamber pulses in each of two accumulation periods, the sun angle, the satellite spin period, and a number of processing error flags.

IMP D, BRIDGE
PLASMA PROBE

Data set name - HOURLY AVERAGED INTERPLANETARY PLASMA PARAMETERS ON TAPE AS SUPPLIED BY MIT

NSSDC ID 66-058A 06A, HR AVG INT PLASMA PARAM BLOCK BCD

Time period covered - 07/01/66 TO 09/30/69

Quantity of data - 1 REEL OF TAPE

This data set consists of hourly averaged interplanetary plasma parameter data on one 7-track, blocked, even parity, BCD, 556-bpi magnetic tape that was generated by the experimenter on an IBM 360. The block size is 1600 characters, with a logical record size of 80 characters. Each logical record contains one set of hourly averaged interplanetary plasma parameters including the averaged thermal speed, the averaged number density, the averaged GSE longitude and latitude of the solar wind flow direction, and the corresponding standard deviations of each of the averages. The data are time ordered. Blocks of zeros have been included where it is not known if the spacecraft was interplanetary. Data records on the tape begin at the start of a solar rotation, on July 1, 1966, but records are filled with zeros until after spacecraft launch.

Data set name - 3-MIN INTERPLANETARY PLASMA PARAMETERS ON MAGNETIC TAPE

NSSDC ID 66-058A-06B, 3-MIN INT PLASMA PARAM-BLOCK BCD

Time period covered - 07/06/66 TO 10/14/71

Quantity of data - 2 REELS OF TAPE

This data set consists of solar wind ion data on two 7-track, blocked, even-parity, BCD, 556-bpi magnetic tapes that were generated by the experimenter on an IBM 360. The block size is 1000 characters, with a logical record size of 100 characters. Each logical record contains one solar wind measurement. The solar wind ion data include the thermal speed, the number density, the flow speed, and the GSE longitude and latitude of the flow direction. These parameters are time ordered. They were derived using a gamma distribution function, which in the solar wind is essentially equivalent to a convected isotropic Maxwellian distribution function. The parameter set was calculated based on a 2.7-min spectrum, and changes in the solar wind on time scales shorter than that period, e.g., the passage of an interplanetary shock front, will invalidate the parameter set calculated from data taken during that interval.

Data set name - PLOTS OF HOURLY AVERAGED PLASMA PARAMETERS ON FICHE

NSSDC ID 66 058A 06C, HR AVG PLASMA PARAM. FICHE PLOTS

Time period covered - 07/06/66 TO 04/20/71

Quantity of data - 1 CARD OF B/W MICROFICHE

This data set consists of experimenter generated, hourly averaged solar wind plasma (ion) data. The data are shown as plots on microfiche cards. These plots contain interplanetary solar wind thermal speed, bulk speed, and density plotted against time, with one solar rotation per plot.

Data set name - HOURLY AVERAGED INTERPLANETARY PLASMA DATA ON TAPE WITH BLOCKS OF ZEROS REMOVED

NSSDC ID 66-058A-06D, 1-HR IP PLASMA DATA W/O 0'S,TAPE

Time period covered - 07/06/66 TO 09/23/69

Quantity of data - 1 REEL OF TAPE

This NSSDC reformatted data set contains hourly averaged interplanetary plasma parameters on one 7 track, 556-bpi, BCD magnetic tape. This data set tape was generated from data set 66 058A-06A. The tape has 84 characters per logical record and one logical record per physical record. Each record contains one set of plasma parameters, and no record contains all zero or block zero data (as were contained on the original MIT generated tape). The data include the averaged thermal speed, the averaged number density, the averaged flow speed, the averaged GSE latitude and longitude of the flow direction, and the corresponding standard deviations.

Data set name - LISTINGS OF HOURLY AVERAGED INTERPLANETARY PLASMA PARAMETERS

NSSDC ID 66 058A 06F, HR AVG INT PLASMA PARAM LIST FILM

Time period covered - 07/06/66 TO 09/23/69

Quantity of data - 1 REEL OF MICROFILM

This data set contains hourly averaged interplanetary plasma parameters on one reel of 16 mm microfilm. The data are time ordered and appear in a format that shows each column clearly identified. The plasma parameters shown include spacecraft ID, number of solar wind measurements, time (year, month, day, and hour), average number density, average thermal speed, GSE latitude and longitude of flow vector, corresponding standard deviations of each average, and solar rotation number.

IMP-D, NESS
GSFC MAGNETOMETER

Data set name - 5.12 SEC VECTOR MAGNETIC FIELD DATA ON TAPE

NSSDC ID 66-058A-01A, 5.12 SEC VECTOR MAG FIELD DATA

Time period covered - 07/01/66 TO 10/05/68

Quantity of data - 59 REELS OF TAPE

This data set consists of experimenter-supplied 5.12-s magnetic field vector data on 9-track, 800-bpi, IBM 360 binary magnetic tapes. Each tape has one or two files where each file contains data for one week. Except at the end of a file, each physical record contains four logical records of 1080 bytes each. Each logical record contains data taken during one 81.92-s telemetry sequence. Included in each logical record are time (with January 1 as day 0) and 16 vector magnetic field measurements, with Cartesian components given in four coordinate systems (a system corotating with the spacecraft, a payload coordinate system with its Z axis along the spacecraft spin axis and its X axis in the plane defined by the spin axis and the satellite-sun line, GSE coordinates, and GSM coordinates). For the latter three coordinate systems, sequence averages for the components are given, and for the

payload and GSE coordinate systems, standard deviations for the components are also given. In addition, 16 field magnitudes, the sequence-averaged magnitude, and the magnitude standard deviation are given. The latitude and azimuth angles of the sequence-averaged field vector are given in the payload and GSE coordinate systems. Supporting information found in each logical record includes times for the 16 field measurements, spin period, spin-axis direction, and spacecraft position in GSE and GSM coordinates. All data except the 13 16-element arrays of 5.12-s data have been transferred to data set 66-058A-01C. The data are at least 90% complete over the time period covered.

Data set name - 82-SEC AVERAGED VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 66-058A-01C, 82 SEC VR MAG FLD DATA ON TAPE

Time period covered - 07/01/66 TO 10/05/68

Quantity of data - 15 REELS OF TAPE

This data set consists of 82-s vector magnetic field data on 15 7-track, 800-bpi, single file, IBM 7094 binary magnetic tapes. These tapes were generated at NSSDC from the 59 experimenter-supplied tapes of data set 66-058A-01A. All the data of each logical record of data set 66-058A-01A were transferred to this data set except for the 13 16-element arrays that describe 5.12-s time period data. Thus, whether a user needs data set 66-058A-01A or 66-058A-01C is determined by the requirements of temporal resolution, as there are 5.12-s data in 66-058-01A and only 81.92-s averages in 66-058-01C. Temporal coverage, as opposed to resolution, is the same for each of these two data sets. Data listed include time, spin axis declination and right ascension, sequence average field magnitude and standard deviation, sequence average field components and rms deviations, field latitude and azimuth, and satellite position.

Data set name - MULTI-SPACECRAFT HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON TAPE

NSSDC ID 66-058A-01D, MULTI S/C HR AVG INPL B VRS, TAPE

Time period covered 07/01/66 TO 10/05/68

Quantity of data 1 REEL OF TAPE

This data set, supplied by the experimenter, was generated from IMP D (Explorer 33 or AIMP 1) data along with data from IMP C (Explorer 28 or IMP 3), IMP-E (Explorer 35 or AIMP 2), and IMP-F (Explorer 34 or IMP 4) to provide as nearly complete a record as possible of the interplanetary magnetic field, with 1 h time resolution, over the period June 1965 through December 1968. The data were submitted on one 9 track, 800 bpi, EBCDIC card image magnetic tape. Each card image contains data for 1 h as obtained on one spacecraft. No hour is covered by more than one spacecraft. Each record contains time, spacecraft identification and location (radial distance and GSE Cartesian coordinates), hourly averaged magnetic field vector magnitude, GSE latitude and longitude angles, and GSE Cartesian components with their standard deviations. This data set is identical to each of the data sets 65-042A-02I, 67-070A-04C, and 67-051A-11C.

Data set name - 81.92-SEC VECTOR MAGNETIC FIELD PLOTS ON MICROFILM

NSSDC ID 66-058A-01E, 82 SEC MAG VCTR PLOTS ON MFILM

Time period covered 07/01/66 TO 10/28/68

Quantity of data 3 REELS OF MICROFILM

This experimenter supplied data set consists of 81.92 s averaged magnetic field vector data plotted on one reel of 35 mm microfilm. Each frame contains data for 6 h, with 3 h of data across the frame twice. Field magnitudes (as averaged over 5.12 s magnitudes), latitude and longitude angles (as determined from 81.92 s averaged GSE or GSM Cartesian components), and the rms deviation in the magnitude average are plotted. Geocentric spacecraft position (GSE X, Y, Z in earth radii) is listed every hour.

Data set name - MERGED NESS/SONETT 82 SECOND AVERAGED MAGNETOMETER DATA ON MAGNETIC TAPE

NSSDC ID 66-058A-01F, MERGED NESS/SONETT 82 SEC AVG

Time period covered - 07/01/66 TO 08/03/68

Quantity of data - 3 REELS OF TAPE

This data set consists of merged 82-s magnetic field vector data. These merged (Ness and Sonett) data are from data sets 66-058A-01C and 66-058A-03C and are on 1600 bpi, 9-track, binary magnetic tapes written by an IBM 360 computer. The physical blocks are of variable length and contain logical records of 34 32-bit words. The logical records consist of a sequence: month; time; sequence-averaged field magnitude; GSE theta, phi, X, Y, and Z; GSM X, Y, and Z; satellite position, GSM; and selenocentric satellite position, SSE. This data set is identical to data set 66-058A-03E.

IMP-D, SONETT
AMES MAGNETIC FIELDS

Data set name - AVERAGED MAGNETIC FIELD VECTOR PLOTS ON MICROFILM

NSSDC ID 66-058A-03A, PLOT OF B,1 SIGMA B,LAT,LONG

Time period covered - 07/01/66 TO 09/13/70

Quantity of data - 4 REELS OF MICROFILM

This data set consists of magnetic field vector plots on four reels of microfilm. The plots show 81.8-s scalar B-field averages in either GSM or solar equatorial coordinates (Z axis northward in a plane containing the solar direction and the solar spin axis), and the longitude and latitude of the magnetic field. Generally, data are plotted in GSM coordinates for times when the spacecraft was inside the magnetosphere or geomagnetic tail and in solar equatorial coordinates when the spacecraft was outside these regions. About 4 h of data are plotted on each frame. Sequence number, time, and the coordinate system used are indicated on each plot. Drifts in zero levels of the sensors have been corrected by the experimenter. Data are available over the time period specified with 95% coverage.

Data set name - HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD DATA ON TAPE

NSSDC ID 66-058A-03B, HOUR AVG B FIELD VECTORS ON TAPE

Time period covered - 01/01/67 TO 12/31/69

Quantity of data 1 REEL OF TAPE

This data set consists of hourly averaged interplanetary magnetic field vector data on one CDC 6600, BCD, 800 bpi, 7-track magnetic tape. This tape was made by Dr. Paul Fougere of AFCRL from cards supplied to him by Dr. Charles Sonett. These cards previously had been manually edited by Dr. Sonett's staff at Ames Research Center. Each physical record consists of 1280 characters. Each logical record consists of an 80-character BCD card image followed by 10 blanks. Thus, there is a noninteger number of logical records per physical record. The following information is given: time; magnetic field magnitude, latitude, longitude, Y and Z components in the orthogonal solar equatorial coordinate system (X axis points toward the sun, Z axis northward in a plane containing the solar direction and the solar spin axis); magnetic field latitude, longitude, and X, Y, and Z components in the GSM coordinate system; the number of individual vector samples available during the hour; the magnetic field component normal to the earth-sun line; and a flag to indicate data from either IMP-D (Explorer 33) or IMP-E (Explorer 35). Major data gaps occur for the periods May 26 to August 25, 1967, and July 12 to September 10, 1968. This data set has been superseded by data set 66-058A-03C.

Data set name - 81.92-SEC VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPES

NSSDC ID 66-058A-03C, 82 SEC AVGD VECTORS, DSC TAPES

Time period covered 07/01/66 TO 09/14/70

Quantity of data 20 REELS OF TAPE

This experimenter-supplied data set consists of 81.92-s-averaged vector magnetic field data on 20 7 track, 556 bpi, odd-parity, binary magnetic tapes written by an IBM 7094. Each physical record contains 2760 characters, of which the first 12 constitute a DCS control word. Each logical record contains 126 characters, of which the first six constitute a DCS control word. Data given within each logical record were obtained by averaging the individually measured vectors within a given 81.92-s sequence. Data include field magnitude, Cartesian components and their standard deviations, and field latitude and longitude angles. These data are given in solar equatorial, GSM, and GSE coordinates. No ephemeris data are given.

Data set name - 5.12 SEC VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPES

NSSDC ID 66-058A-03D, 5.12 SEC MAG VECTORS ON MAG TAPE

Time period covered - 07/01/66 TO 09/14/70

Quantity of data - 195 REELS OF TAPE

This experimenter-supplied data set is recorded on 7-track, 556 bpi, odd-parity, binary magnetic tapes by an IBM 7094 computer. Each physical record contains 2760 characters, of which the first 12 constitute a DCS control word. Each logical record contains 132 characters (for the first vector of an 82-s sequence) or 138 characters, of which the first six constitute a DCS control word. Data given within each logical record relate to a single magnetic vector measurement and include field magnitude, Cartesian components, and field latitude and longitude angles. These data are given in solar equatorial, GSE, and GSM coordinates. Each tape holds data for 1 week, with no ephemeris data on any tape.

Data set name - MERGED NESS/SONETT 82 SECOND AVERAGED MAGNETOMETER DATA ON MAGNETIC TAPE

NSSDC ID 66-058A-03E, MERGED NESS/SONETT 82 SEC AVG

Time period covered - 07/01/66 TO 08/03/68

Quantity of data - 3 REELS OF TAPE

This data set consists of merged 82-s magnetic field vector data. These merged (Ness and Sonett) data are from data sets 66-058A-01C and 66-058A-03C and are written on 1600 bpi, 9-track, binary magnetic tapes by an IBM 360 computer. The physical blocks are of variable length and contain logical records of 34 32-bit words. The logical records consist of a sequence month; time; sequence-averaged field magnitude; GSE theta, phi, X, Y, and Z; GSM X, Y, and Z; satellite position, GSM; and selenocentric satellite position, SSE. This data set is identical to data set 66-058A-01F.

Data set name - REBLOCKED 82 SECOND AVERAGED MAGNETIC FIELD VECTORS ON MAGNETIC TAPE

NSSDC ID 66-058A-03F, 82 SEC AVG VECTORS,(REBLOCKED)

Time period covered - 07/01/66 TO 09/14/70

Quantity of data - 20 REELS OF TAPE

This data set consists of reblocked 81.92-s-averaged vector magnetic field data (from data set 66-058A-03C) on 1600 bpi, binary, 9-track magnetic tape written by an IBM 360 computer. The physical blocks contain 200 logical records of 138 characters. Data include time, field magnitude, Cartesian components and their standard deviations, and field latitude and longitude angles. These data are given in solar equatorial, GSM, and GSE coordinates. No ephemeris data are given.

IMP-D, VAN ALLEN
ELECTRON AND PROTON DETECTORS

Data set name - PLOTS OF 2- TO 12-A SOLAR SOFT X-RAY FLUXES ON MICROFILM

NSSDC ID 66-058A-05A, SOLAR SOFT X-RAY PLOTS

Time period covered - 07/02/66 TO 09/26/68

Quantity of data - 2 REELS OF MICROFILM

This experimenter-supplied data set consists of plots of the X-ray flux in the 2- to 12-A range on 35-mm microfilm. The data set coverage is 55% if every break in the data stream larger than 5 min is counted. The plots are described by J. F. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433-459, 1969.

Data set name - 2- TO 12-A SOLAR SOFT X-RAY FLUXES ON TAPE

NSSDC ID 66-058A-05B, SOLAR SOFT X-RAY, MAG TAPES

Time period covered - 07/02/66 TO 09/26/68

Quantity of data - 2 REELS OF TAPE

This data set consists of experimenter-supplied X-ray flux data in the 2- to 12-A range on 7-track, BCD, 556-bpi magnetic tape. The data set is complete, and the coverage, if every break in the data stream larger than 5 min is counted, is 55%. The flux is in units of milliergs/cmsq2-s; it is averaged over 80 s.

Data set name - SOLAR SOFT X-RAY FLUX LISTINGS ON MICROFILM

NSSDC ID 66-058A-05C, MICROFILM OF 66-058A-05B

Time period covered - 07/02/66 TO 09/26/68

Quantity of data - 8 REELS OF MICROFILM

This data set consists of X-ray flux data, in the 2- to 12-A range, listed on microfilm. The listings are analyzed data that were reprocessed by NSSDC. This data set is a reformatted printout of data set 66-058A-05B. The data set is complete, and the coverage, if every break in the data stream larger than 5 min is counted, is 55%. The listings are described by J. F. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433-459, 1969.

Data set name - SOLAR SOFT X-RAY BURST DATA ON TAPE

NSSDC ID 66-058A-05D, SOFT X-RAY BURST LISTING, ON TAPE

Time period covered - 07/03/66 TO 07/25/67

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set consists of data on solar soft X-ray (2- to 12-A) flares and parameters describing them. The data are on one 7-track, BCD, 800-bpi magnetic tape. The data for each flare include: date, start time (UT), time(s) of peak(s), end time, flux increase above background (at burst maximum), ratio of total flux to background (at burst maximum), integral of flux increase above background for the burst duration, flags indicating either breaks in the data stream or the number of peaks, and ratio of time lost because of data gaps to the total burst time. These are analyzed data and are complete.

Data set name - LISTING OF SOLAR SOFT X-RAY BURST DATA ON MICROFILM

NSSDC ID 66-058A-05E, SOFT X-RAY BURST LISTING-M/FILM

Time period covered - 07/03/66 TO 07/25/67

Quantity of data - 1 REEL OF MICROFILM

This data set contains solar X-ray (2- to 12-A) flare data and parameters describing them, listed on one reel of 35-mm microfilm. This data set is a printout of data set 66-058A-05D. For each flare the data include: date, start time (UT), time(s) of peak(s), end time, flux increase above background (at burst maximum), ratio of total flux to background flux (at burst maximum), integral of flux increase above background for the burst duration, flags indicating either breaks in the data stream or the number of peaks, and ratio of time lost because of data gaps to the total burst time. The data are analyzed and complete in time coverage.

Data set name - SOLAR SOFT X-RAY DATA COVERAGE ON MICROFILM

NSSDC ID 66-058A-05F, SOFT X-RAY COVERAGE PLOTS, MFILM

Time period covered - 07/02/66 TO 07/26/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of solar soft X-ray data coverage for data sets 66-058A-05A through 66-058A-05C, graphed on 35-mm microfilm. Each graph covers a 1-month period, plotting day vs hour (in blocks). Data gaps greater than 5 min are represented by dark areas. Plots are described by J. F. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433-459, 1969.

Data set name - PLOTS OF X-RAY AND PARTICLE DATA ON MICROFILM

NSSDC ID 66-058A-05G, PLOTS OF ALL SUI DETECTORS

Time period covered - 07/01/66 TO 12/31/68

Quantity of data - 18 REELS OF MICROFILM

This data set contains X-ray and particle count rate data plotted on 35-mm microfilm. These are partially reduced data submitted by the experimenter. The data coverage is greater than 90%. Six plots are given for each 12-h period (0000 to 1200 or 1200 to 2400 UT). These plots contain, as a function of time: (1) the count rates of GM1 for each sector, (2) the count rates of PN1 for each sector, (3) the count rates of GM2, GM3, PN2, and GM1 (GM1 summed over all sectors), (4) the count

rates of all channels of the SSD (PN1 summed over all sectors), (5) the average counting rate (G1AV) of GM1 for sectors i, ii, and iv, and the counting rate of GM1, sector iii, from solar X rays (G1X), or (6) the angular distribution data in the form of the ratio of the counting rates of GM2 to GM3, and coefficients describing first order Fourier fits to the data from PN1 and GM1. The curves fitted to the PN1 and GM1 data are of the form a(1 + b cos(d-e)), where d is the spacecraft rotation angle.

Data set name - HALF HOUR SUMMARY OF ALL DETECTORS ON MAGNETIC TAPE

NSSDC ID 66-058A-05H, HALF HOUR SUMMED DATA ON MAG TAPE

Time period covered 06/30/66 TO 11/02/71

Quantity of data - 3 REELS OF TAPE

This data set contains experimenter-supplied, 0.5-h sums of the X-ray and particle data for each detector. The data are on 7-track, 800-bpi, binary magnetic tape created on a Univac 418 computer, and are stored in either 18 or 36-bit integer format. Each physical record is one logical record of 192 6 bit bytes. Each record also contains the block count, number of words in the record, beginning and end year, day, and fraction of day.

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********** IMP-E **********
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Data set name - SOLAR ECLIPTIC EPHEMERIS PLOTS

NSSDC ID 67-070A-00D, SOLAR ECLIPTIC EPHEM PLOTS,MFICHE

Time period covered 07/19/67 TO 12/31/72

Quantity of data 3 CARDS OF B/W MICROFICHE

This data set describes the trajectories of IMP-D, IMP-E, and IMP-F, on microfiche. The first part of this data set contains information from the publication "Trajectories of Explorers 33, 34, and 35, July 1966 - April 1969," written by K. W. Behannon, K. H. Schatten, D. H. Fairfield, and N. F. Ness (NASA GSFC X-692-70-64, February 1970), which describes the trajectories of IMP D (Explorer 33), IMP-E (Explorer 35), and IMP F (Explorer 34) from launch to April 1969 (except for Explorer 34, for which there are no plots after March 1969) as projected into the X Y plane in GSE coordinates. Tick marks indicating 1 day intervals are shown for Explorers 33 and 35 and, where possible, for Explorer 34. This publication also has the X Z GSE orbit projections of these satellites for January 1969 to April 1969. Computed average positions of the bow shock and magnetopause are shown. The last part of this data set contains information from the publication "Trajectories of Explorer 33, 35, 41, 43, and 47, May 1969 - December 1972," written by D. H. Fairfield, K. W. Behannon, R. P. Lepping, and N. F. Ness (NASA GSFC X-692-73-291, October 1973). Explorer 35 data are found in this document for the entire period, May 1969 to December 1972. This data set is self documented and has the NSSDC TRF B numbers B02041 and B17902.

Data set name MULTICOORDINATE SYSTEM EPHEMERIS TAPES

NSSDC ID 67-070A-00E, MULTI COORD SYS EPHEMERIS TAPES

Time period covered 12/01/68 TO 08/31/70

Quantity of data 17 REELS OF TAPE

This data set contains ephemeris data on 7-track, 556 bpi, BCD, IBM 360 tapes. Each tape consists of 1 month of data on one file. The data records on the tapes are blocked with five logical records per physical record, each logical record containing 51 words (204 characters). Each tape contains one header record, which is a physical record that is blocked the same as the data records. The following information is contained on these tapes at 5 min intervals: time, GSE and GSM coordinates of moon and spacecraft, selenocentric solar ecliptic coordinates of spacecraft, and geomagnetic latitude and longitude of spacecraft subsatellite point. Except for January through March 1969 and November 1969, tapes covering the time period indicated are available.

Data set name COMPACTED VERSION OF DATA SET 67-070A-00E

NSSDC ID 67-070A-00F, COMPACT VERSION OF DATA SET -00E

Time period covered - 11/30/68 TO 09/01/70

Quantity of data - 2 REELS OF TAPE

This data set contains a compact version of data set 67-070A-00E on 7-track, 800-bpi, BCD magnetic tapes generated at NSSDC on an IBM 7094 computer. Logical records have been blocked 20 records to one physical record. Overlapped data at the beginning and end of individual months have been deleted. The following information is contained on these tapes: time, GSE and GSM coordinates of moon and spacecraft, selenocentric solar ecliptic coordinates of spacecraft, and geomagnetic latitude and longitude of spacecraft subsatellite point.

IMP-E, ANDERSON
ENERGETIC PARTICLE

Data set name - ORIGINAL REDUCED ION CHAMBER AND GM COUNTS ON TAPE

NSSDC ID 67-070A-02A, ORIG GM&ION.CHAMBER COUNTS, TAPE

Time period covered - 07/19/67 TO 07/24/68

Quantity of data - 8 REELS OF TAPE

This data set consists of ion chamber observations and accumulated count data from two Geiger-Muller (GM) tubes in a time-ordered format submitted by the experimenter on 7 track, 800-bpi, BCD magnetic tapes written by an IBM 360/40 computer. Each tape was generated by stacking seven short GSFC data tapes. The first file on each stacked tape is a one-record file that serves as an index to that short tape. Each physical record is 865 characters long and can contain 72 12-character logical records. The index file precedes the stacked experiment data, in which each physical record contains four data sequences. A sequence contains the time (UT) of the observation, two accumulations each from GM tubes A and B and the ion chamber, sun angle, satellite spin period, sun time, moon time, and a number of processing error flags.

IMP F, BRIDGE
PLASMA PROBE

Data set name HOURLY AVERAGED INTERPLANETARY PLASMA PARAMETERS ON TAPE AS SUPPLIED BY MIT

NSSDC ID 67-070A-06A, HR AVG INT PLASMA PARAM BLOCK BCD

Time period covered 07/14/67 TO 07/25/68

Quantity of data 1 REEL OF TAPE

This experimenter supplied data set consists of hourly averaged interplanetary plasma data on one 7 track, blocked, even parity, BCD, 556 bpi magnetic tape written by an IBM 360 computer. The block size is 1600 characters, with a logical record size of 80 characters. Each logical record contains one set of hourly averaged interplanetary plasma parameters, including the averaged thermal speed, the averaged number density, the averaged flow speed, the averaged GSE longitude and latitude of the solar wind flow direction, and the corresponding standard deviations of each of the averages. The data are time ordered. Blocks of zeros have been included where it is not known if the spacecraft was interplanetary. Data records on the tape begin at the start of a solar rotation, July 14, 1967, but records are filled with zeros until after spacecraft launch.

Data set name 3 MIN INTERPLANETARY PLASMA PARAMETERS ON MAGNETIC TAPE

NSSDC ID 67-070A-06B, 3-MIN INT PLASMA PARAM BLOCK BCD

Time period covered 07/25/67 TO 07/03/68

Quantity of data 1 REEL OF TAPE

This experimenter-supplied data set consists of 3 min interplanetary plasma data on one 7 track, blocked, even-parity, BCD, 556 bpi magnetic tape written by an IBM 360 computer. The block size is 1000 characters, with a logical record size of 100 characters. Each logical record contains one time ordered ion solar wind measurement. Data include the plasma thermal speed, number density, flow speed, and GSE longitude and latitude of the flow direction. These parameters were derived using a gamma distribution function, which in the solar wind is essentially equivalent to a convected isotropic Maxwellian distribution function. The parameter set was calculated based on a 2.7 min spectrum, and changes in the solar wind on time scales shorter than that period, such as the passage of an interplanetary shock front, will invalidate the

parameter set calculated from data taken during that interval.

Data set name - PLOTS OF HOURLY AVERAGED PLASMA PARAMETERS

NSSDC ID 67-070A-06C, HR AVG PLASMA PARAM MFICHE PLOTS

Time period covered - 07/25/67 TO 07/03/68

Quantity of data - 1 CARD OF B/W MICROFICHE

This experimenter-generated data set contains hourly averaged interplanetary solar wind data on microfiche. Data include plasma thermal speed, bulk speed, and density plotted against time, with one solar rotation per plot.

Data set name - HOURLY AVERAGED INTERPLANETARY PLASMA DATA ON TAPE WITH BLOCKS OF ZEROS REMOVED

NSSDC ID 67-070A 06D, 1-HR IP PLASMA DATA W/O O'S, TAPE

Time period covered - 07/25/67 TO 07/03/68

Quantity of data - 1 REEL OF TAPE

This data set contains hourly averaged interplanetary plasma data on one 7-track, 556-bpi, BCD magnetic tape. This is an NSSDC-reformatted data tape (generated from data set 67-070A-06A) with 84 characters per logical record and one logical record per physical record. Each record contains one set of plasma parameters, and no record contains all zero or block zero data (as were contained on the original MIT-generated tape). Plasma parameters include the average thermal speed, the average number density, the average flow speed, and the average GSE latitude and longitude of the flow direction along with their corresponding standard deviations.

Data set name - LISTINGS OF HOURLY AVERAGED INTERPLANETARY PLASMA PARAMETERS

NSSDC ID 67-070A 06F, HR AVG INT PLASMA PARAM LIST FILM

Time period covered - 07/25/67 TO 07/03/68

Quantity of data - 1 REEL OF MICROFILM

This data set contains hourly averaged interplanetary plasma data on one reel of 16 mm microfilm. Parameters listed include: number of solar wind measurements; day of year; hour of day; day, month, and year expressed as ddmmyy; average plasma number density; average plasma thermal speed; GSE latitude and longitude averages along with their corresponding standard deviations; and solar rotation number. The data are time ordered and appear in column format, with each column clearly identified.

IMP F, NESS
GSFC MAGNETOMETER

Data set name - 5.12 SEC VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 67-070A-04A, 5.12 SEC VR MAG FLD DATA ON TAPE

Time period covered - 07/19/67 TO 02/23/72

Quantity of data - 77 REELS OF TAPE

This data set consists of experimenter-supplied, 5.12 s averaged magnetic field vector data on 9 track, 800-bpi, single file, binary magnetic tapes written on an IBM 360 computer. Each physical record contains four logical records of 1092 bytes each. Each logical record contains data taken during one 81.92 s telemetry sequence. Included in each logical record are time (with January 1=day 0) and 16 vector magnetic field measurements with Cartesian components given in four coordinate systems: 1) a payload system corotating with the spacecraft, (2) a system with its Z axis along the spacecraft spin axis and its X axis in the plane defined by the spin axis and the satellite-sun line, (3) GSE coordinates, and (4) GSM coordinates. For the latter three coordinate systems, sequence averages and rms deviations are given for the components. In addition, 16 field magnitudes and the sequence-averaged magnitude and its rms deviation are given. The latitude and azimuth angles of the sequence-averaged field vector are given in the payload and GSE coordinate systems. The data have not been corrected for lunar shadow effects. As such, field direction information is unreliable during lunar shadow periods. Supporting information found in each logical record includes time for the 16 field measurements; spin period; direction; and spacecraft position in GSE, selenocentric solar ecliptic, and GSM coordinates. For the first 3 years or so, data coverage is nearly 100% complete, but for the last year or so a significant number of data gaps appear. There is some modulation in the late-time-period 5.12-s data, probably due to the data-gap-associated inability of the filtering program to remove all spin modulation. The 81.92-s-averaged data were expected to be more reliable for this late time period. A separate set of tapes with just the 81.92-s-averaged magnetic field data is also available (67-070A-04B).

Data set name - 82-SEC AVERAGED VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 67-070A-04B, 82 SEC VR MAG FLD DATA ON TAPE

Time period covered - 07/19/67 TO 02/23/72

Quantity of data - 21 REELS OF TAPE

This data set contains 81.92-s-averaged vector magnetic field data on 7-track, 800-bpi, IBM 7094 binary magnetic tapes, generated at NSSDC from the experimenter supplied tapes that constitute data set 67-070A-04A. All the magnetic field and supporting data of each logical record of data set 67-070A-04A were transferred to this data set except for the 13 16-element arrays giving individual 5.12-s data points. Thus, whether a user needs data set 67-070A-04A or 67 070A 04B is determined by the requirements of temporal resolution, as there are 5.12-s data in 67-070A-04A and only 81.92-s averages in 67-070A-04B. Temporal coverage, as opposed to resolution, is the same for each of these two data sets.

Data set name - MULTI-SPACECRAFT HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON TAPE

NSSDC ID 67-070A-04C, MULTI-S/C HR AVG INPL B VRS, TAPE

Time period covered - 07/19/67 TO 12/27/68

Quantity of data - 1 REEL OF TAPE

This data set, supplied by the experimenter, was generated from IMP-C, -D, -F, and -F data to make a record, as nearly complete as possible, of the interplanetary magnetic field, with 1-h time resolution, over the period June 1965 through December 1968. The data are on one 9-track, 800-bpi, EBCDIC card image magnetic tape. Each card image contains data for 1 h, as obtained on one spacecraft. No hour is covered by more than one spacecraft. Each record contains time, orbit number, spacecraft identification and location (radial distance and GSE Cartesian coordinates), hourly averaged magnetic field vector magnitude, GSE latitude and longitude angles, and Cartesian components along with their standard deviations. This data set is identical to each of the data sets 65 042A-02I, 66 058A-01D, and 67 051A 11C.

Data set name - 5.12 SEC VECTOR MAGNETIC FIELD PLOTS ON MICROFILM

NSSDC ID 67-070A-04D, 5.12 S VECTOR B FIELD PLOTS,MFILM

Time period covered - 07/19/67 TO 02/23/72

Quantity of data - 57 REELS OF MICROFILM

This experimenter-supplied data set consists of individually measured 5.12-s magnetic field vector data plotted on 16-mm microfilm. Each frame contains data for a 1-h time period, with 30 minutes of data across the frame twice. Field magnitude and latitude and longitude angles (in GSE or GSM coordinates) are given. Geocentric spacecraft position (X, Y, Z, and R in earth radii) is listed once per frame, and selenocentric position is listed several times (X, Y, Z, and R in lunar radii).

Data set name - 81.92 SEC VECTOR MAGNETIC FIELD PLOTS ON MICROFILM

NSSDC ID 67-070A 04E, 82 SEC MAG VCTR PLOTS ON MFILM

Time period covered - 07/19/67 TO 02/23/72

Quantity of data - 5 REELS OF MICROFILM

This experimenter-supplied data set consists of 81.92-s-averaged magnetic field vector data plotted on 35 mm microfilm. Each frame contains data for 6 h, with 3 h of data across the frame twice. Field magnitudes (as averaged over 5.12-s magnitudes), latitude and longitude angles (as determined from 81.92-s-averaged GSE or GSM Cartesian components), and the rms deviation in the magnitude average are plotted. Geocentric spacecraft position (X, Y, Z in earth radii) is listed every hour.

Data set name - VECTOR MAGNETIC FIELD DATA LISTINGS ON MICROFILM

NSSDC ID 67-070A-04F, 5 SEC AND 82 SEC LISTINGS, M/FILM

Time period covered - 07/19/67 TO 02/23/72

Quantity of data - 57 REELS OF MICROFILM

This data set consists of experimenter-supplied magnetic field data on 16-mm microfilm. The data is listed as two interspersed types. One type lists individual 5.12-s magnetic field magnitudes (x 10) and 81.92-s averages of these magnitudes. This type also lists 81.92-s averages of payload coordinate system Cartesian components (x 10), their standard rms deviations (x 100), latitude and longitude angles derived from the averaged components, and data quality flags. The other type of listing contains only 81.92-s values, including selenocentric spacecraft position (X, Y, Z in lunar radii (x 100) and derived longitude), geocentric GSM spacecraft Z coordinate in earth radii (x 10), field magnitude average (x 10) and its rms deviation (x 100), GSE and GSM Cartesian components of the field (x 10), rms deviations (x 100) for the ecliptic components, latitude and longitude angles derived from the ecliptic components, and data quality flags.

Data set name - MERGED NESS/SONETT 82 SECOND AVERAGED MAGNETOMETER DATA ON MAGNETIC TAPE

NSSDC ID 67 070A-04C, MERGED NESS/SONETT 82 SEC DATA,TP

Time period covered 10/01/67 TO 04/30/70

Quantity of data 6 REELS OF TAPE

This data set consists of merged 81.92-s magnetic B-field data (from the IMP-E experiment of Ness and the IMP-E experiment of Sonett) on 9-track, 1600 bpi, binary magnetic tapes written on an IBM 360 computer. The physical blocks are of variable length and contain logical records of 34 32-bit words. The logical records consist of a sequence month; time in year, day, hour, minute, and second; sequence averaged field magnitude; GSE theta, phi, X, Y, and Z; GSM X, Y, and Z; satellite position, GSM; and selenocentric satellite position.

IMP E, SONETT
AMES MAGNETIC FIELDS

Data set name AVERAGED MAGNETIC FIELD VECTOR PLOTS ON MICROFILM

NSSDC ID 67 070A 03A, PLOT OF B,1 SIGMA B,LAT,LONG,ORB

Time period covered 07/19/67 TO 12/30/71

Quantity of data 5 REELS OF MICROFILM

This data set contains magnetic field vector plots on microfilm. These reels contain plotted 81.8-s scalar B field magnitude averages and the longitude and latitude of the magnetic field. Generally, data are plotted in GSM coordinates for times when the spacecraft was inside the magnetosphere or geomagnetic tail and in solar equatorial coordinates when the spacecraft was outside this region. About four hours of data are plotted on each frame. Sequence number, time, and the coordinate system used are indicated on each plot. Temperature variations and drifts in zero levels of the sensors have been corrected by the experimenter. Data are available over the time period specified with a 95% coverage. Two intervals of several hours each (October 13 and November 27, 1967) have been found when, because of apparent keypunch errors in the experimenter's data processing cycle, the sign of Bz (and, hence, of the field latitude angle) is opposite what it should be. These errors appeared when comparing these data with the experimenter's Explorer 33 data and with data from the other Explorer 35 magnetometer. It is not known what percentage of the data is affected by similar errors, although this percentage is expected to be small.

Data set name - HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD DATA ON TAPE

NSSDC ID 67-070A-03B, HOUR AVRG B FIELD VECTORS ON TAPE

Time period covered 07/23/67 TO 12/31/69

Quantity of data 1 REEL OF TAPE

This data set consists of hourly averaged interplanetary magnetic field data on one 7-track, 800 bpi, BCD, CDC 6600 magnetic tape. This tape was made by Dr. Paul Fougere from cards supplied to him by Dr. Charles Sonett. These cards previously had been manually edited by Dr. Sonett's staff at Ames Research Center. Each physical record consists of 1280 characters. Each logical record consists of an 80-character BCD card image followed by 10 blanks. Thus there is a noninteger number of logical records per physical record. The following information is given: time; magnetic field magnitude; latitude, longitude, and Y and Z components in the orthogonal solar equatorial coordinate system (X axis points toward the sun, Z axis northward in a plane containing the solar direction and the solar spin axis); magnetic field latitude, longitude, and X, Y, and Z components in the GSM coordinate system; the number of individual vector samples available during the hour; the magnetic field component normal to the earth-sun line; and a flag to indicate data from either Explorer 33 or 35. This data set was intended to fill in some of the gaps in the corresponding IMP-D interplanetary hourly average data set (NSSDC ID 66-058A-03B) and, as such, is very spotty in time coverage.

Data set name - 81.92-SEC VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPES

NSSDC ID 67 070A-03C, 82 SEC AVGD VECTORS, DCS TAPES

Time period covered - 07/19/67 TO 12/30/71

Quantity of data - 20 REELS OF TAPE

This data set consists of experimenter supplied, 81.92-s averaged vector magnetic field data on 7-track, 556-bpi, odd-parity, binary magnetic tapes. Each physical record contains 2760 characters, of which the first 12 constitute a DCS control word. Each logical record contains 132 characters, of which the first six constitute a DCS control word. Data given within each logical record were obtained by averaging the individually measured vectors within a given 81.92-s sequence. Data include field magnitude, Cartesian components and their standard deviations, and field latitude and longitude angles. The data are given in solar equatorial, GSM, and GSE coordinates. Two intervals of several hours each (October 13 and November 27, 1967) have been found when, because of apparent keypunch errors in the experimenter's data processing cycle, the sign of Bz (and, hence, of the field latitude angle) is opposite what it should be. These errors appeared when comparing these data to the experimenter's IMP-D (Explorer 33) data and to data from the other IMP-E magnetometer. It is not known what percentage of the data is affected by similar errors, although this percentage is expected to be small.

Data set name 5.12 SEC VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPES

NSSDC ID 67 070A-03D, 5.12 SEC MAG VECTORS ON MAG TAPE

Time period covered 07/19/67 TO 12/30/71

Quantity of data 210 REELS OF TAPE

This data set consists of experimenter supplied, 5.12 s averaged vector magnetic field data on 7 track, 556 bpi, odd parity, binary magnetic tapes created on an IBM 7094 computer. Each physical record contains 2760 characters, of which the first 12 constitute a DCS control word. Each logical record contains 132 characters (for the first vector of an 82-s sequence) or 138 characters, of which the first six constitute a DCS control word. Data given within each logical record relate to a single magnetic vector measurement and include field magnitude, Cartesian components, and latitude and longitude angles in solar equatorial, GSM, and GSE coordinates. There are data for one week on each tape, with no ephemeris data on any of the tapes. Two intervals of several hours each (October 13 and November 27, 1967) have been found when, because of apparent keypunch errors in the experimenter's data processing cycle, the sign of Bz (and, hence, of the field latitude angle) is opposite what it should be. These errors appeared when comparing these data to the experimenter's IMP D data and to data from the other IMP D magnetometer. It is not known what percentage of the data is affected by similar errors, although this percentage is expected to be small.

Data set name MERGED NESS/SONETT 82 SECOND AVERAGED MAGNETOMETER DATA ON MAGNETIC TAPE

NSSDC ID 67 070A 03E, MERGED NESS/SONETT 82 SEC DATA,TP

Time period covered 10/01/67 TO 04/30/70

Quantity of data 6 REELS OF TAPE

This data set contains merged 82 s averaged magnetometer data from two IMP E magnetometer experimenters (Ness and Sonett) on 9-track, 1600 bpi, binary magnetic tapes written by an IBM 360 computer. The physical blocks are of variable length and contain logical records of 34 32-bit words. The logical records consist of a sequence month; time in year, day, hour, minute, and second; sequence-averaged field magnitude; GSE theta, phi, X, Y, and Z; GSM X, Y, and Z, spacecraft position, GSM; and selenocentric spacecraft position.

Data set name - REBLOCKED 82 SECOND AVERAGED MAGNETIC FIELD VECTORS ON MAGNETIC TAPE

NSSDC ID 67-070A-03F, 82 SEC AVERAGED VECTORS REBLOCK

Time period covered - 07/19/67 TO 12/30/71

Quantity of data - 20 REELS OF TAPE

This data set contains 82-s-averaged magnetic field vector data on 9-track, 1600-bpi, binary magnetic tape written on an IBM 360 computer. Each logical record consists of six control bytes and 132 bytes of data. There are 200 logical records in a physical record. The data consist of a sequence number; time in day, hour, minute, and second; field magnitude; and 82-s B-field averages in solar equatorial, GSM, and GSE coordinates.

IMP-E, VAN ALLEN
ELECTRON AND PROTON DETECTORS

Data set name - PLOTS OF SOLAR SOFT X-RAY FLUXES ON MICROFILM

NSSDC ID 67-070A-01A, SOLAR SOFT X-RAY PLOTS

Time period covered - 07/26/67 TO 05/27/70

Quantity of data - 3 REELS OF MICROFILM

This data set contains solar soft X-ray flux data, in the 2- to 12-A range, plotted on 35-mm microfilm. These are the analyzed data as received from the experimenter. The data set is complete, and the coverage is 75% complete if every break in the data stream larger than 5 min is counted. These plots are described by J. F. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433-459, 1969.

Data set name - 2- TO 12-A SOLAR SOFT X-RAY FLUXES ON TAPE

NSSDC ID 67-070A-01B, SOLAR SOFT X-RAY,MAG TAPES

Time period covered - 07/26/67 TO 05/28/70

Quantity of data - 5 REELS OF TAPE

This data set consists of solar soft X-ray flux data, in the 2 to 12 A range, on 7-track, BCD, 800 bpi magnetic tape. The analyzed data were submitted by the experimenter. The data set is complete, and the coverage is 75% if every break in the data stream larger than 5 min is counted. The flux is an average over 80 s and is in units of milliergs/cm**2 s.

Data set name - LISTINGS OF SOLAR SOFT X-RAY FLUXES ON MICROFILM

NSSDC ID 67-070A-01C, MICROFILM OF 67-070A 01B

Time period covered - 07/26/67 TO 05/28/70

Quantity of data - 10 REELS OF MICROFILM

This data set consists of listings of the solar soft X-ray flux in the 2- to 12-A range on 35-mm microfilm. This data set is a reformatted printout of data set 67-070A-01B, with the data reprocessed by NSSDC. The data set is complete, and the coverage, if every break in the data stream larger than 5 min is counted, is 75%. These listings are described by J. C. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433 459, 1969.

Data set name - SOLAR SOFT X-RAY BURST DATA ON TAPE

NSSDC ID 67-070A-01D, SOFT X RAY BURST LISTING

Time period covered - 07/26/67 TO 08/13/69

Quantity of data - 1 REEL OF TAPE

This data set contains solar soft X-ray (2- to 12-A) flare data on one 7-track, BCD, 800-bpi magnetic tape. These are analyzed data from the experimenter and are complete. Included on the tape for each flare are: date, start time (UT), time(s) of peak(s), end time, flux increase above background (at burst maximum), ratio of total flux to background (at burst maximum), integral of flux increase above background for the burst duration, flags indicating either breaks in the data stream or the number of peaks, and ratio of time lost because of data gaps to the total burst time.

Data set name - LISTINGS OF SOLAR SOFT X-RAY BURST DATA ON MICROFILM

NSSDC ID 67-070A-01E, SOFT X-RAY BURST-LISTING-M/FILM

Time period covered - 07/26/67 TO 08/13/69

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a listing of solar soft X-ray (2- to 12-A) flare data on 35-mm microfilm. The listing includes, for each flare: date, start time (UT), time(s) of peak(s), end time, flux increase above background (at burst maximum), ratio of total flux to background flux (at burst maximum), integral of flux increase above background for the burst duration, flags indicating either breaks in the data stream or the number of peaks, and ratio of time lost because of data gaps to the total burst time. This data set is a printout of data set 67-070A-01D. Data from IMP-D (data set 66-058A-05E) are also contained on this reel of microfilm.

Data set name - SOLAR SOFT X-RAY DATA COVERAGE ON MICROFILM

NSSDC ID 67-070A-01F, SOFT X-RAY COVERAGE PLOTS, MFILM

Time period covered 07/26/67 TO 09/18/68

Quantity of data - 1 REEL OF MICROFILM

This data set consists of solar soft X-ray data coverage, shown graphically on 35-mm microfilm. Each graph covers a 1-month period, plotting day vs hour (in blocks). Data gaps greater than 5 min are represented by dark areas. These plots are described by J. F. Drake, J. Gibson, and J. A. Van Allen in "Iowa Catalog of Solar X-ray Flux," in Solar Physics, v. 10, pp. 433-459, 1969.

Data set name - PLOTS OF PARTICLE COUNT RATE DATA ON MICROFILM

NSSDC ID 67-070A-01G, PLOTS OF ALL SUI DETECTORS

Time period covered - 07/19/67 TO 12/31/68

Quantity of data 10 REELS OF MICROFILM

This data set consists of particle count rate data plotted on 35-mm microfilm. This is a complete set of partially reduced data submitted by the experimenter. The coverage is greater than 90%. Six plots are given for each 12-h period (0000 to 1200 or 1200 to 2400 GMT). These plots contain, as a function of time, (1) the count rates of GM1 for each sector, (2) the count rates of PN1 for each sector, (3) the count rates of GM2, GM3, PN2, and GM1 (GM1 summed over all sectors), (4) the count rates of PN1, PN2, and PN4 of the SSD (PN1 summed over all sectors), (5) the average counting rate (G1AV) of GM1 for sectors i, ii, and iv, the counting rate of GM1, sector iii, from solar X rays (G1X), and the difference between the count rates of GM3 and GM2, and (6) the coefficients describing first order Fourier fits to the data from PN1 and GM1. The curves fitted to the PN1 and GM1 data were of the form $a(1+b\cos(d-e))$, where d is the spacecraft rotation angle.

Data set name - HALF HOUR SUMMARIES OF ALL DETECTORS ON MAGNETIC TAPE

NSSDC ID 67-070A-01H, HALF HOUR SUMMED DATA ON MAG TAPE

Time period covered - 07/18/67 TO 06/23/73

Quantity of data - 3 REELS OF TAPE

This data set consists of electron, proton, and alpha particle count data summed over 30-min time intervals for each Geiger-Mueller and silicon solid-state detector. The data are on 7-track, 800-bpi, binary magnetic tapes recorded on an IBM 360/75 computer. Each physical record consists of one logical record of 192 bytes (64 18-bit words). Each data record contains block number, beginning and ending year, day and day fraction for each record, and 30 min sums for each detector.

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********** IMP-F **********
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Data set name - GSE AND GSM PROJECTION AND PERSPECTIVE PLOTS ON MICROFILM

NSSDC ID 67-051A-00D, SOL ECL + SOL MAGNSPH ORBIT PLOTS

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 1 REEL OF MICROFILM

This data set consists of ephemeris data for all orbits of IMP-F (Explorer 34) on one reel of 35-mm microfilm. Plots of the X-Y, X-Z, and Y-Z projections are available for both GSE and GSM coordinates. The X-Y GSE projection shows the average position of the bow shock as computed by Dr. D. Fairfield of GSFC. Two three-dimensional perspectives are also available for each coordinate system for each orbit. Every plot shows one full orbit curve and tabular listings of the orbit number, apogee, perigee, start time, stop time, coordinate system, and projection or perspective for the orbit. An asterisk is used to mark the first noon or midnight (UT) encountered, with tick marks used at successive 12-h points.

Data set name - SOLAR ECLIPTIC EPHEMERIS PLOTS

NSSDC ID 67 051A 00E, SOLAR ECLIPTIC EPHEM PLOTS MFICHE

Time period covered - 05/24/67 TO 03/00/69

Quantity of data - 1 CARD OF B/W MICROFICHE

This data set describes trajectories of IMP-D, IMP-E, and IMP-F plotted on microfiche. This data set contains information from the publication "Trajectories of Explorers 33, 34, and 35, July 1966 - April 1969," written by K. W. Behannon, K. H. Schatten, D. H. Fairfield, and N. F. Ness (NASA-GSFC X-692-70-64, February 1970), which describes the trajectories of IMP-D (Explorer 33), IMP-E (Explorer 35), and IMP-F (Explorer 34) from launch to April 1969 (except for Explorer 34, for which there are no plots after March 1969) as projected into the X-Y plane in GSE coordinates. Tick marks indicating one day intervals are shown for Explorers 33 and 35 and, where possible, for Explorer 34. This publication also has the X-Z GSE orbit projections of these satellites for January 1969 to April 1969. Computed average positions of the bow shock and magnetopause are also shown.

Data set name - U OF CHICAGO EPHEMERIS DATA ON TAPE

NSSDC ID 67 051A 00F, CHICAGO MULTI-COORD EPHEM TAPES

Time period covered 05/24/67 TO 05/03/69

Quantity of data 5 REELS OF TAPE

This experimenter-supplied data set consists of IMP-F ephemeris data on 7 track, 800 bpi, binary tapes with XDS 930 integer format. Each physical record consists of 40 logical records of 25 words each. End-of-file marks separate orbits, and a double end-of-file mark ends each tape. Ephemeris points (logical records) are given at 61.44-s intervals. Data presented include time, pseudo-sequence count, radial distance, geographic and geomagnetic latitude and longitude, GSM coordinates, satellite earth sun angle, speed, B and L, B/B0, and GSE components of the GSFC (12/66) model geomagnetic field, as updated to 1965.0. There are no known significant data gaps.

Data set name - INTERPLANETARY TIME INTERVALS ORDERED BY MAGNETIC FIELD SECTOR POLARITY, MICROFILM

NSSDC ID 67 051A 00G, INTERPLAN. TIMES BY + & - SECTORS

Time period covered 05/25/67 TO 12/24/67

Quantity of data 1 REEL OF MICROFILM

This data set gives the time periods during which the IMP-F spacecraft was beyond the earth's bow shock (for the first 50 spacecraft orbits). The data are shown as card images on one reel of 16 mm microfilm, generated at NSSDC from a card listing that was generated from two decks of punched cards. Each card image from the first deck gives, to the nearest minute, the start and stop time (January 1 is day zero) of each interval during which the IMP-F (IMP 4) spacecraft was beyond the earth's bow shock in a region of positive (away from the sun) interplanetary magnetic field polarity. If the spacecraft was on the inbound or outbound leg of an orbit where multiple bow shock crossings occurred, owing to bow shock motion an appropriate number of cards are included to describe each interplanetary interval. The card images from the second deck are similar to those from the first except that time intervals spent in negative magnetic sectors are given. The card images from the two decks are separately time ordered and cover the first 50 spacecraft orbits (May 25 to December 24, 1967). The information in this data set is based on analysis of data from the GSFC IMP 4 magnetometer (67 051A 11) and was provided by Dr. D. H. Fairfield. Data set 67-051A 00H is also on this reel microfilm.

Data set name - INTERPLANETARY INTERVALS, FULLY TIME ORDERED, WITH MAGNETIC SECTORS, MICROFILM

NSSDC ID 67-051A-00H, INTERPLAN TIMES,T-ORDERD,W/SECTOR

Time period covered - 05/25/67 TO 12/24/67

Quantity of data - 1 REEL OF MICROFILM

This data set gives the time periods during which the IMP-F spacecraft was beyond the earth's bow shock (for the first 50 spacecraft orbits). The data are shown as card images on one reel of 16-mm microfilm. This data set was generated at NSSDC as a time-ordered composite of the two decks that constitute data set 67-051A-00G, which is also on this reel of microfilm. The data contain an indicator on each card image for positive or negative interplanetary magnetic field sector. The time interval given on a card image indicates the interval from bow shock to bow shock in those cases where an interplanetary magnetic sector boundary was not encountered while the spacecraft was beyond the bow shock.

IMP-F, ANDERSON
ION CHAMBER

Data set name - ION CHAMBER AND GM TUBE COUNT RATES ON MICROFILM

NSSDC ID 67-051A 02A, ION CHAM.+GM TUBE COUNT RATES,MFM

Time period covered - 05/24/67 TO 09/15/67

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of chronologically ordered electron and proton count rate data plotted on one reel of 35-mm microfilm. Data include count rate plots [counts/s vs time (UT), earth-spacecraft distance, magnetospheric latitude, and ecliptic longitude] for the ion chamber and two Geiger-Mueller (GM) tubes of the experiment. The GM tube count rates are dead time corrected. Each plot covers a 24-h time period and contains three traces: (1) electrons above 45 keV for GM tube A (designated "scatter" particles in the plots), (2) electrons above 22 keV and protons above 300 keV for GM tube B (designated "open" particles in the plots), and (3) electrons above 0.7 MeV and protons above 12 MeV for the ion chamber. The plots are annotated with data quality flags. However, these flags denote the noisiness of data transmission and not necessarily the intrinsic quality of the data.

IMP F, BOSTROM
SOLAR PROTON MONITORING EXPERIMENT

Data set name - DAILY AVERAGED COUNT RATES, 10 , 30 , 60 MEV CHANNELS

NSSDC ID 67-051A-07A, DAILY AVERAGED PROTON COUNT RATES

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set contains daily averaged solar proton count rates plotted vs time on one reel of 16-mm microfilm. These data are for the 10 , 30 , and 60 MeV proton channels.

Data set name - HOURLY AVERAGED SOLAR PROTON FLUXES PUBLISHED IN 'SOLAR-GEOPHYSICAL DATA'

NSSDC ID 67 051A 07B, SGD PBLSHD HRLY AVGD PROTON FLUXS

Time period covered 05/24/67 TO 05/02/69

Quantity of data - 17 BOOKS OR BOUND VOLUMES

This published data set consists of monthly plots and tabular listings of hourly averaged omnidirectional fluxes of protons with energies above 10, 30, and 60 MeV. Data obtained during a given month were published in "Solar-Geophysical Data (Comprehensive Reports)" with a 6-month lag.

Data set name - COUNT RATES ON ENCYCLOPEDIA TAPES

NSSDC ID 67-051A-07C, COUNT RATES ON ENCYCLOPEDIA TAPES

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 22 REELS OF TAPE

This experimenter-supplied data set contains solar proton count rates on 9-track, 800-bpi, IBM 360, binary magnetic tapes. Seven-track copies also exist. Each tape has one file and is blocked with 20 logical records per physical record. Each logical record has 176 32-bit words. Both ID records and data records are interspersed on the tapes. There is one ID record for a given segment of data obtained by one tracking station during one spacecraft pass over that station. Data record quantities given include time, data quality indicators, dead-time corrected count rates obtained from all the detector readings taken during one 2.73-min interval, and orbit data. Data coverage between May 24, 1967, and May 3, 1969, is virtually complete.

Data set name EDITED HOURLY AVERAGED COUNT RATES ON MAGNETIC TAPE

NSSDC ID 67-051A-07D, HOURLY AVERAGED COUNT RATES, TAPE

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains hourly averaged interplanetary proton count rates on one 7-track, 800-bpi, IBM 360 binary magnetic tape. Each logical record consists of 3120 8-bit bytes and contains data for one day. There are six logical records per physical record and one file for each calendar year of data on the tape. Each logical record includes time, ephemeris data, and hourly averaged count rates for each of the five experiment counting modes. These rates were thoroughly edited, in that noise points and magnetospheric counting rates have been removed. Recognizably interpolated interplanetary count rate values have been inserted for magnetospheric traversal periods. The time coverage is essentially complete between May 24, 1967, and May 3, 1969. When taken together with the corresponding data set from IMP-G (69-053A-07C), these data provide a nearly continuous record of 1- to 100-MeV interplanetary proton fluxes from May 1967 to December 1972.

IMP-F, BROWN
LOW-ENERGY SOLID-STATE TELESCOPE

Data set name - REDUCED ELECTRON, PROTON, AND HEAVIER ION TELESCOPE DATA ON MAGNETIC TAPE

NSSDC ID 67-051A-01A, REDUCED COUNT RATES ON TAPE

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 33 REELS OF TAPE

This experimenter-supplied data set consists of electron, proton, and heavier particle count rate data on 7-track, 800-bpi, GE 635 binary magnetic tapes. Data set 67-051A-01D contains an IBM 7094 binary version of these data. Experiment data records and ephemeris records are interspersed on the tapes. The data records are made up of 10 36-bit computer words, with each word being further broken down into integer numbers of specified meanings. Data for one experiment sequence (10.23 s) are found in one record and include time (UT), spacecraft clock data, counts for each of the five registers for one sensor coincidence mode, and data quality flags related to the noisiness of bit transmission. The ephemeris records consist of 20 36-bit words, 19 of which are floating point. Ephemeris records occur once each 1- or 10-min interval according to whether the spacecraft radical distance is less than or greater than 42,000 km. Ephemeris data include spacecraft radial distance, geographic latitude and longitude, inertial ecliptic declination and right ascension, GSE and GSM Cartesian coordinates, and B and L. There are no data gaps lasting longer than 24 h. There are 4 gaps of more than 6 h, and 14 gaps of more than 2 h over the 2-year period covered by the data.

Data set name - REDUCED COUNT RATE PLOTS ON MICROFILM

NSSDC ID 67-051A-01C, COUNT RATE PLOTS ON MICROFILM

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 90 REELS OF MICROFILM

This experimenter-supplied data set consists of electron, proton, and heavier particle count rate data on 35-mm microfilm. Counts obtained in individual accumulation intervals are plotted and flagged as good data. Calibration mode counts and occasional data points that are obviously bad, but are flagged as good because of the cleanliness of their spacecraft-to-earth transmission, are visible. Each microfilm reel contains about 8 days of data. Each frame contains 8 h of data. There are 24 data frames covering each 8-h interval. These frames cover all the experiment counting modes. Every 25th frame contains 8 h of ephemeris data (radial distance and GSM and GSE latitude and longitude). All the data obtained by this experiment over the life of the spacecraft are available from NSSDC in this form.

Data set name - DATA SET 67-051A-01A IN IBM 7094 FORMAT

NSSDC ID 67 051A-01D, DATA SET -01A IN IBM 7094 FORMAT

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 34 REELS OF TAPE

This data set is an NSSDC-generated, IBM 7094-compatible version of the experimenter-supplied data set 67-051A-01A. The 7-track tapes are binary, at 800 bpi. For data content, see the description for data set 67 051A-01A.

IMP-F, MCCRACKEN
COSMIC-RAY ANISOTROPY

Data set name - HOURLY AVERAGED COUNT RATES ON TAPE

NSSDC ID 67-051A-05A, HOURLY AVGD COUNT RATES ON TAPE

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set gives hourly averaged cosmic-ray proton count rates on one 7-track, 800-bpi, BCD magnetic tape. Each physical record consists of 240 card image logical records. Each logical record contains time and hourly averaged count rates. In the first of four files, count rates for each of the four sensors making up the composition telescope are given. These are of somewhat limited utility because geometric factors are significantly energy dependent. In the second file, 0.7- to 7.6 MeV proton count rates for each of eight azimuthal octants are given. In the third file, count rates for each of eight azimuthal octants obtained from the proportional counter are given. In the last file, 7- to 55 MeV proton count rates for each of eight azimuthal octants are given. The count rates in the last three files are readily convertible to fluxes. The data in each file are complete from launch through May 2, 1969 (file 1), March 16, 1969 (file 2), February 15, 1968 (file 3), and June 11, 1967 (file 4).

IMP-F, MCDONALD
LOW-ENERGY PROTON AND ALPHA DETECTOR

Data set name - MICROFILM OF CATALOG OF SOLAR COSMIC RAY EVENTS (VAN HOLLEBEKE ET AL, X-661-74 27)

NSSDC ID 67-051A-09A, SOLAR C.R. EVENT CATALOG, MFILM

Time period covered - 05/25/67 TO 05/02/69

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a microfilmed version of the IMP F and -G document "A Catalog of Solar Cosmic Ray Events - IMPs 4 and 5 (May 1967 - December 1972)," by M. A. van Hollebeke, J. R. Wang, and F. B. McDonald (GSFC X-661-74-27, January 1974). The catalog contains plots for about 185 events, with an "event" defined as an increase in the 20- to 80-MeV proton flux that exceeds 0.0001 protons/(sq cm s sr MeV) and lasts for more than 5 h. The minimum increase over this energy range corresponds to about 5% of the total galactic cosmic-ray flux at 1 AU. The data are presented as hourly averaged fluxes (10 days per page) for three proton energy intervals (0.9 to 1.6, 6 to 20, and 20 to 80 MeV) and for one electron interval (0.5 to 1.1 MeV). Electron onset times are specified with indicated uncertainties between 3 and 30 min. Proton onset times are specified for events with no discernible electron increases. Data gaps associated with perigee passes and occasional saturation periods are clearly marked.

Data set name - 2.73-MIN COINCIDENCE MODE AND PROTON, ELECTRON, AND ALPHA COUNT RATES ON TAPE

NSSDC ID 67-051A-09B, 2.73-MIN COUNT RATES ON TAPE

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 6 REELS OF TAPE

This experimenter-supplied data set contains low- and very low energy cosmic ray data on 9-track, 1600-bpi, binary magnetic tapes written by an IBM 360 computer. These tapes also contain data from data set 67-051A-10B. Each physical record contains 10 logical records of 408 bytes, which is all the data for one 2.73-min telemetry sequence. Each logical record contains the time in year, month, day, and hour; ephemeris data; count rates for lowand very low-energy detectors; and quality flags for the count rates.

Data set name - 6-HOUR AVERAGED DIFFERENTIAL PROTON FLUXES DETERMINED AT 10 DISCRETE ENERGIES

NSSDC ID 67-051A-09C, 6-HR AVGD PROTON FLUXES, MFILM

Time period covered - 05/24/67 TO 04/30/69

Quantity of data - 1 REEL OF MICROFILM

This experimenter supplied data set consists of 6-h averaged proton flux data listed on one reel of 16-mm microfilm. Data consist of 6-h averaged differential proton fluxes determined at 10 discrete energies. Fluxes obtained in the indicated energy bins were divided by the bin width. The statistical uncertainty in each flux is also given. Note that saturation occurs in the upper six energy channels for the peaks of the 05/24/67, 11/18/68, and 04/11/69 events. Note that the "IMP 5" written at the top of each frame should be "IMP 4," and the "1 hour" written on the second line of each frame should be "6 hour." This microfilm reel also contains data from data set 67-051A-10-10C.

IMP F, MCDONALD
COSMIC-RAY ENERGY VS ENERGY LOSS

Data set name - MICROFILM OF CATALOG OF SOLAR COSMIC-RAY EVENTS (VAN HOLLEBEKE ET AL, X-661-74-27)

NSSDC ID 67-051A-10A, SOLAR C.R. EVENT CATALOG, MFILM

Time period covered - 05/25/67 TO 05/02/69

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a microfilmed version of the IMP-F and -G document "A Catalog of Solar Cosmic Ray Events - IMPs 4 and 5 (May 1967 - December 1972)," by M. A. van Hollebeke, J. R. Wang, and F. B. McDonald (GSFC X 661-74-27, January 1974). The catalog contains plots for about 185 events, with an "event" defined as an increase in the 20- to 80-MeV proton flux that exceeds 0.0001 protons/(sq cm s sr MeV) and lasts for more than 5 h. The minimum increase over this energy range corresponds to about 5% of the total galactic cosmic ray flux at 1 AU. The data are presented as hourly averaged fluxes (10 days per page) for three proton energy intervals (0.9 to 1.6, 6 to 20, and 20 to 80 MeV) and for one electron interval (0.5 to 1.1 MeV). Electron onset times are specified with indicated uncertainties between 3 and 30 min. Proton onset times are specified for events with no discernible electron increases. Data gaps associated with perigee passes and occasional saturation periods are clearly marked.

Data set name - 2.73-MIN COINCIDENCE MODE AND PROTON ELECTRON, AND ALPHA COUNT RATES ON TAPE

NSSDC ID 67-051A-10B, 2.73-MIN COUNT RATES ON TAPE

Time period covered - 05/24/67 TO 05/03/69

Quantity of data - 6 REELS OF TAPE

This experimenter-supplied data set contains medium energy cosmic ray count rates on 9-track, 1600-bpi, binary magnetic tape written by an IBM 360 computer. Each physical record contains 10 logical records of 408 bytes (all the data for one 2.73-min telemetry sequence). Each logical record contains the time in year, month, day, and hour; ephemeris data; count rates for the medium energy detector; and quality flags for the count rates. These tapes also contain data from data set 67-051A-09B.

Data set name - 6-HOUR AVERAGED DIFFERENTIAL PROTON FLUXES DETERMINED AT 10 DISCRETE ENERGIES

NSSDC ID 67-051A-10C, 6-HR AVGD PROTON FLUXES, MFILM

Time period covered - 05/24/67 TO 04/30/69

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set consists of 6-h averaged proton flux data listed on one reel of 16-mm microfilm. Data consist of 6-h averaged differential proton fluxes determined at 10 discrete energies. Fluxes obtained in the indicated energy bins were divided by the bin width. The statistical uncertainty in each flux is also given. Note that saturation occurs in the upper six energy channels for the peaks of the 05/24/67, 11/18/68, and 04/11/69 events. Note that the "IMP 5" written at the top of each frame should be "IMP 4," and the "1 hour" written on the second line of each frame should be "6 hour." This microfilm reel also contains data from data set 67-051A-10-09C.

IMP-F, NESS
TRIAXIAL FLUXGATE MAGNETOMETER

Data set name - 20-SEC AVERAGED VECTOR MAGNETIC FIELD DATA ON TAPE

NSSDC ID 67-051A-11A, 20-SEC MAG FLD VECTORS, MAG TAPES

Time period covered - 05/24/67 TO 12/06/68

Quantity of data - 13 REELS OF TAPE

This experimenter-supplied data set consists of 20.45-s-averaged vector magnetic field data on 9-track, 800-bpi, IBM 360 binary magnetic tapes. Each physical record contains 280 logical records, and each logical record contains 27 4-byte data words. Each tape contains data for 10 orbits (43 days). The magnetic field data found in any one logical record represents a 20.45-s average over eight individually measured vector magnetic fields. These averages were performed by the experimenter in his data analysis sequence. The magnetic data include field magnitude; field vector latitude and longitude in GSE and GSM coordinates; and standard deviations of the GSE X, Y, and Z components (but not the components themselves). Each logical record also contains time, spacecraft position in GSE and GSM Cartesian coordinates, geomagnetic latitude of the sun, and a data quality flag. The plasma data are available for only the first 58 orbits of the IMP-F flight and include proton density, temperature, velocity, flow direction, ratio of bulk velocity to thermal speed, and alpha particle density and velocity. Also on this tape are some merged 3-min average bulk plasma data from data set 67-051A-08B.

Data set name - 20 SEC AVERAGED MAGNETIC FIELD VECTORS ON MICROFILM

NSSDC ID 67-051A-11B, 20 SEC MAG FLD VECTORS, MFILM

Time period covered - 05/24/67 TO 03/07/69

Quantity of data - 3 REELS OF MICROFILM

This experimenter-supplied data set consists of 20-s averaged magnetic field vector data on reels of 35-mm microfilm. Each frame contains 6 h of data. Points representing field magnitude and field vector polar and azimuthal angles in GSE or GSM coordinates are given each 20 s. Spacecraft ephemeris data are listed once each hour. The data coverage is complete between launch and the loss of solar aspect information on March 4, 1969.

Data set name - MULTI-SPACECRAFT HOURLY AVERAGED INTERPLANETARY MAGNETIC FIELD VECTORS ON TAPE

NSSDC ID 67-051A-11C, MULTI-S/C HR AVG IMF VECTORS, TAPE

Time period covered - 05/24/67 TO 12/27/68

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set was generated from IMP-C, -D, -E, and -F data to provide a record, as nearly complete as possible, of the interplanetary magnetic B field, with 1-h time resolution, over the period from June 1965 through December 1968. The data were submitted on one 9-track, 800-bpi, EBCDIC card image magnetic tape. Each card image contains data for 1 h, as obtained on one spacecraft. No 1-h time period is covered by more than one spacecraft. Each record contains time; spacecraft identification and location (radial distance and GSE Cartesian coordinates), and hourly averaged magnetic field vector magnitude, GSE latitude and longitude angles, and Cartesian components with their standard deviations. This data set is identical to each of the data sets 65-042A-02I, 66-058A-01D, and 67-070A-04C.

Data set name - 2.5-SEC MULTICOORDINATE MAGNETIC VECTORS ON TAPE

NSSDC ID 67-051A-11D, 2.5 SEC MAG FLD VECTRS, MAG TAPES

Time period covered - 05/24/67 TO 02/10/69

Quantity of data - 136 REELS OF TAPE

This experimenter-supplied data set consists of 2.5-s averaged magnetic field vector data taken during one spacecraft orbit (4.3 days) on 9-track, 800-bpi, IBM 360, binary magnetic tape. Each physical record contains a four-byte control word and 16 logical records. Each logical record contains a four-byte control word and 307 four-byte data words for one telemetry sequence (20.48 s). Data found in each logical record include time, spacecraft position (radial distance, geodetic and geomagnetic latitude and longitude, and GSE and GSM X, Y, and Z), and magnetic field data (as measured by each of the three sensors eight times and converted to nonrotating payload, GSE, and GSM coordinates). For each of the three latter coordinate systems, individually measured magnetic vectors (2.5-s resolution) and sequence-averaged vectors (20-s resolution) are given in terms of both Cartesian components (with standard deviations for the averages) and magnitude and polar and azimuthal angles. The data coverage is complete except for the following 1968 gaps: January 1 to 4, January 26 to February 3, May 9 to 18, May 22 to 26, April 13 to 17, October 24 to 29, and December 7 to 11. Another experimenter-generated data set (67-051A-11A), with 10 orbits of data per tape, contains the 20-s averaged data but not this 2.5-s vector data.

IMP-F, OGILVIE
ELECTROSTATIC ANALYZER

Data set name - REDUCED ENERGY SPECTRUM DATA WITH DERIVED PLASMA PARAMETERS ON MICROFILM

NSSDC ID 67-051A-08A, ENERGY SPECTRA + PLASMA PARAMS

Time period covered - 05/27/67 TO 01/30/68

Quantity of data 5 REELS OF MICROFILM

This experimenter-supplied data set contains solar proton data on reels of 35-mm microfilm and one reel of 16-mm microfilm. Data listed include reduced velocity step counts (energy spectra), the location number of the 22.5-deg sector where maximum counts were recorded, an indication of the azimuthal angular spread in the incoming flux of particles, derived plasma fluid parameters for each energy spectra, ephemeris information, and the thermal speed to convection speed ratio. Data are given separately for both protons and alpha particles. The time between each spectra is 3 min, with the time to acquire one spectra being 1 min. The plasma parameters were derived by fitting a series of convected Maxwellian distribution functions to the velocity step spectrum, considering three points at a time. The resulting distribution function was used to calculate the density, mean velocity, and temperature by the method of moments. Data are available with 95% coverage from May 27, 1967, to January 30, 1968.

Data set name - 3-MIN PLASMA PARAMETERS MERGED WITH 20-S MAGNETIC FIELD DATA ON TAPE

NSSDC ID 67-051A-08B, 3-MIN PLASMA PARAMETERS, MAG TAPE

Time period covered - 05/24/67 TO 02/08/68

Quantity of data - 6 REELS OF TAPE

This experimenter-supplied data set contains 3.07-min values of bulk plasma parameters on 9-track, 800-bpi, IBM 360, binary magnetic tape. Each physical record contains 280 logical records, and each logical record contains 27 four-byte data words. Each tape contains data for 10 orbits (43 days). Merged with the plasma parameter data are 20.45-s magnetic field data from data set 67-051A-11A. Density, temperature, bulk velocity, ratio of bulk velocity to thermal speed, and flow direction are included for both the proton and alpha particle components of the solar wind and sheath plasma. These parameters were computed by fitting an appropriate smooth curve through all the measured spectral points sufficiently above threshold and then taking moments of this empirical distribution function.

Data set name - HOURLY AVERAGED PLASMA PARAMETER DATA ON MAGNETIC TAPE

NSSDC ID 67-051A-08C, HOURLY AVERAGED PLASMA DATA

Time period covered - 06/03/67 TO 12/02/67

Quantity of data - 1 REEL OF TAPE

This data set contains hourly averaged plasma data on one 9-track, 800 bpi, binary magnetic tape recorded on an IBM 360/75 computer. Each logical record contains 160 bytes and each physical record contains a maximum of 32,000 bytes. Data include density, temperature, velocity, beta [defined as nkT/(Bee2/8 pi)], energy density, pressure, V x B electric field, and spacecraft location parameters in ecliptic coordinates (which are used for quality control of the averages).

IMP-F, SIMPSON
COSMIC-RAY PROTON (R VS DE/DX)

Data set name - TELESCOPE ACCUMULATOR READINGS ON MAGNETIC TAPE

NSSDC ID 67-051A-03A, RATES FOR ALL NONOVERLAP SEQ.

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 6 REELS OF TAPE

This data set contains cosmic ray telescope accumulator count data on 7-track, 800-bpi, binary magnetic tapes written by an XDS 930 computer. Data set 67-051A-03F is an IBM 7094 version of this data set. The data are ordered by satellite orbit revolution number with 30 files on each tape, except for the last one, which contains 14 files. Each file on the tapes contains accumulator count data for one orbit and has a variable number of physical records (containing 816 binary words each). Each physical record has 102 sequences (logical records). Each sequence has eight words and contains detector accumulator counts, distance of satellite from earth, sequence number, and various data quality flags. Accumulator readings are given for each telemetered frame (5.12 s) for all nonoverlapped sequences (20.48 s) that contain at least one frame and for which data quality is considered good or fair.

Data set name - PULSE HEIGHT ANALYZER EVENT SUMMARIES (NONOVERLAP), ON MAGNETIC TAPE

NSSDC ID 67-051A-03C, PHA EVENT SUMMARIES (NONOVERLAP)

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 9 REELS OF TAPE

This data set consists of cosmic ray telescope pulse height analyzer data on 7-track, binary magnetic tapes written at 800 bpi using an XDS 930 computer. The data set contains all nonoverlapped, good or fair quality, nonduplicate pulse height analysis events from the three 256 channel pulse height analyzers. The output from these analyzers was obtained for one incident particle every 5.12 s. The data are ordered by satellite orbit revolution number, with 20 files on each tape except for the last one, which has four files. Each file on the tape contains pulse height analysis data for one orbit. There are a variable number of physical records (each containing 600 binary words) per file. There are three binary words per event and 200 events (logical records) per physical record. In addition, the tapes include the orbit number, range identification, sequence number, and data quality flags.

Data set name - 5-MIN AVERAGED COUNT RATES (NONOVERLAP) ON MAGNETIC TAPE

NSSDC ID 67-051A-03D, 5 MIN AVE COUNT RATES(NONOVERLAP)

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 2 REELS OF TAPE

This data set consists of reduced cosmic-ray telescope counting rate data on 7-track, 800-bpi, BCD magnetic tapes written on an XDS 930 computer. The data are ordered by satellite orbit revolution number with 133 files on the first tape and 64 files on the last tape. Each file contains counting rate data for one orbit. There are a variable number of physical records (each containing 57 33-word BCD logical records) per file. Each logical record contains the counting rates for the cosmic-ray telescope coincidence combinations that correspond to the following energy intervals for protons: 0.8 to 9.6 MeV, 9.6 to 18.8 MeV, 29.5 to 94.2 MeV, and 94.2 to 170 MeV. The counting rates are averaged over 15 sequences (about 5 min) and based on good nonoverlap data. The electron telescope counting rates for the energy interval 80 keV to 450 keV are also included, along with time and distance of the satellite from the earth.

Data set name - COUNT RATE PLOTS, PER SOLAR ROTATION, ON MICROFILM

NSSDC ID 67-051A-03F, CNT RATE PLTS,SOLAR ROTATION,MFLM

Time period covered - 05/24/67 TO 04/25/69

Quantity of data - 1 REEL OF MICROFILM

This data set consists of cosmic-ray telescope (proton and electron) count rates plotted on one reel of 35-mm microfilm. The data plots include the telescope sensor combinations that correspond to the following energy intervals for protons: 0.8 to 9.6 MeV, 9.6 to 18.8 MeV, 29.5 to 94.2 MeV, and 94.2 to 170 MeV. The 16 plots cover the time interval from solar rotation numbers 1831 (May 24, 1967) through 1856 (April 25, 1969). In addition, five plots of E1 electron telescope values, for solar rotation numbers 1831 to 1835 (May 24, 1967, to October 6, 1967), and five plots of E2 values, for solar rotation number 1831 (May 24, 1967, to June 20, 1967), are included. Each plot gives the count rate (logarithmic) vs time (day number) for one solar rotation.

Data set name - DATA SET 67-051A-03A IN IBM 7094 FORMAT, TELESCOPE ACCUMULATOR COUNT RATES

NSSDC ID 67-051A-03F, DATASET-03A IN IBM 7094 FORMAT

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 11 REELS OF TAPE

This data set was generated at NSSDC on 7-track magnetic tapes in an IBM 7094 computer format and is a reformatted form of data set 67-051A-03A (XDS 930 tapes). They are written in binary format at 800 bpi. For data content, see the description for the 67-051A-03A data set.

Data set name - IBM 7094 FORMATTED VERSION OF PULSE HEIGHT ANALYZER EVENT SUMMARY DATA SET 03C

NSSDC ID 67-051A-03C, DATA SET-03C IN IBM 7094 FORMAT

Time period covered - 05/24/67 TO 05/02/69

Quantity of data - 17 REELS OF TAPE

This data set was generated at NSSDC on magnetic tapes in an IBM 7094 computer format and consists of a reformatting of the experimenter's data set 67-051A-03C (XDS-930 tapes). The 7-track tapes are written in binary format at 800 bpi. For data content, see the description for the 67-051A-03C data set.

IMP F, VAN ALLEN
LOW-ENERGY PROTON AND ELECTRON
DIFFERENTIAL ENERGY ANALYZER (LEPEDEA)

Data set name - MOTION PICTURE SURVEY OF THE MAGNETOSPHERE, LEPEDEA FLUX VERSUS ENERGY

NSSDC ID 67 051A 04A, LEPEDEA FLUX VS EN. MOVIE FILM

Time period covered - 06/30/67 TO 07/04/67

Quantity of data - 400 B/W POSITIVE FRAMES

This experimenter-supplied data set contains low-energy proton and electron spectral data on one 400-ft reel of 16 mm movie film. Low-Energy Proton and Electron Differential Energy Analyzer (LEPEDEA) data are displayed for magnetospheric and interplanetary regions during about 4-1/2 days of substantially continuous satellite observations from 0520 UT on June 30, 1967, to 1912 UT on July 4, 1967. During this period, the local time of apogee was about 1/00 h. Each movie frame contains a graph of the observed energy spectra (from .03 to 50 keV) of protons and electrons separately for a given time and point in space. A pictorial representation of the satellite's position with respect to the sun, earth, and its magnetosphere is also given on each frame.

Data set name - LEPEDEA COUNT RATES AND FLUXES ON BCD MAGNETIC TAPE

NSSDC ID 67 051A-04B, LEPEDEA COUNT RATES ON MAG TAPE

Time period covered - 05/26/67 TO 06/17/68

Quantity of data - 35 REELS OF TAPE

This experimenter-supplied data set contains low-energy proton and electron count rate data on 7-track, 800-bpi, BCD magnetic tapes. Each record contains data for one full Low-Energy Proton and Electron Differential Energy Analyzer (LEPEDEA) cycle (5.8 min). Each tape contains about 12 days of data. These data include count rates for each of 15 energy windows for each of four angular sectors. The data also contain energy bandpass fluxes and integral fluxes for each sector, energy window, and species. Sectored Geiger-Mueller tube count rates and background LEPEDEA count rates are also given. Supporting data found in each record include LEPEDEA look-direction information and spacecraft ephemeris information. Look-direction information consists of right ascension and declination given in GSM, GSE, and geocentric equatorial inertial coordinate systems. The angle between the magnetic vector and the field of view is also given. Spacecraft ephemeris information includes geographic latitude, longitude, and radial distance; B, L, and related variables; right ascension and declination; GSM, GSE, and celestial inertial coordinates; and geographic and geomagnetic local times. Further data relate to spacecraft spin rate and direction, sun direction, housekeeping parameters, etc.

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********** IMP-G **********
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Data set name - GSE AND GSM PROJECTION AND PERSPECTIVE PLOTS ON MICROFILM

NSSDC ID 69-053A-00D, SOL ECL + SOL MAGNSPH ORBIT PLOTS

Time period covered - 06/21/69 TO 08/25/70

Quantity of data - 1 REEL OF MICROFILM

This data set consists of ephemeris data shown in GSE and GSM coordinates for the orbits of Explorer 41 plotted on one reel of 35-mm microfilm. The X-Y, X-Z, and Y-Z projections are available for both coordinate systems. The X-Y GSE projection shows the computed average position of the bow shock as computed by Dr. D. Fairfield of GSFC. Two three-dimensional perspectives are also available for each coordinate system for each orbit. Every plot shows one full orbit curve and tabular listings of the orbit number, apogee, perigee, start time, stop time, coordinate system, and projection or perspective for the orbit. An asterisk is used to mark the first noon or midnight (UT) encountered, with tick marks used at successive 12-hour points.

Data set name - U. OF CHICAGO MULTICOORDINATE SYSTEM EPHEMERIS TAPES

NSSDC ID 69 053A 00E, CHICAGO MULTI-COORD EPHEM TAPES

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 9 REELS OF TAPE

This data set consists of multicoordinate system ephemeris data on nine 7 track, 800-bpi, binary tapes using XDS 930 integer format. The tapes were generated by personnel at the University of Chicago. Each physical record consists of 40 logical records of 25 words each. End-of-file marks separate orbits, and a double end-of-file mark ends each tape. Ephemeris points (logical records) are given at 61.44-s intervals. Data presented include time, pseudosequence count, the satellite's radial distance, geographic and geomagnetic latitude and longitude, geocentric solar-magnetospheric coordinates, satellite-earth-sun angle, speed, B and L, B/Bo, and the GSE components of the GSFC model geomagnetic field (12/66) as updated to 1965. There are no known significant data gaps.

Data set name - GSFC TRAJECTORY PLOTS, SOLAR ECLIPTIC PROJECTIONS

NSSDC ID 69 053A 00G, SOLAR ECLIPTIC EPHEM PLOTS MFICHE

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 1 CARD OF B/W MICROFICHE

This data set provides ephemeris information for IMP-G on microfiche. The data are extracted from the publication "Trajectories of Explorers 33, 35, 41, 43, and 47, May 1969 - December 1972," written by D. H. Fairfield, K. W. Behannon, R. P. Lepping, and N. F. Ness (NASA-GSFC X-692-73-291, October 1973), which contains the ecliptic plane projections of all 381 orbits of Explorer 41. The plots are not useful for detailed studies, but they are useful in indicating the orbital phase of the spacecraft on a given day and showing where apogee is in local time. In addition, one plot is given to show the GSE X-Z projections of four orbits with 1-year spacing.

IMP-G, ANDERSON
ION CHAMBER

Data set name - IONIZATION CHAMBER AND DIRECTIONAL GEIGER-MUELLER TUBE COUNT RATES ON TAPE

NSSDC ID 69-053A-02A, ION CHAMBER + GM COUNTS, MAG.TAPE

Time period covered - 06/21/69 TO 02/18/72

Quantity of data - 54 REELS OF TAPE

This experimenter-supplied data set contains ionization chamber pulse rates and six Geiger-Mueller (GM) tube count rates on 54 7-track, 556-bpi, binary, odd-parity magnetic tapes written by a CDC 6600 computer. There are a variable number of files per tape with an end-of-file mark at the end of each file and an end-of-file mark at the end of each tape. Each file contains a variable number of physical records and covers a 24-h period. Each physical record is 121 words in length and contains 12 sets of samplings of the 40.96-s averaged ionization chamber pulse rates (c/s) and GM tube count rates (c/s), day, and time (UT). Each physical record ends with the following additional information: orbit day, time (UT), geomagnetic latitude, satellite altitude, the position of the satellite in GSE and GSM coordinates, McIlwain's L parameter, GSE longitude, and GSM latitude. Each tape contains five orbits of data. The data were checked by the experimenter for timing consistency, and redundant data caused by receiving station overlaps were deleted. All rates have been dead-time corrected. This data set contains all the investigator's nonredundant reduced data for the time period indicated, and represents almost 100% time coverage except for the period November 12, 1971, to February 1, 1972.

Data set name - 40-SEC AVERAGED ELECTRON AND PROTON COUNT RATES ON MICROFILM

NSSDC ID 69-053A-02B, 40-S AVG COUNT RATES ON MICROFILM

Time period covered - 06/21/69 TO 08/31/72

Quantity of data - 5 REELS OF MICROFILM

This data set contains proton and electron count rate data plotted on five reels of 35-mm microfilm. The 40-s averaged proton and electron count rate plots from the experiment ion chamber and all six Geiger-Mueller (GM) tubes are dead-time corrected, scaled, and in chronological order. Each plot covers a 24-h period, and gives the distance of the spacecraft from the earth, the magnetospheric latitude, and ecliptic longitude of the spacecraft displayed along the horizontal axis. The dates of observation, day number, and orbit number are indicated on each plot. Further documentation on detector characteristics is provided at the beginning of each reel of microfilm. The time coverage is nearly 90%, except for the period from November 16, 1971 to January 31, 1972 where no data are available.

IMP-G, BOSTROM
SOLAR PROTON MONITORING EXPERIMENT

Data set name - HOURLY AVERAGED SOLAR PROTON FLUXES PUBLISHED IN 'SOLAR GEOPHYSICAL DATA'

NSSDC ID 69-053A-07A, SGD PBLSHD HRLY AVGD PROTON FLUXS

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 28 BOOKS OR BOUND VOLUMES

This data set consists of monthly plots and tabular listings of hourly averaged omnidirectional fluxes of protons, with energies above 10, 30, and 60 MeV, in 28 bound volumes or books of various sizes. Data obtained during a given month, through August 1972, were published in "Solar-Geophysical Data (Comprehensive Reports)" with a 6-month lag. For the period beginning September 1, 1972, equivalent Explorer 43 data have been published.

Data set name - COUNT RATES ON ENCYCLOPEDIA TAPES

NSSDC ID 69-053A-07B, COUNT RATES ON ENCYCLOPEDIA TAPES

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 37 REELS OF TAPE

This experimenter-supplied data set contains solar proton and alpha particle count rate data for the entire life of the mission on 9-track, 800-bpi, binary, IBM 360 tapes. Each tape has one file and is blocked with 20 logical records per physical record. Each logical record has 176 32-bit words. ID records and data records are interspersed on the tapes. There is one ID record for a given segment of data as obtained by one tracking station during one spacecraft pass over that station. The logical record contents include time, data quality indicators, dead-time corrected count rates obtained from all the detector readings taken during a 2.73-min interval, and orbit data.

Data set name - EDITED HOURLY AVERAGED COUNT RATES ON MAGNETIC TAPE

NSSDC ID 69-053A-07C, HOURLY AVERAGED COUNT RATES, TAPE

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 1 REEL OF TAPE

This experimenter-supplied data set contains hourly averaged interplanetary proton count rates on one 7-track, 800-bpi, binary, IBM 360 magnetic tape. Each logical record consists of 3120 8-bit bytes and contains data for 1 day. There are six logical records per physical record, and one file for each calendar year of data on the tape. Data given within each logical record include time, ephemeris data, and hourly averaged count rates for each of the five experiment counting modes. These rates have been thoroughly edited in that noise points and magnetospheric counting have been removed. Recognizably interpolated interplanetary count rate values have been inserted for magnetospheric traversal periods. The time coverage is essentially complete from June 21, 1969 to December 23, 1972 except for the period of restricted spacecraft operation (November 15, 1971 through February 1, 1972). When taken together with the corresponding data set from IMP-F (67-051A-07D), these data provide a nearly continuous record of 1 to 100 MeV interplanetary proton fluxes from May 1967 to December 1972.

IMP-G, BROWN
LOW-ENERGY SOLID-STATE TELESCOPE

Data set name - PARTICLE COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 69-053A-01A, REDUCED COUNT RATES ON TAPE

Time period covered - 06/21/69 TO 03/23/72

Quantity of data - 53 REELS OF TAPE

This experimenter-supplied data set consists of cosmic ray count rate data interspersed with ephemeris data on 53 7-track, 800-bpi, GE 635 binary magnetic tapes. Data set 69-053A-01C contains an IBM 7094 version of this data set. The data records consist of 10 36-bit computer words, with each word being further broken down into integer numbers of specified meanings. Data for one experiment sequence (10.23 s) are found in one record and include: (1) time (UT) clock data, (2) counts for each of the five registers for one sensor coincidence mode, and (3) data quality flags related to the noisiness of bit transmission. The ephemeris records consist of 20 36-bit words, 19 of which are floating point. Ephemeris records occur once each 1 or 10 min according to whether the spacecraft radial distance is less than or greater than 42,000 km. Ephemeris data include spacecraft radial distance, geographic latitude and longitude, inertial ecliptic declination and right ascension, GSE and GSM Cartesian coordinates, and B and L. From June 21, 1969, to August 15, 1970, there are no data gaps greater than 24 h. There is one gap greater than 6 h and seven gaps greater than 2 h.

Data set name - DATA SET 69-053A-01A IN IBM 7094 FORMAT

NSSDC ID 69-053A-01C, DATA SET -01A IN IBM 7094 FORMAT

Time period covered - 06/21/69 TO 08/15/70

Quantity of data - 23 REELS OF TAPE

This data set consists of 556 bpi, 7-track, IBM 7094 binary magnetic tapes generated at NSSDC as a reformatted version of the experimenter-supplied tapes in data set 69-053A-01A.

IMP-G, MCDONALD
LOW-ENERGY PROTON AND ALPHA DETECTOR

Data set name - MICROFILM OF CATALOG OF SOLAR COSMIC-RAY EVENTS (VAN HOLLEBEKE ET AL, X-661-74-27)

NSSDC ID 69-053A-09A, SOLAR C.R. EVENT CATALOG, MFILM

Time period covered - 09/09/69 TO 11/29/72

Quantity of data - 1 REEL OF MICROFILM

This data set consists of solar cosmic ray event data plotted on one reel of 35-mm microfilm. The data set is a microfilmed version of the document "A Catalog of Solar Cosmic Ray Events - IMPs 4 and 5 (May 1967 - December 1972)," by M. A. Vanhollebeke, J. R. Wang, and F. B. McDonald (GSFC X-661-74-27, January 1974). The catalog contains plots for about 185 events, with an "event" defined as an increase in the 20- to 80-MeV proton flux which exceeds 0.0001 protons/(sq cm-s-sr-MeV) and lasts for more than 5 hours. The minimum increase over this energy range corresponds to about 5% of the total galactic cosmic-ray flux at 1 AU. The data are presented as hourly-averaged fluxes (10 days per page) for three proton energy intervals (0.9 to 1.6, 6 to 20, and 20 to 80 MeV) and for one electron interval (0.5 to 1.1 MeV). Electron onset times are specified with indicated uncertainties between 3 and 30 min. Proton onset times are specified for events with no discernible electron increases. Data gaps associated with perigee passes and occasional saturation periods are clearly marked.

Data set name - 2.73 MIN COINCIDENCE MODE AND PROTON, ELECTRON, AND ALPHA COUNT RATES ON TAPE

NSSDC ID 69-053A-09B, 2.73 MIN COUNT RATES ON TAPE

Time period covered - 06/21/69 TO 11/29/72

Quantity of data - 12 REELS OF TAPE

This experimenter-supplied data set contains cosmic ray count rate data on 9-track, 1600 bpi, binary magnetic tapes written on an IBM 360 computer. Each physical record contains 10 logical records of 408 bytes, all the data for one 2.73-min telemetry sequence. Each logical record contains time; ephemeris data; count rates for low-, medium-, and very low energy dectectors; and quality flags for the count rates.

IMP-G, MCDONALD
COSMIC-RAY ENERGY VS ENERGY LOSS

Data set name MICROFILM OF CATALOG OF SOLAR COSMIC RAY EVENTS (VAN HOLLEBEKE ET AL, X 661 74 27)

NSSDC ID 69 053A 10A, SOLAR C.R. EVENT CATALOG, MFILM

Time period covered 09/09/69 TO 11/29/72

Quantity of data 1 REEL OF MICROFILM

This data set consists of solar cosmic ray event data plotted on one reel of 35-mm microfilm. The data set is a microfilmed version of the document "A Catalog of Solar Cosmic Ray Events IMPs 4 and 5 (May 1967 - December 1972)," by M. A. Vanhollebeke, J. R. Wang, and F. B. McDonald (GSFC X-661-74-27, January 1974). The catalog contains plots for about 185 events, with an "event" defined as an increase in the 20- to 80 MeV proton flux which exceeds 0.0001 protons/(cm sq s sr MeV) and lasts for more than 5 hours. The minimum increase over this energy range corresponds to about 5% of the total galactic cosmic-ray flux at 1 AU. The data are presented as hourly averaged fluxes (10 days per page) for three proton energy intervals (0.9 to 1.6, 6 to 20, and 20 to 80 MeV) and for one electron interval (0.5 to 1.1 MeV). Electron onset times are specified with indicated uncertainties between 3 and 30 min. Proton onset times are specified for events with no discernible electron increases. Data gaps associated with perigee passes and occasional saturation periods are clearly marked.

Data set name 2 73 MIN COINCIDENCE MODE AND PROTON, ELECTRON, AND ALPHA COUNT RATES ON TAPE

NSSDC ID 69 053A 10B, 2 73 MIN COUNT RATES ON TAPE

Time period covered 06/21/69 TO 11/29/72

Quantity of data 12 REELS OF TAPE

This experimenter supplied data set contains cosmic-ray count rate data on 9-track, 1600 bpi, binary magnetic tapes written on an IBM 360 computer. Each physical record contains 10 logical records of 408 bytes, all the data for one 2.73 min telemetry sequence. Each logical record contains time; ephemeris data; count rates for low-, medium-, and very low energy dectectors; and quality flags for the count rates.

IMP-G, NESS
TRIAXIAL FLUXGATE MAGNETOMETER

Data set name - 20-SEC AVERAGED VECTOR MAGNETIC FIELD DATA ON MICROFILM

NSSDC ID 69-053A-11A, 20 SEC MAG FLD VECTORS, MFILM

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 8 REELS OF MICROFILM

This experimenter-supplied data set contains 20-s averaged magnetic field vector data on eight reels of microfilm. The microfilm shows 6 hours of data per frame. Points representing field magnitude and field vector's polar and azimuthal angles in GSE or GSM coordinates are given each 20 seconds. Spacecraft ephemeris data are listed once each hour. The data coverage is complete except for a gap from November 15, 1971 to January 31, 1972.

Data set name - 2.5-SEC MULTICOORDINATE MAGNETIC FIELD VECTORS ON TAPE

NSSDC ID 69-053A-11B, 2.5 SEC MAG FLD VECTRS, MAG TAPES

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 367 REELS OF TAPE

This experimenter-supplied data set contains 2.5 s resolution multi-coordinate magnetic field vector data on 9-track, 800-bpi, IBM 360 binary magnetic tapes. Each tape contains data taken during one spacecraft orbit (3.3 days). Each physical record contains a four-byte control word and 16 logical records. Each logical record contains a four-byte control word and 307 four-byte data words for one telemetry sequence (20.48 s). Data found in each logical record include time, spacecraft position (radial distance, geodetic and geomagnetic latitude and longitude, and GSE and GSM X, Y, and Z), and magnetic field data (as measured by each of the three sensors eight times, and converted to non-rotating payload, GSE, and GSM coordinates). For each of the three latter coordinate systems, individually measured magnetic vectors (2.5-s resolution) and sequence-averaged vectors (20-s resolution) are given in terms of their Cartesian components (with standard deviations for the averages) and magnitude with polar and azimuthal angles.

IMP G, SIMPSON
COSMIC-RAY PROTON (R VS DE/DX)

Data set name TELESCOPE ACCUMULATOR READINGS ON MAGNETIC TAPE

NSSDC ID 69-053A-03A, RATES FOR ALL NONOVERLAP SEQUENCE

Time period covered 06/21/69 TO 10/14/72

Quantity of data - 13 REELS OF TAPE

This data set contains accumulator readings for each telemetered frame (5.12 s) of each nonoverlapped sequence (20.4545 s) which contains at least one frame whose data quality is considered good or fair. The data are contained on thirteen 7-track, 800-bpi, binary, magnetic tapes written on an XDS 930 computer. The data are ordered by satellite orbit revolution number with 30 files per tape. Each file contains accumulator count data for one orbit. There are a variable number of physical records (containing 816 binary words each) per file, and there are eight words (24 bits each) per sequence and 102 sequences (logical records) per physical record. An end-of-file mark terminates each file, and a double end-of-file mark terminates the last orbit of each tape. Each sequence contains detector accumulator counts, distance of the satellite from the earth, sequence number, and various data quality flags.

Data set name - PULSE HEIGHT ANALYZER EVENT SUMMARIES ON MAGNETIC TAPE

NSSDC ID 69-053A-03B, PHA EVENT SUMMARIES (NONOVERLAP)

Time period covered 06/21/69 TO 12/23/72

Quantity of data - 20 REELS OF TAPE

This data set contains cosmic-ray telescope pulse height analyzer data on twenty 7-track, 800 bpi, binary, magnetic tapes written on an XDS 930 computer which uses 24-bit words. The data are ordered by satellite orbit revolution number with 20 files per tape. Each file contains pulse height analysis data for one orbit. There is a variable number of physical records (each containing 600 binary words) per file. There are three binary words per event and 200 events (logical records) per physical record. Each logical record contains the pulse

height analysis data from detector elements D1, D2, and D4 for the telescope coincidence combinations corresponding to proton energies of 0.8 to 8.45 MeV, 8.45 to 18.7 MeV, 18.7 to 30.9 MeV, 30.9 to 94.8 MeV, 94.8 to 119 MeV, and > 119 MeV. In addition, the orbit number, angular sector and range identifications, sequence number, and data quality flags are given. The data set contains all the nonoverlapped, good or fair quality, nonduplicate pulse height analysis event data from two 256-channel and one 512-channel pulse height analyzers. The output from these analyzers was obtained for one incident particle event every 5.12 s.

Data set name - 5-MIN AVERAGED COUNT RATES (NONOVERLAP) ON MAGNETIC TAPE

NSSDC ID 69-053A-03C, 5-MIN AVE COUNT RATES(NONOVERLAP)

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 4 REELS OF TAPE

This data set consists of reduced cosmic-ray telescope counting rates averaged over 15 sequences (about 5 min) and based on nonoverlapped good data. The data are contained on 7-track, 800-bpi, blocked bcd magnetic tapes written on an XDS 930 computer (24 bit words). The data are ordered by satellite orbit revolution number with 100 files per tape. Each file on the tape contains counting rate data for one orbit. There is a variable number of physical records (each containing fifty-seven 33-word bcd logical records) per file. Each logical record contains the counting rates for the cosmic-ray telescope coincidence combinations which correspond to the following energy intervals for protons: 0.8 to 8.45 MeV, 8.45 to 18.7 MeV, 30.9 to 94.8 MeV, 94.8 to 119 MeV, and > 119 MeV. In addition, the format includes the time, Chicago sequence count, satellite geocentric distance, analog rate meter output (D5/D6), temperature of the telescope, and data quality flags.

Data set name - COUNT RATE PLOTS, PER SOLAR ROTATION, ON MICROFILM

NSSDC ID 69-053A-03D, CNT RATE PLTS,SOLAR ROTATION,MFLM

Time period covered - 06/21/69 TO 12/23/72

Quantity of data - 1 REEL OF MICROFILM

This data set contains computer-generated Calcomp plots of experiment-mode count rates vs time on microfilm. Each plot covers a 30-day interval beginning on the first day of each 27-day Bartels solar rotation. Data begin in rotation 1859 (June 12, 1969) and end in rotation 1906 (December 23, 1972). Coverage is essentially complete, except for the November 16, 1971 through February 2, 1972 period which is poorly covered. Individual points plotted are 15 min averaged rates. Proton energy intervals represented in the rates are 0.78-8.45, 8.45-18.7, 30.9-94.8, 94.8-119 MeV, and greater than 119 MeV.

IMP-G, VAN ALLEN
LOW-ENERGY PROTON AND ELECTRON
DIFFERENTIAL ENERGY ANALYZER (LEPEDEA)

Data set name - LEPEDEA COUNT RATES AND FLUXES ON BCD MAGNETIC TAPE

NSSDC ID 69-053A-04A, LEPEDEA COUNT RATES ON MAG TAPE

Time period covered - 06/28/69 TO 08/19/70

Quantity of data - 32 REELS OF TAPE

This experimenter-supplied data set contains low-energy proton and electron differential energy analyzer data on 7-track, 800-bpi, bcd magnetic tapes. Each tape contains about 12 days of complete LEPEDEA data. Each record contains data for one full LEPEDEA cycle (5.8 min). These data consist of count rates for protons and electrons for each of 15 energy windows for each of four angular sectors. The data also contain energy bandpass fluxes and integral fluxes for each sector, energy window, and species. Sectored Geiger-Mueller tube count rates and background LEPEDEA count rates are also given. Supporting data found in each record include LEPEDEA look-direction information and spacecraft ephemeris information. Look-direction information is given in GSM, GSE, and geocentric equatorial inertial coordinate systems. The angle between the magnetic vector and the field of view is also given. Spacecraft ephemeris information includes geographic latitude, longitude, and radial distance; B, L, and related variables; right ascension, and declination; GSM, GSE, and celestial inertial coordinates; and geographic and geomagnetic local times. Additional data include spacecraft spin rate and direction, sun direction, and housekeeping parameters.

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********** IMP-H **********
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Data set name - GSFC TRAJECTORY PLOTS, SOLAR ECLIPTIC PROJECTIONS

NSSDC ID 72-073A-00D, SOLAR ECLIPTIC EPHEM PLOTS MFICHE

Time period covered - 09/26/72 TO 04/06/73

Quantity of data - 1 CARD OF B/W MICROFICHE

This ephemeris data set contains trajectory plots for IMP-H (Explorer 47) orbits on microfiche. The data set is from The publication "Trajectories of Explorers 33, 35, 41, 43, and 47, May 1969 - December 1972," written by D. H. Fairfield, K. W. Behannon, R. P. Lepping, and N. F. Ness (NASA GSFC X-692-73-291, October 1973) which contains the ecliptic plane projections of the Explorer 47 orbits from September 26, 1972 (shortly after launch) to December 31, 1972. The document also contains a list of dates (through April 6, 1973) when the spacecraft GSE azimuthal angle was 0, 90, 180, or 270 deg.

Data set name - LIST OF DATE/TIMES OF SOLAR ORIENTATION ERROR PLUS SUPPORTING DATA, ON MICROFILM

NSSDC ID 72-073A-00E, SOLAR ORIENTATION ERRORS, MFILM

Time period covered - 09/28/72 TO 11/04/74

Quantity of data - 4 REELS OF MICROFILM

This data set lists, in chronological order, the dates and times when the solar orientation system of the IMP-H spacecraft generated erroneous data. The data is on four reels of 16-mm microfilm. It is designed to enable users of data from various sectored experiments to ascertain whether their data is affected.

Data set name - LIST OF DATES/TIMES OF SOLAR ORIENTATION ERRORS PLUS SUPPORTING DATA, ON TAPE

NSSDC ID 72-073A-00F, SOLAR ORIENTATION ERRORS TAPE

Time period covered - 09/28/72 TO 11/04/74

Quantity of data - 13 REELS OF TAPE

This data set provides a chronological list of dates and times when the solar orientation system of the IMP-H spacecraft generated erroneous data. The data is on thirteen 7-track, bcd magnetic tapes. It is designed to enable data users from various sectored experiments to determine if their data is affected.

Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 72-073A-00G, PREDICTED ORBIT PLOTS

Time period covered - 09/25/72 TO 12/31/78

Quantity of data - 4 REELS OF MICROFILM

This data set, on 16-mm microfilm, contains plots of predicted spacecraft positions in each of three coordinate systems for each orbit of the spacecraft. The plots show the spacecraft orbit (1) rotated into the GSE X-Y plane, (2) projected onto the GSM Y-Z plane, and (3) plotted in magnetic latitude vs magnetic local time. The GSE plot also shows the average position of the bow shock and the magnetopause, and the GSM plot shows the model neutral sheet GSM Z values at 0, 4, 8, 12, 16, and 20 hours UT averaged over the days of the plot. On each plot there is an independent set of about 20 numbered ticks drawn on the curve, and a listing of time and position information for each tick is given below the plot. The listing on the GSE plot includes the spacecraft latitude, and those on the GSM and magnetic coordinate plots include the spacecraft geocentric radius. These plots and listings were generated at NSSDC.

IMP-H, BAME
SOLAR PLASMA ELECTROSTATIC ANALYZER

Data set name - SOLAR WIND THREE HOUR AVG. PLASMA PARAMETERS FROM IMP I, J, AND H

NSSDC ID 72-073A-10A, MERGED IMP I,H,J 3 HR PLASMA PARM

Time period covered - 09/23/72 TO 12/31/74

Quantity of data - 1 REEL OF TAPE

This data set consists of 3-h averaged plasma parameter data on 800-bpi, 9-track, EBCDIC magnetic tape recorded on an IBM 360 computer. The data have physical records of 136 bytes and contain four logical records of 29 bytes each and 20 bytes of zeroes added at the end. Each logical record contains year, month, day, average count, density (1/cc), velocity (km/s), and temperature (deg K). Also contained on the same tape are data for IMP-I and -J.

Data set name - MERGED IMP-H AND -J HOURLY AVERAGED SOLAR WIND PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-10B, H,J MERGED HRLY SOLAR WIND PLASMA

Time period covered - 01/01/75 TO 12/31/78

Quantity of data - 4 REELS OF TAPE

These merged, hourly averaged, solar wind plasma data are on 7-track, 800-bpi, binary magnetic tape created on a CDC 6600 computer. The data are hourly averages of the solar wind, proton density, speed, and temperature for IMP-H and -J. Each record contains 500 words, consisting of 125 repetitions of the sequence: time (year, month, day, hour), density (particles/cc), velocity (km/s), and temperature (deg K). The data set is also listed as 73 078A 10B.

IMP-H, BRIDGE
SOLAR PLASMA FARADAY CUP

Data set name - HOURLY AVERAGED SOLAR PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-02A, H,J HOURLY AVGD SOLAR PLASMA,TAPE

Time period covered 01/03/76 TO 01/24/77

Quantity of data 1 REEL OF TAPE

This data set contains hourly averaged solar plasma data on one 7 track, 800 bpi, BCD magnetic tape written on an IBM 360 computer. The records are fixed block with 100 logical records of 106 bytes per physical block. The first file contains data for IMP-J (73 078A 02A), while the second file contains IMP-H data. Each record contains spacecraft name; year; day of year; hour of day; and the average, number of values averaged, and standard deviation for speed, density, and thermal speed

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Data set name HOURLY AVRGD SOLAR WIND PLASMA PARAMETERS PUBLISHED IN 'SOLAR-GEOPHYSICAL DATA'

NSSDC ID 72 073A-02B, SGD PBLSHD HRLY AVGD PLASMA PARAM

Time period covered 08/03/76 TO 10/31/78

Quantity of data - 26 PAGES OF UNBOUND HARDCOPY

This data set contains hourly averaged plasma parameter data (solar wind flow speed, number density, temperature, and most probable thermal speed) shown as hard copy plots. The data set is from information published in the Solar Geophysical Data Bulletin. One month's data are contained in a single plot. Error bars on each point are also included.

Data set name - HIGH RESOLUTION DATA ON TAPE

NSSDC ID 72 073A 02C, SOLAR PLASMA HIGH RESOLUTION

Time period covered - 07/16/77 TO 09/08/77

Quantity of data 2 REELS OF TAPE

This data set consists of two tapes of high time resolution solar wind plasma data. One is a 7 track, 800-bpi tape, and the other is a 9 track, 1600-bpi tape, both written in bcd by IBM 360. They provide 5-s averages of solar wind speed, density, and thermal speed (that represents temperature). Standard deviations are also provided.

IMP-H, FRANK
MEASUREMENT OF LOW-ENERGY PROTONS AND ELECTRONS

Data set name - FULL COLOR SLIDES OF E-T SPECTROGRAMS FOR PLASMA MEASUREMENTS

NSSDC ID 72-073A-04A, COLOR E-T SPECTROGRAMS, SLIDES

Time period covered - 10/13/72 TO 09/17/78

Quantity of data - 1372 COLOR SLIDES

This data set consists of experimenter-supplied, full-color, 35-mm, E-t (energy-time) spectrograms for plasma measurements with the LEPEDEA on board IMP 7. The spectrograms display the detector responses to proton intensities as functions of energy (ordinate) and time (abscissa) for four directions, or sectors, of the instrument fields of view. These detector responses are color coded. The spectrograms also summarize the angular distributions of proton intensities as functions of the directions of the field of view. Also shown are the angular distributions of electron intensities that display the responses of the electron channel of the LEPEDEA, which are averaged over the directions of the fields of view. These observations span an entire day on each slide.

Data set name - LOW ENERGY PROTON AND ELECTRON PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-04B, PLASMA DATA ON TAPE

Time period covered - 07/28/77 TO 12/12/77

Quantity of data - 2 REELS OF TAPE

These experimenter-supplied, 163.84-s plasma data are on 7-track, 800 bpi, binary magnetic tapes created on a Univac 418 computer. A logical record contains 300 Univac 36-bit words. There are 10 logical records per physical block. The data consist of spacecraft identification (7= IMP-H, 8= IMP-J); time in year, day, hour, minute, and second; solar ecliptic and magnetospheric coordinates; energy range flag; magnetic field coordinates; and the following information for both plasma proton and electron data: number and energy flux; number and energy density; average energy; bulk flow velocity; velocity uncertainty; temperature; and percentage of energy coverage. This data set is identical to the set -04C, except that the tape of the latter contains data from different other spacecraft.

Data set name LOW ENERGY PROTON AND ELECTRON 164 SECOND RESOLUTION PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-04C, 164 SEC RESOLUTION PLASMA TP

Time period covered - 12/01/77 TO 12/12/77

Quantity of data 1 REEL OF TAPE

These experimenter-supplied, 163.84 s resolution plasma data are on 7-track, 800-bpi, binary magnetic tape created on a Univac 418 computer. Each logical record of data contains 300 Univac 36-bit words. There are 10 logical records per physical block. The data consist of spacecraft identification; time in year, day, hour, minute, and second; solar ecliptic and magnetospheric coordinates; energy range flag; magnetic field coordinates; and the following information for both plasma proton and electron data: number and energy flux; number and energy density, average energy; bulk flow velocity; velocity uncertainty; temperature; and percentage of energy coverage. This data set is identical to the set -04B, except that the tape of the latter contains data from IMP-H and IMP-J only.

IMP-H, GLOECKLER
IONS AND ELECTRONS IN THE ENERGY RANGE 0.1 TO 2 MEV

Data set name - 10 MIN AVERAGED, 120 KEV PROTON COUNT RATE PLOTS ON MICROFILM

NSSDC ID 72-073A-03A, 10 MIN,120 KEV PROT CT RTES,MFILM

Time period covered 09/27/72 TO 11/01/74

Quantity of data - 2 REELS OF MICROFILM

This data set consists of a microfilmed version of experimenter-supplied plots. Each plot covers one spacecraft orbit (about 12 days) and contains 10-min averaged values of the 120-keV proton count rates.

Data set name - ENCYCLOPEDIA TAPES WITH ALL COUNT RATES

NSSDC ID 72-073A-03B, ALL COUNT RATES ON ENCYCLO. TAPES

Time period covered - 09/25/72 TO 05/09/74

Quantity of data - 32 REELS OF TAPE

This data set consists of experimenter-supplied, 7-track, 800-bpi, IBM 360, binary magnetic tapes. Each tape has a single file and contains, in each physical record, three logical records of 360 words each. Each logical record contains time, all count rate and pulse height data acquired during one 81.92-s interval, spacecraft ephemeris information in geomagnetic coordinates and geocentric solar ecliptic coordinates, position of the moon, spacecraft orientation and spin rate, satellite-earth-sun and satellite-earth-moon angles, and various housekeeping parameters.

Data set name - SUMMARY DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-03C, SUMMARY DATA ON MAG TAPE

Time period covered - 09/25/72 TO 06/06/78

Quantity of data - 11 REELS OF TAPE

These experimenter-supplied, solar ion and electron summary data are on 9 track, 1600 bpi, binary magnetic tapes created on an IBM 360 computer. They contain summaries of counts for eight album periods (about 10.908 minutes at the 1600 bps bit rate and 43.632 minutes at the 400 bps bit rate) and a listing of all Ultra-Low Energy Telescope (ULET) events occuring in those periods. The ULET responds to ions with energy per charge of 35 keV/Q. Logical records are of two types, summary records and ULET event records. Each summary record contains start and stop times in year, day of year, month, day of month, and millisecond of day; spacecraft position in GSE coordinates and other parameters, for the first and last album in the summary record; performance parameter, data quality, and housekeeping information; and count and PHA summaries, along with up to 60 ULET events for an eight-album summary period. If more than 60 ULET events ocurred in the eight album period, the remaining events will be contained in as many ULET event records as necessary (at 240 events per record), immediately following the summary record for that period.

IMP H, KRIMIGIS
CHARGED PARTICLE MEASUREMENTS EXPERIMENT

Data set name - REDUCED DATA TAPES CONTAINING COUNT RATES OF ALL DETECTORS

NSSDC ID 72-073A-08A, ARCHIVE TAPES OF ALL DETECTORS

Time period covered - 09/28/72 TO 08/20/75

Quantity of data - 230 REELS OF TAPE

This data set contains measurements of cosmic and solar X-rays, interplanetary electrons, protons, alphas and some medium Z particles. The data set is stored on 7-track, binary, 800 bpi magnetic tapes generated on an IBM 360 computer. It contains reduced data (counts/s) supplied by the principal investigator. All data from all detectors are included as well as ancillary orbit ephemeris data. All data are corrected for instrumental dead time, etc. Some bad data, occurring when the spacecraft provided an erroneous sun-orientation, are still in the data set (see 72-073A-00E or F for further information).

Data set name - 5.5 MINUTE AVERAGES OF REDUCED DATA

NSSDC ID 72-073A-08B, MASTER SCIENCE TAPES,5.5 MIN AVE.

Time period covered - 09/26/72 TO 10/19/72

Quantity of data - 1 REEL OF TAPE

This data set contains measurements of cosmic and solar X-rays, interplanetary electrons, protons, alphas, and some medium-Z particles. The data set is stored on magnetic tapes generated on an IBM 360 computer. It contains reduced data supplied by the principal investigator. The data are 5.5-min averages of each detector and also include some ephemeris data. Some bad data, occurring when the spacecraft provided an erroneous sun-orientation, are still in the data set and affect the sectored data, although the overall effect is usually negligible. The erroneous orientation times are listed in data set -00E.

Data set name - 10 MIN.-24 HR.AVERAGES OF X-RAY DATA ON MICROFILM

NSSDC ID 72-073A-08C, X-RAY DATA(10-MIN 24-HR AVG)MFILM

Time period covered - 06/12/73 TO 01/22/75

Quantity of data - 16 REELS OF MICROFILM

This data set on 35-mm microfilm, generated from 72-073A 08A, contains only data relevant to X-ray observations. The data contained are: count rates for detectors E1 (4 to 16 A X-rays, protons > 250 keV, and electrons > 15 keV); E2A (1.5 to 12 A X-rays, protons > 500 keV, and electrons > 45 keV); E3 (1.5 to 7.5 A X-rays, protons > 2800 keV, and electrons > 120 keV); E4 (electrons > 220 keV); P4 (1.8 MeV to 4.1 MeV protons); the sum of P4, P5, and P6 (protons between 1.8 and 15 MeV); and the anticoincidencing scintillator, S. The sectored data (E1, E2A, and E3) include only data when the spacecraft solar orientation appeared to be good (i.e., bad data included in 72 073A 08A were deleted when detected). This data set includes averages of the above detectors in 10-min and 1-, 4-, 12-, and 24-h intervals. The date, time covered by the intervals, relative error (1/square-root of total counts), and number of readouts in the average are given as well.

Data set name - 10-MIN TO 24 HOUR AVERAGES OF X RAY DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-08D, 10-MIN TO 24-H AVG X RAY DATA, TP

Time period covered - 09/28/72 TO 01/25/75

Quantity of data - 64 REELS OF TAPE

This data set, generated from 72 073A 08A, contains only data relevant to X-ray observations. The data are on 7-track, BCD, 556 bpi magnetic tapes written by an IBM 7094. The data contained are: count rates for detectors E1 (4 to 16 A X rays, protons > 250 keV, and electrons > 15 keV); E2A (1.5 to 12 A X rays, protons > 500 keV, and electrons > 45 keV); E3 (1.5 to 7.5 A X rays, protons > 2800 keV, and electrons > 120 keV); E4 (electrons > 220 keV); P4 (1.8 MeV to 4.1 MeV protons); the sum of P4, P5, and P6 (protons between 1.8 and 15 MeV); and the anticoincidencing scintillator, S. The sectored data (E1, E2A, and E3) include only data when the spacecraft solar orientation appeared to be good (i.e., bad data included in 72 073A-08A were deleted when detected). This data set includes averages of the above detectors in 10 min and 1-, 4-, 12-, and 24 h intervals. The date, time covered by the intervals, relative error (1/square root of total counts), and number of readouts in the average are also given.

Data set name - SURVEY PLOTS OF ALL DETECTORS, 24 HOURS OF DATA PER PLOT, ON MICROFILM

NSSDC ID 72-073A-08G, 24 HOUR SURVEY PLOTS,ALL DET FILM

Time period covered - 09/26/72 TO 03/11/76

Quantity of data - 5 REELS OF MICROFILM

This data set is reduced data supplied by the PI and is on 16-mm microfilm. The data are a series of plots of flux vs time, with each plot covering 1 day (24 h). Each plot is identified by the year, day number, and satellite (IMP H). The location of the spacecraft at noon (GMT) is given in both solar ecliptic coordinates and solar magnetospheric coordinates. Universal time, in hours, is plotted along the abscissa. Five different plots contain the data for each day. The first plot shows the fluxes of 0.4 MeV protons, 3 MeV protons, 3.5 MeV alphas, and 2 MeV medium Z-particles, in units of the log of the flux in number/(sq cm-s-sr-MeV/nuc). The second plot shows fluxes for detectors E5, E6, GM3, and the I4 telescope in units of the log of the flux in number/(sq cm s sr) for energies above the detector thresholds. The third plot shows the solar X-ray flux in 1 to 11 A, 4 to 16 A, and 2 to 10 A passbands in units of the log of the flux in ergs/sq cm s. The fourth plot shows: (a) the log of the ratio of the count rates of detectors E2B and E2C, (b) and (c) the amplitude and phase of a cosine fit to the 0.4 MeV proton fluxes and 0.2 MeV electron fluxes, (d) the log of the alpha to medium Z particle fluxes (1.6 to 4.3 MeV/nuc), and (e) the log of the ratios of the proton to alpha fluxes (1.74 to 4.3 MeV/nuc). The fifth plot shows the counting rates of the two scintillators used to remove the penetrating particle background from the other detectors.

Data set name - SURVEY PLOTS OF ALL DATA, 2 HOURS OF DATA PER PLOT, ON MICROFILM

NSSDC ID 72-073A-08H, 2-HOUR SURVEY PLOTS,ALL DET.,FILM

Time period covered - 09/26/72 TO 02/13/73

Quantity of data - 20 REELS OF MICROFILM

This data set contains 14 different kinds of plots, nine covering each 2 h of time followed at day end by five 24-h summary plots. All of the 2-h plots are three-dimensional, with time along the oblique axis. There are three directional energy spectra plots: proton flux, four points covering 0.4 to

23 MeV; alpha particle flux, four points over 1 to 9 MeV; and electron flux, four points over 0.1 to 0.8 MeV. These plots are followed by plots of the relative count rates vs the eight spin sectors, with a plot for each detector P1, A1, E1, E2A, E3, and E4. Year, day, and solar ecliptic X, Y, and Z values are printed on each plot. Solar magnetospheric coordinates are given once per day. The five 24-h plots for each day show selected particle fluxes, X-ray energy fluxes, selected ratios, and scintillator counting rates.

Data set name - 12-DAY PLOTS OF PROTONS, ELECTRONS, ALPHAS, MEDIUM Z PARTICLES, + SOLAR X-RAYS

NSSDC ID 72-073A-08I, 12 DAY PLOTS ON MICROFILM

Time period covered - 09/26/72 TO 12/31/73

Quantity of data - 2 REELS OF MICROFILM

This data set contains reduced data supplied by the PI and is contained on 16-mm microfilm. These data are a series of plots of flux vs time, with each plot covering one 12-day period (one orbit). The location of the spacecraft at noon (GMT) on each day is given in solar ecliptic coordinates and by the spacecraft-earth-sun angle. Universal time, in days, is plotted along the abscissa. Five different plots contain the data for each day. The first plot shows the fluxes of 0.4 MeV protons, 3 MeV protons, 3.5 MeV alphas, and 2 MeV medium Z particles, in units of the log of the flux in number/(sq cm s sr MeV/nuc). The second plot shows fluxes for detectors GM1, GM2A, GM3, and the E4 telescope in units of the log of the flux in number/(sq cm-s-sr) for energies above the detector thresholds. The third plot shows the solar X-ray flux in 1 to 11 A, 4 to 16 A, and 2 to 10 A passbands in units of the log of the flux in ergs/sq cm-s. The fourth plot shows (a) the log of the ratio of the count rates of detectors E2B and E2C, (b) and (c) the amplitude and phase of a cosine fit to the 0.4 MeV proton fluxes and 0.2 MeV electron fluxes, (d) the log of the alpha to medium Z particle fluxes (1.6 to 4.3 MeV/nuc), and (e) the log of the ratios of the proton to alpha fluxes (1.74 to 4.3 MeV/nuc). The fifth plot shows the counting rates of the two scintillators used to remove the penetrating particle background from the other detectors.

Data set name HOURLY AVERAGED 1.2, 14.25 MEV PROTON FLUX DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-08J, HR AVG 1-2,14.25 MEV PROT FLX,TPE

Time period covered 08/01/75 TO 05/07/78

Quantity of data 2 REELS OF TAPE

These hourly averaged data are on 1600-bpi, 9 track, ASCII magnetic tapes. They are 80 character card images created on a Modcomp IV computer. The data consist of year, day of year, hour of day, spacecraft ID, and fluxes from channel P2 (0.97 to 1.85 MeV) and channel P4 (13.7 to 25.2 MeV).

Data set name MERGED HOURLY AVERAGED 1.2, 14-25 MEV PROTON FLUX DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-08K, MGD HR AVG 1.2,14-25 MEV FLX PLT

Time period covered 08/01/75 TO 08/31/78

Quantity of data 2 REELS OF TAPE

These hourly averaged data are on 1600 bpi, 9 track, ASCII magnetic tapes, and were created on a Modcomp IV computer. The records are 80 byte card images containing year, day of year, hour of day, spacecraft ID, flux, channel P2 (0.97 to 1.85 MeV), and channel P4 (13.7 to 25.2 MeV). The tapes contain data from both IMP H and IMP J.

Data set name DAILY AVERAGED PROTON FLUXES GREATER THAN 10, 30, 60 MEV ON MAGNETIC TAPE

NSSDC ID 72-073A-08L, DAILY AVGD PRO FLX GT 10,30,60 MV

Time period covered 09/26/72 TO 05/02/82

Quantity of data 1 REEL OF TAPE

The data are in a single 9-track tape, written at 1600 bpi, single file, ASCII format by a VAX 11/750. Each logical record consists of 81 bytes. It contains IMP-H and IMP J daily averaged fluxes (1/sq cm-s-sr) of protons of energy values greater than 10, 30, and 60 MeV. These data were interpolated from the original data, which extended from 15 to 440 MeV. The observed data were best-fitted to provide the fluxes for this data set. This data set is also listed as 73-078A-08E.

IMP-H, NESS
MAGNETIC FIELDS EXPERIMENT

Data set name - 15-SEC AVERAGED MAGNETIC FIELD VECTORS ON MAGNETIC TAPE

NSSDC ID 72-073A-01A, 15 SEC AVGD MAGNETIC VECTORS,TAPE

Time period covered - 09/26/72 TO 04/03/73

Quantity of data - 13 REELS OF TAPE

This experimenter-supplied data set contains 15-s averaged magnetic field vector data on 13 9-track, 1600-bpi, binary magnetic tapes written on an IBM 360 computer. Each physical record contains 60 logical records. Each logical record contains, in 68 4-byte words, averaged magnetic field data and spacecraft trajectory information for one 15.36-s interval. The data consist of field magnitudes; Cartesian components in GSE and GSM coordinates; field latitude and azimuth angles in payload, GSE, and GSM coordinates; and auto-variances and cross-variances in payload (similar to GSE) coordinates. In addition, data quality flags, spacecraft ephemeris data, housekeeping data, and various other parameters are included.

Data set name - 1.28 SEC AVERAGED VECTOR MAGNETIC FIELD PLOTS ON 16 MM MICROFILM

NSSDC ID 72-073A-01B, 1.3 SEC AVGD MAG FLD PLOTS, MFILM

Time period covered - 09/25/72 TO 04/02/73

Quantity of data - 4 REELS OF MICROFILM

This experimenter-supplied data set consists of 1.28-s averaged magnetic field vector data plotted on four reels of 16-mm microfilm. Each frame shows 1 h of data plots (30 min across the frame, twice). The data consist of field magnitudes and field latitude and longitude angles in quasi-payload coordinates (Z along spin axis, X in spacecraft-sun line, spin axis plane). Field magnitudes between 0 and 25 nT, between 25 and 50 nT, and between 50 and 75 nT are indicated by separate symbols. Spacecraft position (Cartesian components and radial distance) is listed each 30 min in GSE coordinates.

Data set name 15.36 SEC AVERAGED VECTOR MAGNETIC FIELD PLOTS ON 16 MM MICROFILM

NSSDC ID 72-073A-01C, 15 SEC AVGD MAG FLD PLOTS, MFILM

Time period covered 09/25/72 TO 04/02/73

Quantity of data - 2 REELS OF MICROFILM

This experimenter-supplied data set contains 15.36-s averaged magnetic field vector data on two reels of 16-mm microfilm. Each frame contains 6-h of data plots (3 h of plots across the frame, twice). The data consist of field magnitudes (determined as averages over individual magnitudes) and field latitude and longitude angles in GSE coordinates. Field magnitudes between 0 and 25 nT, between 25 and 50 nT, and between 50 and 75 nT are indicated by separate symbols. Listed each hour are spacecraft position (Cartesian components, radial distance, latitude and longitude angles, and distance from X axis) in GSE coordinates and the geomagnetic latitude of the sun.

IMP H, SCARF
PLASMA WAVE

Data set name MAGNETIC VLF WAVE SPECTRAL DENSITIES FROM ABOUT 7 TO 150 HZ

NSSDC ID 72-073A-11A, B SPECTRAL DENS ABOUT 10 HZ

Time period covered 10/26/72 TO 08/03/77

Quantity of data 69 B/W PRINTS

This data set consists of experimenter-supplied data plots. The plots for each 24 h period are in a reduced data format that is used for the low frequency B field channel. This channel provides a measurement of the spectral density (gamma/(sq rt of Hz) over the range approximately 17 to 150 Hz. The data are generally related to the local whistler mode wave amplitude.

Data set name PLASMA WAVE LOW B ENVELOPE DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-11B, PLASMA WAVE LOW B ENVELOPE DATA

Time period covered - (N/A)

Quantity of data - 1 REEL OF TAPE

These low B envelope data are on 9-track, 1600-bpi, binary magnetic tape created on NSSDC's Modcomp IV computer from plasma wave data supplied by the experimenter. Each logical record (five 32-bit words) contains a telemetry sequence number during which the data were transmitted, year (1976), day of year, milliseconds of day, and a calibrated word of low B data. The records are fixed block with 1000 logical records per physical block. This data set was created as input for coordinated data analysis workshops and, therefore, is limited to discrete periods within the time interval covered.

Data set name - LISTINGS OF HIGH TIME RESOLUTION LOW B WAVE AMPLITUDES

NSSDC ID 72-073A-11C, LOW B WAVE AMPLITUDES(LISTINGS)

Time period covered - 01/01/76 TO 04/15/76

Quantity of data - 2 REELS OF MICROFILM

These microfilm data, generated at NSSDC/SSC, are high time resolution (approximately 20 s) minimum-B channel wave amplitudes. Listed are a measurement designator, year, day of year, time of day (hour, minutes, seconds), and minimum B amplitude. There are two columns per frame, and each column line consists of a pair of measurements. The measurement sequence on IMP has one minimum B measurement at the start of a measurement sequence and one after the completion of the 14 narrow frequency channel measurements. The time presented in the listings is the time of the second B measurement. When the measurement listed is from the first B measurement, the measurement designator is in lower case letters. If a measurement is questionable, it is flagged by an e following the amplitude value. Because of the fact that when the antenna was in the shadow of the spacecraft the interference with solar cell-related noise was minimized, each measurement is in fact the minimum amplitude obtained during a sampling sequence that encompassed about one spacecraft resolution. Thus, the time given is accurate within approximately a second.

IMP-H, SIMPSON
SOLAR FLARE HIGH Z/LOW E AND LOW Z ISOTOPE

Data set name - EXPERIMENT MODE COUNT RATE PLOTS BY SOLAR ROTATIONS, ON MICROFILM

NSSDC ID 72-073A-07A, SOL. ROT. COUNT RATE PLOTS, MFILM

Time period covered - 09/26/72 TO 09/25/78

Quantity of data - 6 REELS OF MICROFILM

This data set contains computer generated plots of experiment mode count rates vs time, on microfilm. Each plot covers a 30 day interval beginning on the first day of each 27-day Bartel's solar rotation. Coverage begins on Sept. 26, 1972, in rotation 1903. Plotted rates from the main detector are mainly due to protons in the energy intervals 0.5 - 11.6, 11.6 - 20.0, 20.0 - 27.2, 27.2 - 94.8, and above 94.8 MeV, and to high-energy, multiply charged nuclei (e.g., oxygen above 215 MeV/nucl.). Note that the high-Z, low-energy channel responds to helium nuclei of uncertain energy and should be used with caution. The dominant species and approximate energy intervals for the plotted rates from the low energy detector are as follows: (1) protons from 0.55 to 1.86 MeV and above 1.86 MeV, (2) He from 0.63 to 1.76 MeV/nucl., (3) C, N, and O nuclei (O from 0.86 to 3.40 MeV/nucl.), and (4) Mg and heavier elements (Si above 3.0 MeV/nucl., Fe above 1.7 MeV/nucl.).

Data set name - 5.46-MIN AVERAGED EXPERIMENT MODE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 72-073A-07B, 5.46-MIN AVG COUNT RATES ON TAPE

Time period covered - 09/27/72 TO 09/25/78

Quantity of data - 10 REELS OF TAPE

This data set consists of time-ordered, reduced, 5.46-min particle count accumulations from the main and low-energy telescopes written at 800 bpi on 7-track, binary (odd-parity) magnetic tapes. Each tape contains up to 60 files ("runs"), each file containing the same number of 2640-character (6-bit characters) physical records. Each physical record contains 15 logical records of 176 characters that contain the rate data for one time interval. The logical records contain time and experiment operation data, the earth-sun-spacecraft angle and geocentric distance, and the rate data for the 15 channels. Data quality, time coverage, and accumulated number of counts are given for each channel. Sectored rates are not provided, but the anistropy and sector number of the maximum and minimum flux are given for the two lowest energy channels of the main telescope.

Data set name - TIME-ORDERED, SECTORED COUNT-RATE AND PULSE HEIGHT DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-07C, SECTORED RATE AND PHA TAPES(HOST)

Time period covered - 09/25/72 TO 09/25/78

Quantity of data - 301 REELS OF TAPE

This data set contains essentially all nonredundant charged particle data telemetered from the experiment sorted in time order with overlap periods eliminated. Data are recorded at 800-bpi on 7-track, binary (odd-parity) magnetic tapes with two files per tape. Each file contains the same number of 1952-character (6-bit characters) physical records. Each record contains a 32-character header containing time, bit rate, and status information, followed by four 480 character "pages" of data. Each page represents 20.48 or 81.92 s of data depending upon the telemetry bit rate (1600 bps or 400 bps, respectively). Individual sectored and unsectored rates listed on a page have accumulation times ranging from 1 to 1/8 of the above time. Rates are written in a log-compressed format. Also listed on each page are up to 32 pulse-height events from the main telescope (with sectors) and up to 16 pulse heights from the low-energy telescope (with sectors).

IMP-H, STONE
ELECTRONS AND HYDROGEN AND HELIUM ISOTOPES

Data set name - HALF HOUR RESOLUTION COUNT RATE PLOTS ON MICROFILM

NSSDC ID 72-073A-06A, HALF HR RES CNT RTE PLOTS, MFILM

Time period covered - 09/29/72 TO 06/24/75

Quantity of data - 1 REEL OF MICROFILM

This data set consists of experimenter-supplied, 35-mm microfilmed plots. Each of the two types of plots is presented with two different time scales. One subset of each type contains 7 days of data per frame, with 30-min resolution, while the other subset contains 27 days of data per frame, with 2-h resolution. The first set of plots contains spin-integrated count rates for each of the eight coincidence mode rates obtained by the experiment. The second set contains count rates from each sensor of the telescope taken singly. The 27-day coincidence mode rate plots also contain spacecraft latitude and longitude in GSM coordinates and the sun-earth-spacecraft angle.

Data set name - HOURLY AVERAGED COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-06B, HOURLY AVERAGE COUNT RATES, TAPE

Time period covered - 09/28/72 TO 07/31/78

Quantity of data - 7 REELS OF TAPE

These electron/isotope spectrometer count rate data were supplied by the experimenter on 800-bpi, binary, 9 track magnetic tapes. The data were created on an IBM 370/158 computer with a block size of 520 bytes. One record was written for each hour, and records are grouped into files of 10 days in length to facilitate searching for a particular date. One tape is provided for each calendar year. Records written for hours in which no data were available are flagged by negative identification fields. Files with no data have only one record. The count rates given are described in the experimenter-supplied format. The event counts and fluxes derived from them are based on event data with pulse height analysis.

IMP-H, WILLIAMS
ENERGETIC ELECTRONS AND PROTONS

Data set name - 30-MIN AVERAGED COUNT RATES FOR ALL MODES ON MAGNETIC TAPE

NSSDC ID 72-073A-05A, 30-MIN AVERAGED COUNT RATES, TAPE

Time period covered - 09/27/72 TO 09/25/78

Quantity of data - 4 REELS OF TAPE

These experimenter-supplied data are on 9 track, 800 bpi, binary magnetic tapes, created on a CDC 6600 computer. The

data were converted to an IBM 32-bit word format. The data are 30-min averages of count rates. The records are unblocked, with a fixed length of 1466 words, and represent one day of averages (48 averages for each of 13 channels per day, average synchronized to 30-min intervals). Each record contains year, day of year, orbit number, number of actual data items in the record, 30-min averages for each channel, percentage of bad data during each average, geocentric solar ecliptic coordinates, filter variables, and satellite ID.

Data set name - FOUR-ALBUM AVERAGE ELECTRON AND PROTON DATA ON MAGNETIC TAPE

NSSDC ID 72-073A-05B, 5.46 MIN. AVG. DATA ON TAPE.

Time period covered - 10/01/73 TO 11/30/77

Quantity of data - 13 REELS OF TAPE

These experimenter-supplied, four-album average data are on 800-bpi, 9-track, binary magnetic tapes. The records are in unblocked, 32-bit IBM 360 floating point format with 230 words each. The data consist of satellite ID; year, day of year, time of day (s); 5.46-min average counts/s for channels L1 to L12, G1 to G3, and F (electrons and ions); number of pages for each channel average; and ephemeris information. One tape in the data set was created on a CDC computer and also contains two files of IMP-J (73-078A-05D) data.

Data set name SIMULATED THREE-DIMENSIONAL CONTOUR LISTINGS ON MICROFILM

NSSDC ID 72-073A-05C, 3-DIMENSIONAL CONTOUR LIST,MFILM

Time period covered 12/23/75 TO 07/06/76

Quantity of data 12 REELS OF MICROFILM

This data set consists of microfilm images of "poorman's contour" plots produced by printing the numerical values of the counts obtained during a 5 s accumulation for each sector for the lowest energy electron and proton channels from the experiment. The following channels are included in this data set: L1, L7, and G1. The telescope and electron detectors (L channels) swept out a great circle in the ecliptic plane with a 15-deg opening angle collimator that was broken into 16 11.25-deg sectors. The G detector swept out a cone with a 13-deg collimator at -45 deg ecliptic latitude, and G1 was also broken into 16 equal sectors. Each frame contains 20 min of data and contains a heading that gives date, hour, satellite ID, and location in both solar ecliptic and solar magnetospheric coordinates. The first column of the plot gives the time in minutes and seconds with each row incremented by about 20.45 s. The sector numbers are used to label the next 16 columns; sector 1 viewed antisunward, sector 5 eastward, sector 9 sunward, and sector 13 westward. Following this information is a column giving 10 times the average number of counts for all 16 sectors of L1. This column is followed by a column representing 10 times the average of L7 over selected sectors, with those sectors near the sun being deleted. The next series of columns provides the "poorman's contours" for L7 over the selected channels, followed by a column giving 10 times the average over all sectors of the G1 channel. A final column provides the proton spectral index obtained by using a power law spectrum and taking the ratio of L1 and L2.

Data set name - HISTOGRAM PLOTS ON MICROFILM

NSSDC ID 72-073A-05D, HISTOGRAM PLOTS,MFILM

Time period covered - 09/26/72 TO 06/07/77

Quantity of data - 12 REELS OF MICROFILM

This data set comprises 35-mm microfilm images of 1/2 day plots of the counting rates for each channel averaged over 326.4 s. Because the data are averaged over sectors, the directional information is not preserved. Each frame contains four channels with the channel label appearing to the left of the first plotted point. The ordinate scale is logarithmic in units of c/s, and the beginning power of 10 for each channel is given at the bottom of the frame. The maximum and minimum values of each channel average for the 1/2-day period are also given at the bottom; in addition, the orbit projection into the solar ecliptic plane with model magnetopause and bow shock boundaries is presented.

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********** IMP-I **********
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Data set name - GSFC TRAJECTORY PLOTS, SOLAR ECLIPTIC PROJECTIONS

NSSDC ID 71-019A-00D, SOLAR ECLIPTIC EPHEM PLOTS MFICHE

Time period covered - 03/13/71 TO 12/31/72

Quantity of data - 1 CARD OF B/W MICROFICHE

This microfiche of the publication "Trajectories of Explorers 33, 35, 41, 43, and 47, May 1969 - December 1972," written by D. H. Fairfield, K. W. Behannon, R. P. Lepping, and N. F. Ness (NASA-GSFC X-692-73-291, October, 1973), contains the ecliptic plane projections of the first 158 orbits of Explorer 43. The plots are not useful for detailed studies, but they are useful in indicating the orbital phase of the spacecraft on a given day and in showing where apogee is in local time. In addition, one plot is given to show the solar ecliptic X-Z projections of two orbits separated by one year.

IMP-1, AGGSON
ELECTROSTATIC FIELDS

Data set name - DC ELECTRIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 71-019A-02A, DC ELECTRIC FIELD ON TAPE

Time period covered - 03/14/71 TO 11/25/72

Quantity of data - 3 REELS OF TAPE

These electric field data are on 1600-bpi, binary, 9-track magnetic tapes written on an IBM 360/91 computer. Physical records are of variable length, with a maximum of 31,844 bytes. Each file contains data for one orbit. Each logical record contains at most 200 seconds of data and consists of: orbit number; ephemeris data; spectrometer data from 12 channels; optical aspect information; solar ecliptic coordinates; date in year, month, day, and milliseconds of day; amplitude and phase of electric field vector in equatorial plane (measured with X and Y axis antenna); and standard deviation of amplitude of electric field vector.

IMP-I, ANDERSON
MEDIUM-ENERGY SOLAR PROTONS AND ELECTRONS

Data set name ELECTRON AND PROTON COUNT RATES ON MICROFILM

NSSDC ID 71-019A-06B, ELECTRON&PROTON COUNT RATES,MFILM

Time period covered - 03/18/71 TO 10/02/74

Quantity of data - 11 REELS OF MICROFILM

This data set consists of plots of particle flux (cts/sq cm-s-sr-keV) vs time on 11 reels of 35-mm microfilm. Each plot displays 4 h of data. Values of magnetic latitude, ecliptic longitude, and earth spacecraft distance are given above the plots at hourly intervals.

IMP-I, BAME
MEASUREMENT OF SOLAR PLASMA

Data set name HOURLY AVERAGED ION PLASMA PARAMETERS ON MICROFILM

NSSDC ID 71-019A-11A, HR AVG ION PLASMA PARAM. FILM

Time period covered - 03/18/71 TO 07/26/73

Quantity of data - 2 REELS OF MICROFILM

These data, contained on experimenter-supplied microfilm, present the hourly averages of the solar wind proton velocity, density, and temperature. The velocity, density, and temperatures appear as separate plots, with each plot covering a period of 9 days. The date appears on the bottom of each plot as yymmdd. The velocity plots are on a scale of 0 to 800 km/s, the density plots are on a scale of 1.E-1 to 1.E+2 per cc, and the temperature plots are on a scale of 1.E+4 to 1.E+6 deg K.

Data set name - HOURLY AVERAGED ION PLASMA PARAMETER DATA ON MAGNETIC TAPE

NSSDC ID 71-019A-11B, HR. AVG. ION PLASMA PARAM.-TAPE

Time period covered - 03/18/71 TO 07/27/73

Quantity of data - 2 REELS OF TAPE

This experimenter-supplied hourly averaged ion plasma parameter data set is on 800-bpi, binary, 7-track magnetic tape recorded on a CDC 6600 computer. Each logical record (6 floating point 60-bit words) contains the date in year, month, day, and hour; and hourly averages of proton density, solar wind speed, proton temperature, and number of points.

Data set name - SOLAR WIND THREE HOUR AVERAGE PLASMA PARAMETERS FROM IMP I, J, AND H

NSSDC ID 71-019A-11C, MERGED IMP I,H,J 3 HR PLASMA PARM

Time period covered - 03/18/71 TO 12/31/74

Quantity of data - 1 REEL OF TAPE

This data set consists of 3 h averaged plasma parameter data on 800 bpi, 9-track, EBCDIC magnetic tape recorded on an IBM 360 computer. The data have physical records of 136 bytes containing four logical records of 29 bytes each and 20 bytes of zeroes added at the end. Each logical record contains year, month, day, average count, density (1/cc), velocity (km/s), and temperature (degrees Kelvin). Also contained on the same tape are data for IMP H and J.

IMP-I, BOSTROM
SOLAR PROTON MONITORING EXPERIMENT

Data set name - COUNT RATES ON ARCHIVE TAPES

NSSDC ID 71-019A-07A, COUNT RATES ON ARCHIVE TAPES

Time period covered - 03/14/71 TO 06/11/72

Quantity of data - 110 REELS OF TAPE

This data set consists of 9-track, 800 bpi, IBM/360 binary magnetic tapes provided by the experimenter. Each tape contains data for one spacecraft orbit of about 4.1 days. The first of the two physical files on each tape contains fine time-scale data, and the second file contains hourly averaged data. In the first file each physical record contains 10 2094-byte logical records. Each logical record may be an identification record containing data management information or may be a data record. Each data record contains all the count rate data obtained during one 81.92 s sequence (eight rates each for protons above 10, 30, and 60 MeV and for protons in the intervals 0.21 to 0.53, 0.53 to 2.2, and 2.2 to 7.5 MeV, and one rate for each of the eight 45-deg sectors for protons in the intervals 0.21 to 0.53 and 0.53 to 2.2 MeV, for 8.2 to 20 MeV alpha particles, and for electrons above 10 keV), uncertainties associated with each rate, data quality flags, housekeeping data, and ephemeris information. Ephemeris information includes geographic latitude, longitude, radial distance, solar ecliptic and solar magnetospheric Cartesian coordinates, B, L, sun-earth-spacecraft angle, spin period and direction, sun-spacecraft-spin axis direction angle, and other parameters. In the second file of the tape each physical record contains 20 174-byte logical records. Each of these logical records contains hourly averaged values for all the count rates and all the ephemeris parameters indicated previously.

Data set name - HOURLY AVERAGED SOLAR PROTON FLUXES PUBLISHED IN 'SOLAR GEOPHYSICAL DATA'

NSSDC ID 71-019A-07B, SGD PBLSHD HRLY AVGD PROTON FLUXS

Time period covered - 11/01/71 TO 05/31/73

Quantity of data - 11 BOOKS OR BOUND VOLUMES

This hard copy data set consists of monthly plots and tabular listings of hourly averaged omnidirectional fluxes of protons with energies above 10, 30, and 60 MeV. As with earlier IMP 4 and IMP 5 values, data obtained during a given month were to be published in "Solar-Geophysical Data (Comprehensive Reports)" with a nominal 6-month lag. However, the publication schedule became somewhat irregular.

IMP-I, ERICKSON
INTERPLANETARY LONG WAVELENGTH RADIO ASTRONOMY EXPERIMENT, TIME RESOLUTION

Data set name - DYNAMIC SPECTRAL PLOTS, ON MICROFILM, WITH 10 MINUTE RESOLUTION

NSSDC ID 71-019A-15A, SUMMARY SPECTRA ON MICROFILM

Time period covered - 04/20/71 TO 09/26/72

Quantity of data - 2 REELS OF MICROFILM

This data set, contained on one reel of 16-mm microfilm, summarizes the observations made with the SFR-2 receiver. The data are four dynamic spectral displays showing the variation in the average, minimum, and mode of the received noise as a function of frequency and time with 10-min resolution. The data are displayed as a series of four plots per day, with frequency being the ordinate and time being the abscissa, and data themselves appearing as darkness variations.

Data set name - DYNAMIC SPECTRAL DATA, ON MAGNETIC TAPE, WITH 10-MINUTE RESOLUTION

NSSDC ID 71-019A-15C, SUMMARY SPECTRA ON MAGTAPE

Time period covered - 04/20/71 TO 09/26/72

Quantity of data - 1 REEL OF TAPE

This data set, written on 9-track, 1600-bpi tapes by an IBM 360, summarizes the observations made with the SFR-2 receiver. The data show the variation in the average, minimum, maximum, mode, and average direction of arrival of the received noise as a function of frequency and time with 10 min resolution. Most of these data are presented graphically on data set 71 019A 15A.

IMP-I, GURNETT
ELECTROSTATIC WAVES AND RADIO NOISE -- IOWA

Data set name - E + B SUMMARY PLOTS ON MICROFILM

NSSDC ID 71-019A-03A, E + B SUMMARY PLOTS ON FILM

Time period covered - 03/13/71 TO 10/01/74

Quantity of data - 19 REELS OF MICROFILM

This 35-mm microfilm data set contains summary plots of relative intensities of electric and magnetic field amplitudes of waves in the frequency band 20 Hz - 200 kHz, obtained in 16 separate bands. Radial distance of the spacecraft, its local time, and magnetic latitude are indicated in each frame. Available documentation is inadequate.

Data set name - E + B SONOGRAMS ON FILM

NSSDC ID 71-019A-03B, E + B SONOGRAMS ON 70 MM FILM

Time period covered - 02/03/72 TO 05/31/73

Quantity of data - 1700 B/W NEGATIVES

This 70-mm microfilm data set contains sonograms of electric and magnetic field fluctuations. Available documentation is inadequate.

Data set name - HIGH TIME RESOLUTION PLOTS ON MICROFILM

NSSDC ID 71-019A-03C, HIGH TIME RES PLOTS ON FILM

Time period covered - 03/17/71 TO 07/23/74

Quantity of data - 16 REELS OF MICROFILM

This 35 mm microfilm data set provides intensities of electric and magnetic fields from four frequency channels centered at 36 Hz, 311 Hz, 3.11 kHz, and 31.1 kHz. Available documentation is inadequate.

Data set name - E AND B SPIN PLANE FIELD DISTRIBUTION ON MICROFILM

NSSDC ID 71-019A-03D, E AND B SPIN PLANE FIELD DIST.FILM

Time period covered - 03/29/71 TO 03/16/74

Quantity of data - 5 REELS OF MICROFILM

This 35-mm microfilm data set provides directional intensities of electric and magnetic fields in the spin plane of the spacecraft, obtained in some of the frequency bands

Available documentation is inadequate.

Data set name - POWER SPECTROGRAMS FOR SPECIAL TIMES ON MICROFILM

NSSDC ID 71-019A-03E, POWER SPECTROGRAMS, SPECIAL TIMES

Time period covered - 03/17/71 TO 06/20/72

Quantity of data - 9 REELS OF MICROFILM

This 35-mm microfilm data set contains power spectra of electric fields (voltsee2/mee2-Hz) and magnetic fields (nTee2/Hz) when the spacecraft was at special locations, such as bow shock. The spectra cover the total frequency range of 20 Hz - 200 kHz, in 16 channels. Each spectrum is an average during successive 5-s intervals. Also plotted are the peak value spectra, each spectrum representing the peak values in each 5-s interval. GSE latitude of the spacecraft, its radial distance from earth, and local time are labelled in each frame.

IMP-I, HADDOCK
INTERPLANETARY LONG-WAVELENGTH RADIO
ASTRONOMY EXPERIMENT, FLUX RESOLUTION

Data set name - MULTIPLE FREQUENCY INTENSITY VERSUS TIME PLOTS ON 35-MM MICROFILM

NSSDC ID 71 019A 13A, MULTIFREQ. INT. VS TIME,PLOTS,FLM

Time period covered 03/14/71 TO 06/30/74

Quantity of data - 40 REELS OF MICROFILM

This data set, on 35-mm microfilm, is reduced data supplied by the PI. The data cover April 1971 through June 1974, with gaps only where the telemetry data were lost or otherwise not processed. The data are in the form of plots, each occupying 0.75 in. of film and representing 22 min of real time. There is a physical gap between individual plots (frames), but no time gap. Within each individual plot, data from each of the eight frequency channels are plotted, one below the other, with overlapping scales. Frequency coverage is from 0.05 to 3.5 MHz. A label at the top of each plot identifies the frame.

IMP I, KELLOGG
ELECTROSTATIC WAVES AND RADIO
NOISE MINN

Data set name 30 SECOND AVERAGED ELECTRIC AND MAGNETIC FIELD SPECTRUM DATA PLOTS ON MICROFILM.

NSSDC ID 71 019A 12A, 30 SEC AVG ELEC+MAG FLD PLOTS,FLM

Time period covered 03/13/71 TO 09/28/74

Quantity of data 21 REELS OF MICROFILM

This data set consists of electric and magnetic field plots on microfilm provided by the University of Minnesota. Each time interval is plotted three times, first as the high frequency part of the electric field, second as the entire electric field spectrum, and third as the entire magnetic field spectrum. In the first plot (high frequency), two frequency channels are plotted in each graph. In the entire spectrum plots, five frequencies are plotted in each graph. No time smoothing is done in cruise mode, but three successive time samples are averaged together in fine frequency (ff) mode to give a time resolution on the plot of 30 s. Time at the bottom is given in UT hours and minutes. The antenna designations are as follows: b means the integrated output of the magnetic loop; wb means the unintegrated output of the magnetic loop; se means the short electric dipole (50 cm tip to tip); and long electric means the appropriate one of three long dipoles. In the lower lefthand corner of each plot are a series of tick marks at 20 dB intervals. These indicate signal strength above a threshold of approximately 10 microvolts at the receiver input of the E receivers, 2 microvolts at the input of the B receivers in the nonintegrating mode, and 2 microvolts for the receiver input in the integrating mode.

IMP I, NESS
MEASUREMENT OF MAGNETIC FIELDS

Data set name - 15-SEC AVERAGED MAGNETIC FIELD VECTORS ON MICROFILM

NSSDC ID 71-019A-01A, 15 SEC MAG FLD VECTORS, MFILM

Time period covered - 03/13/71 TO 09/28/74

Quantity of data - 8 REELS OF MICROFILM

This data set consists of 16-mm microfilm submitted by the experimenter that contains 6 h of 15.36-s averaged vector magnetic field data plots per frame (3 h across the frame, twice). The data consist of field magnitudes (determined as averages over individual magnitudes) and field latitude and longitude angles in solar ecliptic or solar magnetospheric coordinates. Listed each hour are spacecraft position in the corresponding coordinate system (Cartesian components, radial distance, latitude and longitude angles, distance from X axis) and the geomagnetic latitude of the sun.

Data set name - 15 SEC AVERAGED VECTOR MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 71-019A-01B, 15 SEC B VECTORS ON TAPE

Time period covered - 03/13/71 TO 08/30/74

Quantity of data - 27 REELS OF TAPE

This data set consists of experimenter-supplied, 9-track, 1600-bpi, binary magnetic tapes generated on an IBM 360 computer. Each physical record contains 60 logical records, and each logical record contains, in 68 4-byte words, averaged magnetic field data and spacecraft trajectory information for one 15.36-s interval. The data consist of: (1) field magnitudes, (2) Cartesian components in solar ecliptic and solar magnetospheric coordinates, (3) field latitude and azimuth angles in payload, solar ecliptic, and solar magnetospheric coordinates, and (4) auto-variances and cross-variances in payload coordinates (almost the same as solar ecliptic coordinates). In addition, data quality flags, spacecraft ephemeris data, housekeeping data, and various other parameters are included.

Data set name - 1.28 SEC AVERAGED MAGNETIC FIELD VECTORS ON MICROFILM

NSSDC ID 71 019A 01C, 1.28 SEC MAG FLD VECTORS, MFILM

Time period covered 03/13/71 TO 10/01/74

Quantity of data - 33 REELS OF MICROFILM

This data set consists of experimenter-supplied, 16-mm microfilm that contains 1 h of 1.28 s averaged vector magnetic field data plots per frame (30 min across the frame, twice). The data consist of field magnitudes, field latitude and longitude angles, and standard deviations in quasi payload coordinates (Z along spin axis, X in spacecraft sun line, spin axis plane). Dots are used for field magnitudes between 0 and 25 gammas, a's and b's for magnitudes between 25 and 50, and 50 and 75 gammas, respectively. Listed each 30 min are spacecraft positions in solar ecliptic coordinates (Cartesian components and radial distance).

Data set name DETAIL DATA (80 MSEC) AND 1.28 SECOND AVERAGED VECTOR DATA

NSSDC ID 71-019A-01D, DETAIL DATA (80 MS) 1.28 AVG VECT

Time period covered 02/08/73 TO 10/02/74

Quantity of data 57 REELS OF TAPE

These 9-track, binary tapes were written by an IBM 360/91 computer, at 1600 bpi. Each block of 11,076 bytes is a logical record, sequentially consisting of 60 entries of year, day, milliseconds, data quality flag, bit rate flag, pseudo sequence count, and housekeeping. Not all the 60 allotted half words (or full words) are actually used for the entries, but only as many as there are 1.28 s time intervals for which good data exist in a total duration of 1.28 min (1.28 s x 60). These entries are then followed by sequential entries of 60 (or fewer) 1.28 s averaged values of magnetic field magnitude, orientation angles theta and phi of the field vector, and standard deviation of the field magnitude. Two hundred and forty full words are assigned for each of these items, though only a fraction of them contain germane entries. These averages are obtained, in turn, from 16 samples of Bx, By, and Bz monitored every 80 ms. These high-resolution data are also written near the end of the block, in three groups, each of which is assigned 960 full words. Spacecraft position is entered as X, Y, Z values in the GSE system as well as R (range), Y, Z in the GSM system.

IMP I, SIMPSON
NUCLEAR COMPOSITION OF COSMIC AND SOLAR PARTICLE RADIATIONS

Data set name - PROTON AND HIGHER Z COUNT RATES AND PULSE HEIGHT ANALYSIS ON MAGNETIC TAPE

NSSDC ID 71-019A-09A, COUNT RATES + PHA (SST), MAG.TAPE

Time period covered - 03/13/71 TO 10/02/74

Quantity of data - 79 REELS OF TAPE

This data set, submitted by the experimenter, was generated on 7-track, binary, odd-parity magnetic tapes written at 800 bpi using an XDS 930 computer. It consists of time-ordered, reduced particle count rates and pulse height analysis from the low-energy telescope, plus the anticoincidence rate from the composition telescope and fission cell count rate. Each tape contains four separate files corresponding, respectively, to four orbits of data. Each file is followed by an end-of-file mark, and a double end-of-file mark follows the last orbit on a tape. Each file consists of a variable number of 2400-character physical records, and each physical record contains three 800-character logical records, each of which contains one album of data. One album corresponds to 81.92 s at the most often used 1600 bps rate. The three albums in a physical record are not necessarily adjacent in time, and individual albums may be empty. Each nonempty album contains 16 sets of data samplings (5.12 s average at 1600 bps), each 48 characters in length, including the low-energy telescope particle coincidence count rates and output from the two 256-channel pulse height analyzers, the fission cell count rate, the composition telescope D6 anticoincidence count rate, optical aspect data, and various data quality flags. At the beginning of each album is the time (UT, tenths of s of day), day, year, selected instrument temperatures, orbit number, and calibration information.

Data set name - 5-MIN AVERAGED PROTON AND HIGHER Z COUNT RATES ON MAGNETIC TAPE

NSSDC ID 71-019A 09B, 5-MIN AVG COUNT RATES, MAG. TAPE

Time period covered - 03/13/71 TO 10/02/74

Quantity of data - 4 REELS OF TAPE

This data set was submitted by the experimenter and consists of time-ordered, reduced 5.45 min particle count accumulations from the low-energy telescope, fission cell, and electron current detector on 7-track, binary (odd parity) magnetic tapes written at 800 bpi using an XDS 930 computer. Each full tape contains data for 100 orbits. If data are lacking for some orbit, that orbit is flagged by a double end-of-file mark. So, multiple end-of-file marks may be encountered within a tape. Each logical record includes, in addition to the seven telescope accumulations (D1 through D7), the fission cell and electron current detector accumulations, time (UT), orbit number, year, day, data quality flags, and various housekeeping and calibration parameters.

Data set name - EXPERIMENT MODE COUNT-RATE PLOTS BY SOLAR ROTATIONS, ON MICROFILM

NSSDC ID 71-019A-09C, SOL. ROT. COUNT-RATE PLOTS, MFILM

Time period covered - 03/14/71 TO 10/02/74

Quantity of data - 3 REELS OF MICROFILM

This data set contains computer-generated (Cal/Comp 563) plots of experiment-mode count rates (counts/s) vs time on microfilm. Each plot covers a 30-day interval beginning on the first day of each 27 day Bartels solar rotation. Data begin March 14, 1971, in rotation 1882. Individual points plotted are 15 min averaged rates. Proton energy intervals represented in the rates are 0.5 to 10.6, 10.6 to 19.6, 29.3 to 66.7, and greater than 66.7 MeV.

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********** IMP-J **********
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Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 73-078A-00D, PREDICTED ORBIT PLOTS

Time period covered - 10/29/73 TO 12/31/79

Quantity of data - 5 REELS OF MICROFILM

This data set, on 16-mm microfilm, contains plots of predicted spacecraft positions in each of three coordinate systems for each orbit of the spacecraft. The plots show the spacecraft orbit (1) rotated into the GSE X-Y plane, (2) projected onto the GSM Y-Z plane, and (3) plotted in magnetic latitude vs magnetic local time. The GSE plot also shows the average position of the bow shock and the magnetopause, and the GSM plot shows the model neutral sheet GSM Z values at 0, 4, 8, 12, 16, and 20 hours UT averaged over the days of the plot. On each plot there is an independent set of about 20 numbered ticks drawn on the curve, and a listing of time and position information for each tick is given below the plot. The listing on the GSE plot includes the spacecraft latitude, and those on the GSM and magnetic coordinate plots include the spacecraft geocentric radius. These plots and listings were generated at NSSDC.

Data set name - TRAJECTORY PLOTS ON MICROFICHE

NSSDC ID 73-078A 00E, TRAJECTORY PLOTS, MFICHE

Time period covered - 10/30/73 TO 01/11/88

Quantity of data - 16 CARDS OF B/W MICROFICHE

This data set is microfiche of a hard copy report prepared by J. D. Sullivan, A. J. Lazarus, P. A. Milligan, and E. J. Groener (MIT R CSR-TR-81-1, May 14, 1981), and is entitled "IMP 8 (Explorer 50) Trajectory: October 30, 1973 to November 9, 1980." For each period of 12 days, the report provides five trajectory plots, in earth radii. Two plots are in GSM Cartesian: Y vs X and Z vs Y. Three plots are in GSE Cartesian: Y vs X, Z vs Y, and the distance in Y Z plane vs X. The fifth plot also contains the trajectory of the moon and modeled curves of bow shock and magnetopause.

Data set name - ORBITAL PLOTS FOR THE PROMIS PERIOD

NSSDC ID 73 078A 00F, ORBITAL PLOTS FOR PROMIS PERIOD

Time period covered - 03/29/86 TO 06/16/86

Quantity of data - 1 CARD OF B/W MICROFICHE

This data set, in microfiche, provides orbital data of the spacecraft for the PROMIS period, March 29 to June 16, 1986. It consists of two different versions. Each frame of the first version covers 12 days and contains plots in GSE, X Y plane, with tick marks that are 1 day apart. Also shown are the modelled magnetopause and bow shock locations. The second version provides the X, Y, and Z components (GSM), in earth radii, of the radius vector to the spacecraft. Each frame covers 10 days of orbital data.

IMP-J, AGGSON
ELECTROSTATIC FIELDS

Data set name - DC ELECTRIC FIELD VECTORS AND RMS ELF NOISE AMPLITUDE

NSSDC ID 73-078A 11A, DC E-FIELD AND RMS ELF NOISE FILM

Time period covered - 12/18/73 TO 10/25/74

Quantity of data - 5 REELS OF MICROFILM

This data set, in 16-mm film, contains five panels in each frame, providing 1 or 2 h of data per frame. Panel 1 (top panel) shows data points as $ or * signs, about 40 s apart. Each symbol provides the GSE-Y component of the DC electric field (in mV/m), obtained by best-fitting two different sets of higher resolution data. The data is valid only if the two values are nearly the same at any time. They are frequently not so. The second panel provides the magnitude of the E-vector in mV/m, in the ecliptic plane. The third panel gives the GSE-longitude of the vector. Again the validity of the data in these panels is determined by the validity of the top panel. The plots in panel 4 could not be identified; the panel should be ignored. Panel 5 provides the logrithm of the rms value of the ELF electric field (in mV/m), from channel 11 (1.0-3.2 kHz).

Data set name - HIGH TIME RESOLUTION ELECTRIC FIELD EVENTS (SELECTED SPECIAL PERIODS)

NSSDC ID 73-078A-11B, HIGH TIME RES. E-FIELD EVENTS-FLM

Time period covered - 12/18/73 TO 10/20/74

Quantity of data 13 REELS OF MICROFILM

This data set, on 16-mm film, contains listings as well as accompanying plots. The data on the plots could not be identified, and the plots should be ignored. The listings were obtained whenever the ELF noise level in channel 11 exceeded 1.0 telemetry unit, and, with caution, could be presumed to be the times of bow-shock crossings, as labeled. The listings provide the average values of the noise, in mV/m, from channel 11, through the spacecraft's orthogonal X and Y antennas. The

X antenna was improperly deployed, and the values under the X column should be ignored. The values (mV/m) under the Y column are the averages during successive 0.64 s, i.e., approximately during a quarter of a spin period. The column labeled "sector" provides the angle of the X antenna, measured from the GSE X axis. This tabulation is followed by another tabulation, labeled "PC SQ PEAK," which provides the averages (designated by a "0" in the line, under "MD") as well as the peak values (designated by a "1") of the rms noise (mV/m) in each of the 11 channels, spanning a total range of 0.01-3200 Hz. Each line of data was obtained during a time interval of 8 x 1.278 s, i.e., approximately four spin periods. Occasionally, there are negative numbers in the columns; they should be rejected.

IMP-J, BAME
SOLAR PLASMA ELECTROSTATIC ANALYZER

Data set name - SOLAR WIND THREE HOUR AVG. PLASMA PARAMETERS FROM IMP I, J, AND H

NSSDC ID 73-078A-10A, MERGED IMP I,H,J 3 HR PLASMA PARM

Time period covered 10/26/73 TO 12/31/74

Quantity of data - 1 REEL OF TAPE

This data set consists of 3-h averaged plasma parameter data on 800 bpi, 9 track, EBCDIC magnetic tape recorded on an IBM 360 computer. The data have physical records of 136 bytes, containing four logical records of 29 bytes each and 20 bytes of zeroes added at the end. Each logical record contains year, month, day, average count, density (1/cc), velocity (km/s), and temperature (deg K). Also contained on the same tape are data for IMP I and H.

Data set name - MERGED HOURLY AVERAGED SOLAR WIND PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-10B, MERGED HOURLY SOLAR WIND PLASMA

Time period covered 01/01/75 TO 12/31/78

Quantity of data 4 REELS OF TAPE

This data set consists of merged hourly averaged solar wind plasma data on 800 bpi, binary, 7-track magnetic tape recorded on a CDC 6600 computer in floating point format (60 bit words). The data are hourly averages of the solar wind proton density, speed, and temperature for IMP H and J for all of 1975. Each record contains 500 words consisting of 125 repetitions of the sequence: time (yymmddhh), density (particles/cc), velocity (km/s), and temperature (deg K).

Data set name - 5 MINUTE PLASMA PARAMETERS IN THE MAGNETO TAIL, 3 HR PLOTS AND LISTINGS ON MICROFILM

NSSDC ID 73-078A-10C, 5 MIN MTAIL PARAM PLOT+LIST,MFILM

Time period covered 11/01/73 TO 08/11/80

Quantity of data 54 REELS OF MICROFILM

Each roll of 35-mm film contains several orbits of data, and starts with a table listing the energy/charge and the velocity of the electrons and protons measured at each of the discrete energy levels of the instrument. All ions are assumed to be protons. After this initial table there are many seven frame sequences showing various plasma parameters for 3 h intervals. Below the frames are given the solar magnetospheric and solar ecliptic coordinates of the spacecraft at hourly intervals as well as its estimated distance from the neutral sheet (Russell Brody formula). Frame 1 shows the density and average energy of ions (+ symbols) and electrons (line). Both the thermal energy (unconnected + signs) and the total energy (connected + signs) are given for ions in the average energy graph. Frame 2 shows pressure anisotropy of ions and electrons in the GSE X Y plane as P(MAX)/P(MIN), as well as the direction of the maximum pressure. Frame 3 shows the energy density and the directional flux. Both the thermal energy density (unconnected + signs) and the total energy density (connected + signs) are shown for the ions. Frame 4 shows the magnitude and direction of the bulk flow of electrons and ions. Frame 5 shows the vector representation of the ion flow velocity. The heavy arrow at upper left indicates sunward flow of 1500 km/s. Duskward flow is to the left. Frame 6 is the same as frame 5, but with the vectors five times larger. Frame 7 shows the electron density, electron average energy, and XGSE and YGSE components of the ion flow velocity. The electron values are the same as in frame 1; ion values are the same as in frame 4, but in rectangular coordinates. At the end of each roll is a listing of all the values plotted for the interval.

Data set name - HOURLY AVERAGED SOLAR WIND PLASMA DENSITY VELOCITY, PROTON TEMPERATURE DATA ON TAPE

NSSDC ID 73-078A-10D, HR-AVG SW DEN, V, PROT TEMP, TAPE

Time period covered - 01/12/79 TO 12/31/85

Quantity of data - 3 REELS OF TAPE

These 7-track, 800-bpi tapes contain hourly averages of solar wind density (cmee-3), speed (km see 1), and temperature (k). Each physical record, except the last, contains 500 words.

Data set name - HIGH RESOLUTION PLASMA DATA (PROMIS PERIOD) ON MAGNETIC TAPE.

NSSDC ID 73-078A-10E, HIGH RESOLUTION PLASMA,PROMIS PRD

Time period covered - 03/15/86 TO 06/17/86

Quantity of data - 1 REEL OF TAPE

This 9-track, 6250-bpi magnetic tape, written in DEC-11A ASCII format, contains 25 files and covers the period March 13 to June 16, 1986. Data are entered only for the times when the spacecraft was in the solar wind, and are an average over a period of a few minutes. The records are of variable length, with a maximum of 88 bytes. Each record provides date, time, spacecraft location (radial distance and GSE latitude and longitude), plasma density (cmee-3), solar wind speed (km/s), flow angle in the ecliptic plane, and temperature

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IMP-J, FRANK
MEASUREMENT OF LOW-ENERGY PROTONS AND ELECTRONS

Data set name - ELECTRON AND PROTON PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-04A, PLASMA DATA ON TAPE

Time period covered - 07/28/77 TO 12/12/77

Quantity of data - 2 REELS OF TAPE

These experimenter-supplied, 163.84 s plasma data are on 7-track, 800 bpi, binary magnetic tape created on a Univac 418 computer. A logical record contains 300 Univac 36 bit words. There are 10 logical records per physical record. The data consist of spacecraft identification (7 IMP-H, 8 IMP J); time in year, day, hour, minute, and second; solar ecliptic and magnetospheric coordinates; energy range flag; magnetic field coordinates; and the following information for both plasma proton and electron data: number and energy flux; number and energy density; average energy; bulk flow velocity; velocity uncertainty; temperature; and percentage of energy coverage. This data set is identical to the data set 04B, except that the tape containing the latter includes data from other spacecraft.

Data set name - 164 SECOND RESOLUTION ELECTRON AND PROTON PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-04B, 164 SEC RESOLUTION PLASMA

Time period covered 12/01/77 TO 12/12/77

Quantity of data 1 REEL OF TAPE

These experimenter supplied, 163.84-s resolution plasma data are on 7 track, 800 bpi, binary magnetic tape created on a Univac 418 computer. Each logical record of data contains 300 Univac 36-bit words. There are 10 logical records per physical record. The data consist of spacecraft identification; time in year, day, hour, minute, and second; solar ecliptic and magnetospheric coordinates; energy range flag; magnetic field coordinates, and the following information for both plasma proton and electron data: number and energy flux; number and energy density; average energy; bulk flow velocity; velocity uncertainty, temperature; and percentage of energy coverage. This data set is identical to the data set 04A, except that the tape containing the latter includes data from IMP H and J only.

Data set name - FULL COLOR SLIDES OF E T SPECTROGRAMS FOR PLASMA MEASUREMENTS

NSSDC ID 73-078A-04C, COLOR E T SPECTROGRAMS, SLIDES

Time period covered 11/15/73 TO 01/28/84

Quantity of data - 2947 COLOR SLIDES

This data set of 35 mm slides consists of experimenter supplied, full color, E t (energy time) spectrograms for plasma measurements with the LEPEDEA on board

IMP 8. The spectrograms display the detector responses to proton intensities as functions of energy (ordinate) and time (abscissa) for four directions, or sectors, of the instrument fields of view. These detector responses are color coded. The spectrograms also summarize the angular distributions of proton intensities as functions of the directions of the field of view. Also shown are the angular distributions of electron intensities that display the responses of the electron channels of the LEPEDEA, which are averaged over the directions of the fields of view. Each slide covers an entire day.

IMP J, GURNETT
ELECTROSTATIC WAVES AND RADIO NOISE

Data set name 24-HOUR ELECTRIC AND MAGNETIC FIELD SURVEY PLOTS ON MICROFILM

NSSDC ID 73 078A 12A, 24 HR ELEC+MAG SURVEY PLOTS,MFILM

Time period covered - 10/31/73 TO 12/08/81

Quantity of data - 9 REELS OF MICROFILM

This data set consists of electric field measurements from 40 Hz to 2.0 MHz and magnetic field measurements from 40 Hz to 1.78 kHz. There are 16 panels of data plotted as a function of time over a 24-h period and spacecraft position. The spacecraft position is given on the hour, universal time, for every hour when data are available. The position is usually given in radial distance (r) from the earth's center in earth radii. LT is the satellite's local time and SMLAT is the solar magnetospheric latitude. Each plot is labeled at the far left-hand side with "IMP-J," orbit number, day of year, day of month, and year of the data plotted. The vertical bars plotted in each panel give the average electric field strengths at the specified frequencies, labeled in kHz on the far left of the plot, averaged over intervals of 163.8 s (16 measurements in this time interval). The dots (or connected dots on some plots) give the peak field strength out of the 16 measurements that are averaged. Magnetic field measurements are obtained by using a triaxial search coil magnetometer. These data are plotted as a function of time and are shown in seven frequency channels. The vertical bars plotted for each channel give the average field strengths, averaged over intervals of 163.8 s, and the dots (or connected dots on some plots) give the peak field strengths. A computer sine wave fitting routine fits a sine wave to these data and plots the log of the amplitude of the fit in the E panel and the phase of the fitted sine wave (measured with respect to the earth-sun line) in the E-psi panel for every spin. The E psi angle ranges from 0 deg to 180 deg with 0 deg being at the bottom of this panel. A similar procedure is done with the BX (or BY) search coil magnetometer where the logarithm of the amplitude of the magnetic induction is plotted in the panel labeled "B" and the phase angle of the sine wave fit with respect to the earth sun line is given in the B-psi panel. The B psi angle ranges from 0 deg to 180 deg, with 0 deg being at the bottom of this panel. The vertical scales for the E psi and B psi panels are ticked off in increments of 90 deg.

IMP J, IPAVICH
SOLID-STATE DETECTORS

Data set name - 10-MIN AVERAGED, 220-KEV PROTON COUNT RATE PLOTS ON MICROFILM

NSSDC ID 73-078A-03A, 10 MIN,220 KEV PROT CT RTES,MFILM

Time period covered - 10/31/73 TO 05/01/74

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a microfilmed version of experimenter-supplied plots. Most plots cover one spacecraft orbit (about 12 days) and contain 10 min averaged values of the 220-keV proton count rates.

Data set name - SOLAR ION AND ELECTRON COUNT RATES ON ENCYCLOPEDIA TAPES

NSSDC ID 73-078A-03B, ALL COUNT RATES ON ENCYCLO. TAPES

Time period covered - 10/30/73 TO 05/02/74

Quantity of data - 15 REELS OF TAPE

These experimenter-supplied count rate data are on 1600-bpi, 9-track, binary magnetic tape generated on an IBM 360 computer. One file is included on each tape. Each logical record consists of 360 32-bit words with three logical records per physical record. Each record contains UT in tenths of a second, spacecraft clock, pseudo-sequence counter, year, day, month, milliseconds of day, latitude, longitude, spacecraft and moon positions in geocentric solar ecliptic coordinates, B and I parameters, spin period, right ascension, declination, quality flags, and count rates from all channels.

Data set name SUMMARY DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-03C, SUMMARY DATA ON MAG TAPE

Time period covered 10/30/73 TO 09/07/87

Quantity of data - 33 REELS OF TAPE

These experimenter-supplied, solar ion and electron summary data are on 9 track, 1600-bpi, binary magnetic tapes created on an IBM 360 computer. They contain summaries of particle counts for 8-album periods (about 10.908 min at the 1600 bps rate and 43.632 min at the 400 bps rate) and a listing of all Ultra-Low Energy Telescope (ULET) events occuring in those periods. Logical records are of two types, summary records and ULET event records. Each summary record contains start and stop times in year, day of year, month, day of month and millisecond of day; spacecraft position in GSE coordinates and other parameters for the first and last album in the summary record; performance parameter, data quality, and housekeeping information; and count and PHA summaries; along with up to 60 ULET events for an 8-album summary period. If more than 60 ULET events occurred in the 8-album period, the remaining events will be contained in as many ULET event records as necessary (240 events per record), immediately following the summary record for that period.

Data set name HOURLY AVERAGE LOW ENERGY PROTONS (.16-.22 MEV) DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-03D, LOW ENERGY PROTONS (.16-.22 MEV)

Time period covered - 02/01/76 TO 04/30/85

Quantity of data 2 REELS OF TAPE

This data set was written by an IBM 3081 computer in EBCDIC at 1600 bpi. Each 9 track tape contains approximately 50 months of data, with 1 month of data per file. Each record in a file is 80 bytes long. It lists, in sequence, the year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux of protons in the P1 range 0.16-0.22 MeV (1/sq cm s sr MeV). Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

IMP-J, KRIMIGIS
CHARGED PARTICLE MEASUREMENTS EXPERIMENT

Data set name - REDUCED DATA TAPES CONTAINING COUNT RATES OF ALL DETECTORS

NSSDC ID 73-078A-08A, ARCHIVE TAPES OF ALL DETECTORS

Time period covered 10/30/73 TO 04/19/74

Quantity of data - 39 REELS OF TAPE

These experimenter-supplied, archive data are on 7-track, 800-bpi binary magnetic tape created on an IBM 360 computer. The data set contains measurements of cosmic and solar X-rays, interplanetary electrons, protons, alphas, and some medium Z particles. Identification records separate the data records corresponding to different analog recording tapes from which these data were made. Each contains the satellite, station, and experiment identification; analog tape and file number; record date; analog tape start and stop times; data type and count rate; master edit tape and file number; average sequence time; perigee counter; and time of next perigee. All data from all detectors, as well as ancillary orbit ephemeris information, are included in the data records.

Data set name - HOURLY AVERAGED 1-2, 14-25 MEV PROTON FLUX DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-08B, HR AVG 1-2,14-25 MEV PROT FLX,TPE

Time period covered - 08/01/75 TO 07/31/85

Quantity of data - 5 REELS OF TAPE

This data set consists of hourly averaged proton fluxes on 1600-bpi, 9-track, ASCII, multifiled magnetic tape recorded on a Modcomp IV computer. The records are 80-character card images containing year, hour of day, and channel and flux data for 1 to 2 MeV and 14 to 25 MeV protons, respectively.

Data set name - SURVEY PLOTS OF ALL DETECTORS, 24-HOURS OF DATA PER PLOT, ON MICROFILM

NSSDC ID 73-078A-08C, SURVEY PLOTS OF ALL DETECTORS

Time period covered - 10/30/73 TO 03/15/76

Quantity of data - 4 REELS OF MICROFILM

This data set contains reduced data supplied by the PI, and is on 16-mm microfilm. The data are a series of plots of flux vs time, with each plot covering 1 day (24 h). Each plot is identified by the year, day number, and satellite (IMP-J). The location of the spacecraft at noon (GMT) is given in both solar ecliptic coordinates and solar magnetospheric coordinates. Universal time, in hours, is plotted along the abscissa. Five different plots contain the data for each day. The first plot shows the fluxes of 0.4 MeV protons, 3 MeV protons, 3.5 MeV alphas, and 2 MeV medium-Z particles, in units of the log of the flux in number/(sq cm-s-sr-MeV/nuc). The second plot shows fluxes for detectors E5, E6, GM3, and the E4 telescope in units of the log of the flux in number/(sq cm-s-sr) for energies above the detector threshold. The third plot shows the solar X-ray flux in 1 to 11 A, 4 to 16 A, and 2 to 10 A passbands in units of the log of the flux in ergs/sq cm-s. The fourth plot shows: (a) the log of the ratio of the count rates of detectors E2B and E2C, (b) and (c) the amplitude and phase of a cosine fit to the 0.4 MeV proton fluxes and 0.2 MeV electron fluxes, (d) the log of the alpha to medium-Z particle fluxes (1.6 to 4.3 MeV/nuc) and the log of the ratios of the proton to alpha fluxes (1.74 to 4.3 MeV/nuc). The fifth plot shows the counting rates of the two scintillators used to remove the penetrating particle background from the other detectors.

Data set name - MERGED HOURLY AVERAGED 1-2, 14-25 MEV PROTON FLUX DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-08D, MGD HR AVG 1-2,14-25 MEV FLX PLT

Time period covered - 08/01/75 TO 08/31/78

Quantity of data - 2 REELS OF TAPE

These hourly averaged data are recorded on 1600 bpi, 9 track, ASCII magnetic tape and were created on a Modcomp IV computer. The records are 80-byte card images containing year, day of year, hour of day, spacecraft ID, and fluxes from channel P2 (.97 to 1.85 MeV) and channel P4 (13.7 to 25.2 MeV). The tapes contain data for both IMP H and IMP J.

Data set name DAILY AVERAGED PROTON FLUXES GREATER THAN 10, 30, 60 MEV ON MAGNETIC TAPE

NSSDC ID 73 078A 08E, DAILY AVG PRO FLX GT 10,30,60 MEV

Time period covered 09/26/72 TO 05/02/82

Quantity of data - 1 REEL OF TAPE

The data are on a single 9-track tape, written at 1600 bpi in a single ASCII file by a VAX 11/750 computer. Each logical record consists of 81 bytes. It contains daily averaged fluxes (1/sq cm-s-sr) of protons of energy values greater than 10, 30, and 60 MeV. The original data were not obtained at these thresholds, but in bands spanning the range from 15 MeV to 440 MeV, by either IMP-H or IMP-J spacecraft. The observed data were best fitted to provide the fluxes for this data set. This data set is also listed as 72-073A-08L.

IMP-J, LA/ARUS
SOLAR PLASMA FARADAY CUP

Data set name HOURLY AVERAGED SOLAR PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73 078A 02A, INTERPLANETARY HOURLY AVERAGES

Time period covered 01/01/76 TO 08/07/87

Quantity of data - 5 REELS OF TAPE

The data set consists of hourly averaged solar plasma data on 800 bpi, 7-track, BCD magnetic tape recorded on an IBM 360 computer. The data are in two files. The first file contains data for IMP-J and the second for IMP-H (72 073A-02A). Each physical record contains 100 logical records of 106 bytes. Each record contains spacecraft name; year; day of year; hour of day and average; and standard deviation and number of values averaged for speed, density, and thermal speed.

Data set name HOURLY AVRGD SOLAR WIND PLASMA PARAMETERS PUBLISHED IN 'SOLAR GEOPHYSICAL DATA'

NSSDC ID 73-078A-02B, SGD PBLSHD HRLY AVGD PLASMA PARAM

Time period covered - 08/01/75 TO 06/29/84

Quantity of data - 90 PAGES OF UNBOUND HARDCOPY

This data set consists of hard copy plots, published in the Solar Geophysical Data Bulletin, that contain hourly averages of solar wind flow speed, number density, temperature, and most probable thermal speed. One month's data are contained in a single plot. Error bars on each point are also included.

Data set name - HIGH RESOLUTION DATA ON TAPE

NSSDC ID 73-078A-02C, SOLAR PLASMA-HIGH RESOLUTION

Time period covered - 07/05/77 TO 09/04/77

Quantity of data - 2 REELS OF TAPE

This data set consists of two tapes of high time resolution solar wind plasma data. One is a 7-track, 800-bpi tape, and the other is 9-track, 1600-bpi tape, both written in bcd by IBM 360. They provide 5 s averages of solar wind speed, density, and thermal speed to represent temperature. Standard deviations are also provided.

Data set name - 5 MINUTE RESOLUTION PLASMA PARAMETER DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-02D, 5 MIN RESOLUTION PLASMA PARAMETER

Time period covered - 10/31/73 TO 08/08/80

Quantity of data - 6 REELS OF TAPE

These 5 min averaged plasma data are on 9-track, 1600-bpi, EBCDIC magnetic tapes created on an IBM 360 computer. Each physical record contains 37 logical records of 430 bytes. The data consist of spacecraft ID, year, day of year, minute of day, average value, standard deviation, and number of samples that provided the average, for each of the following: bulk speed (km/s), density, thermal speed, flux, ratio of thermal speed to bulk speed, E-W angle, N-S angle, tangential (T) and normal (N) velocity components, and flux from four orientations.

Data set name - 5-MINUTE AVERAGED INTERPLANETARY MAGNETIC FIELD AND PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73 078A-02E, 5 MIN AVG IMF & PLASMA, ON TAPE

Time period covered - 04/11/77 TO 05/23/80

Quantity of data - 1 REEL OF TAPE

This data set contains 5-min averages of solar wind plasma parameters from 73 078A-02 and 5 min averages of interplanetary magnetic field (IMF) from 73-078A-01, plus computed quantities, spacecraft position, and information relating to spacecraft position, the IMF vector and the earth's bow shock. The data are contained on a 9 track binary magnetic tape, created at 1600 bpi on an IBM 3081 computer. Only the times in which the spacecraft was in the interplanetary medium are included. There are magnetic field data in every record, but some records have fill data for plasma words. The plasma parameters included are the bulk flow speed, flow azimuth, flow latitude, proton density, thermal speed, and standard deviations of these quantities. The IMF parameters included are the average magnitudes of the field, the Cartesian components in GSE and GSM coordinates, standard deviations, and azimuth and latitude of the vector in GSM coordinates. Computed quantities included are the dynamical pressure, the scalar product of the bulk flow velocity and the X component of the magnetic field, and the quantity epsilon defined by Dr. S.-I. Akasofu. The Cartesian coordinates of the spacecraft are given in GSM and GSE systems, and the geomagnetic latitude of the sun is also given. Information relating to the bow shock includes the Cartesian coordinates (GSE) of the point of intersection of the IMF line through the spacecraft with a modelled bow shock. Also given are the distance along the IMF line between that point of intersection and the spacecraft, and the angle between the IMF line and the shock normal at the intersection. Logical record length is 45 words (180 bytes), and a physical record contains 15 logical records. This data set is also listed under 73-078A 01F. Selected parameters from this data set are contained in microfiche listings and plots in the data set 73-078A-01G, which is also listed under 73-078A-02F.

Data set name - 5-MIN AVERAGED INTERPLANETARY FIELD AND PLASMA, SELECT PARAMETERS FROM 73-078A-02E

NSSDC ID 73-078A-02F, 5-MIN AVG IMF & PLASMA, ON FICHE

Time period covered - 04/12/77 TO 12/31/79

Quantity of data - 52 CARDS OF B/W MICROFICHE

This data set contains 5-min averages of interplanetary magnetic field (IMF) data from 73-078A-01 and solar wind plasma data from 73-078A-02. The data set consists of 11 microfiche cards of plots displaying three parameters and 41 fiche of listings of 14 parameters. These parameters are a subset of those contained in the magnetic field data set 73-078A-01F, which is also listed as 73-078A-02E. Only data from times when the spacecraft was in the solar wind are included in this data set. Each frame of the fiche plots covers 1 day and consists of two plot panels. In the lower panel the solar wind dynamical pressure is plotted, in dynes per sq cm, on a logarithmic scale for values between 1 and 100. The upper panel contains a plot of the parameter epsilon defined by Dr. S.-I. Akasofu, plus a plot of the scalar product of the solar wind velocity and the Z component of the IMF. These two parameters generally track each other quite well. They, too, are plotted on a logarithmic scale limited to two decades, chosen to yield profiles only when the energy transfer from the solar wind to the magnetosphere is expected to be very significant (V x Bz < 0, epsilon > 3.2E+17). In order to avoid ambiguities between data gaps and off-scale parameter values, the off-scale values are plotted near the top or the bottom of the appropriate panel. The data listings provide the plotted parameters plus the basic field and plasma parameters. The magnetic field parameters listed are the average field magnitude, Cartesian components and field azimuth in GSM system, and vector standard deviation. The plasma parameters listed are the bulk flow speed, proton density, proton temperature, and longitude and latitude of the flow direction. Also listed are the three computed parameters that were plotted in the fiche plots. This data set is also listed as 73-078A-01G.

Data set name - 1-2 MINUTE RESOLUTION PLASMA PARAMETER DATA ON MAGNETIC TAPE,

NSSDC ID 73-078A-02G, 1-2 MINUTE RESOLUTION PLASMA PARA

Time period covered - 10/31/73 TO 11/14/86

Quantity of data - 5 REELS OF TAPE

These 9-track, 6250-bpi, ASCII tapes were created by an IBM 360. Each physical block is 9500 bytes long, with 50 logical records, and 190 bytes per record. The averaging time varies from about 30 seconds to about 5 minutes. Among the 23 items of each record are the fluxes (cm**-3 sec-1) from spacecraft longitudes of -45 & +45, +45 & +135, +135 & -135, and -135, and -135 & -45 degrees. Also provided are the N-S and E-W angles of the bulk flow of the plasma, mean thermal speed (km sec-1), and density (cm**-3).

IMP-J, LEPPING
MAGNETIC FIELD EXPERIMENT

Data set name - 15 SECOND AVERAGED MAGNETIC FIELD DATA ON TAPE

NSSDC ID 73-078A-01A, 15 SEC AVGD MAGNETIC VECTORS,TAPE

Time period covered - 10/30/73 TO 05/27/86

Quantity of data - 45 REELS OF TAPE

This data set consists of experimenter-supplied, 9 track, 1600-bpi, binary magnetic tapes generated on an IBM 360 computer. Each physical record contains 60 logical records, and each logical record contains, in 68 4-byte words, averaged magnetic field data and spacecraft trajectory information for one 15.36-s interval. The data consist of field magnitudes and Cartesian components, as well as latitude (theta) and longitude (phi) angles in solar ecliptic and solar magnetospheric coordinates. Also available are the field latitude and azimuth angles in payload, solar ecliptic coordinates, and auto-variances and cross-variances in payload coordinates (almost the same as solar ecliptic coordinates). In addition, data quality flags, spacecraft ephemeris data, housekeeping data, and various other parameters are included.

Data set name - HOURLY AVERAGED IMP INTERPLANETARY MAGNETIC FIELD DATA ON TAPE

NSSDC ID 73-078A-01B, HR AVG MAG VECTORS ON TAPE

Time period covered - 01/02/74 TO 05/20/75

Quantity of data - 1 REEL OF TAPE

This data set consists of one 9-track, 1600-bpi, IBM 360, binary tape created at NSSDC from an experimenter-supplied data tape. The latter tape is being used in preparation of an update to the IMF data book. This data set was created so that scientists having an immediate need for the most recent IMF data do not have to wait for the appearance of the data book update and associated tape. The tape of this data set has 20 logical records per physical record and 17 data words per logical record, including time, a spacecraft identifier, number of fine time scale data points in the hourly averages, hourly averaged field magnitudes, direction angles, Cartesian components, and standard deviations. Angles and components are expressed in solar ecliptic coordinates. Most data are from IMP-J, although there are some hours with data from IMP 1. No records are found for hours with no data.

Data set name - 15.36 SEC AVERAGED VECTOR MAGNETIC FIELD DATA PLOTS ON MICROFILM

NSSDC ID 73-078A-01C, 15 SEC AVGD MAG FLD PLOTS, MFILM

Time period covered - 10/30/73 TO 12/13/86

Quantity of data - 23 REELS OF MICROFILM

This data set consists of experimenter-supplied, 16-mm microfilm that contains 6 h of 15.36-s averaged vector magnetic field data plots per frame (3 h across the frame, twice). The data consist of field magnitudes (determined as averages over individual magnitudes), field latitude and longitude angles in solar ecliptic coordinates, and standard deviations. Dots are used for field magnitudes between 0 and 25 gammas, and A's and B's are used for magnitudes between 25 and 50, and 50 and 75 gammas, respectively. Listed each hour are spacecraft positions in solar ecliptic coordinates (Cartesian components, radial distance, latitude and longitude angles, distance from X axis) and the geomagnetic latitude of the sun.

Data set name - 15 SEC MAGNETIC FIELD PLOTS ON MICROFILM FOR IMS SPECIAL PERIODS

NSSDC ID 73-078A-01D, 15 SEC PLOTS,IMS SPECL PERS,MFILM

Time period covered - 01/01/76 TO 03/22/76

Quantity of data - 1 REEL OF MICROFILM

This data set consists of experimenter-supplied, 16 mm microfilm plots of 15-s resolution magnetic field magnitude and direction angle averages for those times designated as International Magnetospheric Study special periods. The data in this data set are a subset of the time continuous data set 73-078A-01C.

Data set name - 24 HR MAGNETIC FIELD SUMMARY PLOTS ON MICROFICHE

NSSDC ID 73-078A-01E, 24-HR MAG FLD SUMMARY PLOTS,FICHE

Time period covered - 10/22/77 TO 04/22/83

Quantity of data - 33 CARDS OF B/W MICROFICHE

This microfiche consists of summary plots of measured magnetic field components and resultant magnitude (in GSM coordinates), averaged over 15 s, vs time. The frames use the ISEE 1 time scale and orbit number (magnetometer data 77-102A-04G). There are three 24-h frames for each orbit and 49 days on each fiche. The first frame is centered on the ISEE 1 perigee (perigee plot), the second frame ends at apogee (pre-apogee plot), and the third frame starts at apogee (post-apogee). This sequence continues for consecutive orbits. Correlative plots of magnetic field vs time, as well as standard deviations of B field using the ISEE 1 time scale, may be found in data sets 77-102A-04G (ISEE 1) and 77-102B-04D (ISEE 2).

Data set name - 5-MINUTE AVERAGED INTERPLANETARY MAGNETIC FIELD AND PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-01F, 5-MIN AVG IMF & PLASMA, ON TAPE

Time period covered - 04/11/77 TO 05/23/80

Quantity of data - 1 REEL OF TAPE

This data set is contained on a 9-track, 1600-bpi, binary tape written by an IBM 3081 computer. It contains 5-min averages of solar wind plasma parameters from 73-078A-02 and 5-min averages of the interplanetary magnetic field (IMF) from 73-078A-01, plus computed quantities, spacecraft position, and information relating the spacecraft position, the IMF vector, and the earth's bow shock. Only the times when the spacecraft is in the solar wind are included. There are magnetic field data in every record, but some records have fill data in the plasma words. The plasma parameters included are the bulk flow speed, flow azimuth, flow latitude, proton density, thermal speed, and standard deviations of these quantities. The IMF

parameters included are the average magnitudes of the field, Cartesian components in GSM and GSE coordinates, standard deviations, and azimuth and latitude of the vector in GSM coordinates. Computed quantities included are the dynamic pressure, the scalar product of the bulk flow velocity and the Z component of the IMF, and the quantity epsilon defined by Dr. S.-I. Akasofu. The Cartesian coordinates of the spacecraft position are given in GSM and GSE coordinates. The geomagnetic latitude of the sun is also given. Information relating to the bow shock includes the GSE Cartesian coordinates of the point of intersection of a modeled bow shock with the IMF line passing through the spacecraft. The distance along the IMF line to that intersection point is given, as well as the angle between the IMF line and the shock normal at the intersection point. Logical record length is 45 words (180 bytes), and the physical record contains 6750 words. This data set is also listed under the identification number 73-078A-02E. Selected parameters from this data set are contained in microfiche listings and plots in the data set 73 078A-01G, which is also listed under 73-078A-02F.

Data set name - 5 MIN AVERAGED INTERPLANETARY FIELD AND PLASMA, SELECT PARAMETERS FROM 73-078A-01F

NSSDC ID 73-078A-01G, 5-MIN AVG IMF + PLASMA, ON FICHE

Time period covered - 04/12/77 TO 12/31/79

Quantity of data - 52 CARDS OF B/W MICROFICHE

This data set contains 5-min averages of interplanetary magnetic field (IMF) data from 73-078A-01 and solar wind plasma data from 73-078A-02. The data set consists of 11 microfiche cards of plots displaying three parameters and 41 fiche of listings of 14 parameters. These parameters are a subset of those contained in the magnetic tape data set 73-078A-01F, which is also listed as 73-078A-02E. Only the data that were obtained when the spacecraft was in the solar wind are included in this data set. Each frame on the fiche plots covers 1 day and consists of two plot panels. In the lower panel the solar wind dynamic pressure is plotted in dynes per sq cm. This is plotted on a logarithmic scale for values between 1 and 100. The upper panel contains a plot of the parameter epsilon defined by Dr. S.-I. Akasofu, and the scalar product of the bulk flow velocity and the Z component of the IMF. These two parameters track each other quite well. They, too, are plotted on a logarithmic scale limited to two decades, chosen to yield profiles only when the energy transfer from the solar wind to the magnetosphere is expected to be very significant (V x Bz < 0, and epsilon > 3.2E+17). In order to avoid ambiguities between data gaps and off scale values, the off-scale values are plotted near the bottom or the top of the appropriate panel. The data listings provide the plotted parameters plus the basic field and plasma parameters. The magnetic field parameters listed are the average field magnitude, Cartesian components and field azimuth in GSM coordinates, and the vector standard deviation. The plasma parameters listed are the bulk flow speed, the proton density and proton temperature, and the latitude and longitude of the flow direction. Also listed are the three computed parameters that are plotted in the fiche plots. This data set is also listed under 73 078A 02F.

Data set name - .32 SEC GSE MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 73 078A-01H, .32 SEC GSE MAGNETIC FIELD DATA

Time period covered - 03/22/79 TO 03/22/79

Quantity of data - 1 REEL OF TAPE

This data tape contains high time resolution magnetic field data. It is a 9-track binary tape, written by an IBM 3081 at 1600 bpi. There are eight logical records per physical record, containing the Cartesian components Bx, By, and Bz, every 0.32 s apart. Also listed are the 1.28 s averages of these components as well as the X, Y, and Z values (in earth radii) of the location of the spacecraft. Whether the coordinate system used is GSE or GSM is specified by the symbols SE or SM. When data were obtained in high bit rate mode (indicated by HI), only samples 1, 9, 17, and 25 provide the data. The rest of the samples in a 32 sample group should then be ignored.

IMP-J, MCGUIRE
SOLAR AND COSMIC-RAY PARTICLES

Data set name - HOURLY AVERAGED HIGH ENERGY PROTONS (20 40 MEV) DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-09A, 1-HR AVGD,20-40 MEV PROTON FLUX

Time period covered - 08/01/75 TO 12/31/84

Quantity of data - 3 REELS OF TAPE

This data set is written by IBM 3081 in EBCDIC at 1600 bpi. Each 9-track tape contains approximately 50 months of data, with 1 month of data per file. Each record is 80 bytes long. It lists, in sequence, year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux of protons (1/sq cm-s-sr-MeV) in the P5 energy band 20-40 MeV. Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

Data set name - HOURLY-AVERAGED HIGH ENERGY PROTONS 40 80 MEV DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-09B, 1-HR AVGD,40-80 MEV PROTON FLUX

Time period covered - 09/01/75 TO 12/31/84

Quantity of data - 3 REELS OF TAPE

This data set is written by an IBM 3081 computer in EBCDIC at 1600 bpi. Each 9-track tape contains approximately 50 months of data, with 1 month of data per file. Each record is 80 bytes long. It lists, in sequence, year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux of protons (1/sq cm-s sr-MeV) in the P6 energy band 40 80 MeV. Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

IMP-J, SIMPSON
SOLAR FLARE HIGH-Z/LOW-E AND LOW-Z ISOTOPE

Data set name - TIME-ORDERED, SECTORED COUNT-RATE AND PULSE-HEIGHT DATA ON MAGNETIC TAPE

NSSDC ID 73 078A-07A, RATE AND PHA DATA TAPES

Time period covered - 10/30/73 TO 09/11/85

Quantity of data - 538 REELS OF TAPE

This data set contains essentially all nonredundant charged particle data telemetered from the experiment, sorted in time order with overlap periods eliminated. Data are recorded at 800 bpi on 7 track, binary (odd parity) magnetic tapes with two files per tape. Each file contains the same number of 1952 character physical records. Each record has a 32 character header containing time, bit rate, and status information followed by four 480 character "pages" of data. Each page represents 20.48 or 81.92 s of data, depending upon the telemetry bit rate (1600 bps or 400 bps, respectively). Individual sectored and unsectored rates listed on a page have accumulation times ranging from 1 to 1/8 of the above time. Rates are written in a log-compressed format. Also listed on each page are up to 32 pulse-height events from the main telescope (with sectors) and up to 16 pulse heights from the low-energy telescope (with sectors).

Data set name - 5.46-MIN AVERAGED EXPERIMENT-MODE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 73 078A 07B, 5.46-MIN AVG COUNT RATES ON TAPE

Time period covered - 10/30/73 TO 09/29/85

Quantity of data - 18 REELS OF TAPE

This data set consists of time ordered, reduced, 5.46 min particle count accumulations from the main and low energy telescopes written at 800 bpi on 7 track, binary (odd parity) magnetic tapes. Each tape contains up to 60 files ("runs"), each file containing the same number of 2640-character physical records. Each physical record contains 15 logical records that contain the rate data for one time interval. The logical records contain time and experiment operation data, the earth sun spacecraft angle and geocentric distance, and the rate data for the 15 channels. Data quality, time coverage, and accumulated number of counts are given for each channel. Sectored rates are not provided, but the anisotropy and sector number of the maximum and minimum flux are given for the two lowest energy channels of the main telescope.

Data set name - EXPERIMENT-MODE PARTICLE COUNT-RATE PLOTS BY SOLAR ROTATIONS, ON MICROFILM

NSSDC ID 73-078A-07C, SOL. ROT. COUNT-RATE PLOTS, MFILM

Time period covered - 10/30/73 TO 08/22/85

Quantity of data - 12 REELS OF MICROFILM

This data set contains computer-generated plots of experiment-mode count rates vs time, on microfilm. Each plot covers a 30 day interval beginning on the first day of each 27-day Bartels solar rotation. Coverage begins on October 30, 1973, in rotation 1918. Plotted rates from the main detector are mainly due to protons in the energy intervals 0.5 to 11.2, 11.2 to 20.0, 20.0 to 29.8, 29.8 to 94.8, and above 94.8 MeV, and to high-energy, multiply charged nuclei (e.g., oxygen above 215 MeV/nuc). Note that the high-7, low-energy channel responds to helium nuclei of uncertain energy and should be used with caution. The dominant species and approximate energy intervals for the plotted rates from the low-energy detector are as follows: (1) protons from 0.54 to 1.77 MeV and above 1.77 MeV, (2) He from 0.64 to 1.70 MeV/nuc, (3) C, N, and O nuclei (O from 0.83 to 3.24 MeV/nuc), and (4) Mg and heavier elements (Si above 3.0 MeV/ nuc, Fe above 1.7 MeV/nuc).

Data set name - HOURLY AVERAGED ALPHA PARTICLE (11 90 MEV/NUC) DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-07D, HOURLY AVGD ALPHA PART(11-90 MEV)

Time period covered - 08/01/75 TO 08/31/85

Quantity of data - 1 REEL OF TAPE

This data set is written by an IBM 3081 computer in EBCDIC at 1600 bpi. Each 9-track tape contains approximately 50 months of data, with 1 month of data per file. Each record in a file is 80 bytes long. It lists, in sequence, year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux (1/sq cm-s-sr-Mev) of alpha particles in one of three energy bands. A1 in the sequence denotes the 25-90 MeV band, A2 denotes the 20-25 MeV band, and A3 denotes the 11-20 MeV band. Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

IMP-J, STONE
ELECTRONS AND HYDROGEN AND HELIUM ISOTOPES

Data set name - HALF HOUR RESOLUTION COUNT RATE PLOTS ON MICROFILM.

NSSDC ID 73-078A-06A, HALF HR RES CNT RTE PLOTS, MFILM

Time period covered - 10/31/73 TO 02/02/75

Quantity of data - 1 REEL OF MICROFILM

This data set consists of experimenter-supplied, 35-mm microfilmed electron, proton, and He isotope count rate plots. Each of two types of plot is presented with two different time scales. One subset of each type contains 7 days of data per frame, with 30-min resolution, while the other subset contains 27 days of data per frame, with 2-h resolution. The first set of plots contains spin-integrated count rates for each of the eight coincidence mode rates obtained by the experiment. The second set contains count rates from each sensor of the telescope taken singly. The 27-day coincidence mode rate plots also contain spacecraft latitude and longitude in GSM coordinates and the sun-earth-spacecraft angle.

Data set name - HOURLY AVERAGED COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-06B, HOURLY AVERAGE COUNT RATES, TAPE

Time period covered - 10/28/73 TO 12/31/80

Quantity of data - 8 REELS OF TAPE

These electron, proton, and He isotope count rate data were supplied by the experimenter on 800-bpi, binary, 9-track magnetic tape. The data were created on an IBM 370/158 computer with a block size of 520 bytes. One record was written for each hour, and records are grouped into files of 10 days in length to facilitate searching for a particular date. One tape is provided for each calendar year. Records written for hours in which no data were available are flagged by negative identification fields. Files with no data have only on record. The count rates given are described in the experimenter-supplied format.

Data set name - HOURLY AVERAGED ELECTRON DATA (1-5 MEV) ON MAGNETIC TAPE

NSSDC ID 73-078A-06C, HOURLY AVERAGED ELECTRON 1-5 MEV

Time period covered - 08/01/75 TO 12/31/80

Quantity of data - 1 REEL OF TAPE

This data set was written by an IBM 3081 computer in EBCDIC at 1600 bpi. Each 9 track tape contains approximately 50 months of data, with 1 month of data per file. Each record in a file is 80 bytes long. It lists, in sequence, the year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux of electrons in the E1 range 1-5 MeV (1/sq cm-s-sr-MeV). Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

Data set name - HOURLY AVERAGED PROTON DATA(4.0 12.5 MEV) ON MAGNETIC TAPE

NSSDC ID 73-078A 06D, HOURLY AVGD PROTONS 4-12.5 MEV

Time period covered 08/01/75 TO 12/31/80

Quantity of data - 1 REEL OF TAPE

This data set is written by an IBM 3081 computer in EBCDIC at 1600 bpi. Each 9 track tape contains approximately 50 months of data, with 1 month of data per file. Each record in a file is 80 bytes long. It lists, in sequence, the year (last two digits), day number, hour, and spacecraft number (7 or 8 of the IMP series), followed by the hourly averaged flux of protons in the P3 range 4-12.5 MeV (1/sq cm s sr MeV). Plots of the data have appeared in the several issues of Solar Geophysical Data-Comprehensive Report, published by NOAA, Boulder, Colorado.

IMP-J, WILLIAMS
ENERGETIC ELECTRONS AND PROTONS

Data set name - 30-MIN AVERAGED COUNT RATES FOR ALL MODES ON MAGNETIC TAPE

NSSDC ID 73-078A-05A, 30 MIN AVG COUNT RATES, ALL MODES

Time period covered 10/30/73 TO 03/11/80

Quantity of data 4 REELS OF TAPE

These experimenter supplied data are on 800 bpi, binary, 9 track magnetic tapes generated on a CDC 6600 computer. Data items were converted to an IBM format. Records are fixed length (1466 32 bit words) and represent 30 min averages (48 averages for each of 13 channels per day, synchronized to 30-min intervals). Each record contains year, day of year, orbit number, number of actual data items in the record, 30 min averages for each channel, percentage of bad data during each average, geocentric solar ecliptic coordinates, filter variables, and satellite ID.

Data set name - SIMULATED THREE-DIMENSIONAL CONTOUR LISTINGS ON MICROFILM

NSSDC ID 73-078A-05B, 3-DIMENSIONAL CONTOUR LIST,MFILM

Time period covered - 01/03/76 TO 07/13/76

Quantity of data - 13 REELS OF MICROFILM

This data set consists of microfilm images of "poorman's contour" plots produced by printing the numerical values of the counts obtained during a 5-s accumulation for each sector for the lowest energy electron and proton channels from the experiment. Channels L1, L7, and G1 are included in this data set. The telescope and electron detectors (L channels) swept out a great circle in the ecliptic plane with a 15 deg opening angle collimator that was broken into 16 11.25 deg sectors. The G detector swept out a cone with a 13 deg collimator at -45 deg ecliptic latitude, and G1 was also broken into 16 equal sectors. Each frame contains a heading that gives date, hour, satellite ID, and location in both solar ecliptic and solar magnetospheric coordinates. The first column of the plot gives the time in minutes and seconds with each row incremented by about 20.45 s. The sector numbers are used to label the next 16 columns; sector 1 is viewed antisunward, sector 5 eastward, sector 9 sunward, and sector 13 westward. Following this information is a column giving 10 times the average number of counts for all 16 sectors of L1. This column is followed by a column representing 10 times the average of L7 over selected sectors, with those sectors near the sun being deleted. The next series of columns provides the "poorman's contours" for L7 over the selected channels, followed by a column giving 10 times the average over all sectors of the G1 channel. A final column provides the proton spectral index obtained by using a power law spectrum and taking the ratio of L1 and L2.

Data set name - HISTOGRAM PLOTS ON MICROFILM

NSSDC ID 73-078A-05C, HISTOGRAM PLOTS,MFILM

Time period covered - 10/30/73 TO 06/25/77

Quantity of data - 12 REELS OF MICROFILM

This data set is composed of 35-mm microfilm images of half-day plots of the counting rates for each channel averaged over 326.4 s. Because the data are averaged over sectors, the directional information is not preserved. Each frame contains four channels, with the channel label appearing to the left of the first plotted point. The ordinate scale is logarithmic in units of c/s, and the beginning power of 10 for each channel is given at the bottom of the frame. The maximum and minimum values of each channel average for the half-day period are also given at the bottom; in addition, the orbit projection into the solar ecliptic plane with model magnetopause and bow shock boundaries is presented.

Data set name - FOUR-ALBUM AVERAGED ELECTRON AND PROTON DATA ON MAGNETIC TAPE

NSSDC ID 73-078A-05D, 5.46 MIN. AVG. DATA ON MAG TAPE

Time period covered - 12/01/77 TO 12/12/77

Quantity of data - 1 REEL OF TAPE

The experimenter-supplied, four-album average data are on 800 bpi, 7 track, binary magnetic tapes. The records are in unblocked, 60-bit CDC format with 230 words each. The first two files on tape contain IMP-H data (72-073A-05B). The next two files are IMP-J data consisting of satellite ID; year, day of year, time of day (s); count rates (counts/s) for channels L1 to L12, G1 to G3, and F; number of pages for each channel average; and ephemeris information.

****
********** ISEE 1 **********
****

Data set name PREDICTED TRAJ PLOTS ON MICROFILM

NSSDC ID 77-102A-00D, PREDICTED TRAJ PLOTS,MFILM

Time period covered 10/15/77 TO 12/31/78

Quantity of data 2 REELS OF MICROFILM

This ephemeris data set on 35-mm microfiche contains plots on world map backgrounds of both the subsatellite points and the magnetic field line footprints, in both hemispheres. The footprints were calculated using the Olsen/Pfitzer Tilt and Barraclough magnetic field models. Each frame contains 1 to 2 days of data.

Data set name MULTI COORDINATE PLOTS ON MICROFICHE

NSSDC ID 77-102A-00E, MULTI-COORD PLOTS, MFICHE

Time period covered 10/22/77 TO 10/21/86

Quantity of data 172 CARDS OF B/W MICROFICHE

This data set consists of plots of the orbital position of the spacecraft in 11 different formats, based on the multicoordinate ephemeris tapes. Eight full orbits are on each microfiche. One frame is a polar plot of approximate L value vs local magnetic time extending out to values of 15 earth radii. There is a magnetic latitude vs radial distance plot in a similar format. The next plot is a rectangular one giving the distance perpendicular to the earth-sun line vs the distance along the earth-sun line. The next three rectangular plots are the three possible projections in the geocentric solar ecliptic system. These plots are followed by three similar plots in the geocentric solar magnetospheric system (GSM). The final two plots use the quantity (GSM Z - Z of the neutral sheet) as the ordinate and the GSM X and Y coordinates as the abcissas, respectively; both the Russell-Brody and Fairfield models for the neutral sheet are used.

Data set name - PRINTOUT OF PREDICTED MAGNETIC CONJUNCTIONS ON MICROFILM

NSSDC ID 77-102A-00F, PREDICTED MAG CONJUNCTIONS, MFILM

Time period covered - 03/15/79 TO 02/17/81

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed listings of magnetic conjunctions computed at NSSDC. The target satellite is ISEE 1, and the orbits of ESA-GEOS 2 and STP P78-2 were examined to determine magnetic conjunctions, i.e., times when those satellites were located on (or within a specified distance of) the same magnetic field line that passed through the target satellite. In addition to the time period, the listing provides spacecraft locations, separation distance, distance to the surface of the earth along the field line, and identification of the magnetic field model used.

Data set name - ATTITUDE-ORBIT LISTINGS, GSE AND GSM COORDINATES ON MICROFICHE

NSSDC ID 77-102A-00G, ATTITUDE-ORBIT LISTINGS, MFICHE

Time period covered - 10/22/77 TO 12/20/86

Quantity of data - 701 CARDS OF B/W MICROFICHE

This data set contains computer listings of several types of attitude-orbit parameters on microfiche. There are two different sets of listings, one in GSE and the other in GSM coordinates. In each set data for a particular time appear on two adjacent pages. Each microfiche contains 208 pages of listings covering four orbits, and there is an entry every minute near perigee and every 5 min around apogee. For each point the first page of the GSE listings contains the date, the universal time (h and min), the spacecraft position in GSE coordinates (in Re), the coordinates of both a model normal to the magnetopause and a model normal to the bow shock, the scalar products of the ISEE 1 - ISEE 2 separation vector with both the model magnetopause normal and the model bow shock normal, the magnetic field magnitude and components of the earth in GSE coordinates from the Barraclough model (nT), and the field strength where the model field line crosses the magnetic equator (nT). The second page of GSE listings contains the universal time, the magnitude and spacecraft coordinate components of the internal plus external model magnetic field (nT) spin period (s), ISEE 1 - ISEE 2 separation vector in GSE coordinates (km), the longitude and latitude of the spin axis (deg), the elements of the conversion matrix from spacecraft coordinates to GSE, and an input tape quality indicator. The first page of the GSM listings contains the date, universal time, spacecraft position in GSM coordinates (in Re), distance of the neutral sheet above the GSM equator at the spacecraft's GSM Y position, tilt angle, L value, magnetic latitude, local time, sun-earth-spacecraft angle, clock angle about earth sun line in GSM coordinates, magnitude and GSM coordinates of magnetic field from internal field model (Barraclough), and field strength where the model field line crosses the magnetic equator. The second page of the GSM listings contains universal time; magnitude and GSM coordinates of internal plus external model magnetic field; geographic latitude and longitude of northern and southern hemisphere magnetic field line footprints (every 5 min starting on the hour); magnitude and GSM coordinates of ISEE 1 - ISEE 2 separation vector (km); latitude and longitude of the spacecraft spin axis in GSM coordinates; elements A22, A23, A32, and A33 of the conversion matrix from GSE to GSM coordinates (A11=1, A12=A13=A21=A31=0); and an input tape quality indicator.

Data set name EPHEMERIS DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-00H, EPHEMERIS, DATA POOL TAPE

Time period covered - 10/22/77 TO 01/07/87

Quantity of data 21 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9 track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick look algorithms for the following experiments: fast plasma (77-102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B).

Data set name GROUND MAGNETIC FIELD LINE INTERCEPT

PLOTS ON MICROFICHE

NSSDC ID 77-102A-00I, GND MAG FLD LINE INTERCEPT PLOTS

Time period covered - 10/24/77 TO 09/14/87

Quantity of data - 22 CARDS OF B/W MICROFICHE

This data set, prepared by the magnetometer investigator group, consists of microfiche plots that show on a world map the predicted northern and southern hemisphere ground intercepts ("footprints") of the magnetic field line passing through the satellite position. The intercepts were calculated by using the Olson-Pfitzer model (W. P. Olson and K. A. Pfitzer, "Magnetospheric Magnetic Field Modeling," McDonnell-Douglas Astronautics Company preprint, 1977), which includes both internal and external field contributions. This model is appropriate for quiet magnetic conditions and is limited to field lines that cross the equator earthward of 15 earth radii. Two microfiche frames are used to cover each world map, which is displayed in Mercator projection. Each map shows the field line intercepts for two orbits, which are identified by number. Start and stop times of each segment are printed on the map, and tick marks are located at 1-h intervals along the segments.

Data set name - ORBITAL PLOTS FOR PROMIS PERIOD

NSSDC ID 77-102A-00J, ORBITAL PLOTS FOR PROMIS PERIOD

Time period covered - 03/29/86 TO 06/16/86

Quantity of data - 3 CARDS OF B/W MICROFICHE

This data set, in microfiche, provides orbital plots of the spacecraft for the PROMIS period, March 29 to June 16, 1986. Each frame covers a time interval of 24 h and contains plots of X, Y, and Z components (GSM), in earth radii, of the radius vector to the spacecraft. Also plotted is the distance of the spacecraft from a modeled (Fairfield, J. Geophys. Res., vol. 85, p 775, 1980) neutral sheet, in earth radii.

ISEE 1, ANDERSON
ELECTRONS AND PROTONS

Data set name - ELECTRON AND PROTON DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-10A, ELECTRON+PROTON DPOOL PLOTS,MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08C), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The electron and proton experiment data plotted are both the electron and proton differential fluxes at 6 keV.

Data set name - 8-200 KEV ELECTRON AND PROTON FLUX DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-10C, 8-200KEV ELEC+PROT FLUX POOL DATA

Time period covered - 10/22/77 TO 11/12/86

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600-bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240 byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77-102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy comsic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The electron and proton experiment algorithm outputs include both electron and proton fluxes in the energy range 8 to 200 keV.

Data set name - 32 SEC AVERAGED SURVEY PLOTS OF PARTICLE DATA ON MICROFILM

NSSDC ID 77-102A-10D, 32-SEC AVGD SURVEY PLOTS, MFILM

Time period covered - 10/23/77 TO 07/31/78

Quantity of data - 5 REELS OF MICROFILM

This data set consists of experimenter-supplied hard copy, microfilmed at NSSDC, of 32-s-averaged particle flux survey plots for the ISEE 1 and 2 Anderson experiments. Each day consists of six 8-h plots, three electron and three proton, per satellite. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. Below this line, the satellite position in earth radii is given once per hour in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; identifier "01200" = >290 keV protons (ions), integral flux.

Data set name - 24-HOUR SURVEY PLOTS ON MICROFILM

NSSDC ID 77-102A-10E, 24-HR SURVEY PLOTS, MFILM

Time period covered - 10/23/77 TO 06/30/78

Quantity of data - 2 REELS OF MICROFILM

This data set contains 24 h particle flux survey plots for the ISEE 1 and 2 Anderson experiments, on microfilm. Each frame of microfilm contains 1 day of data consisting of the six 8-h plots, three electron and three proton, per satellite. The three plots of each type of flux are placed together in a 24 h strip, and the proton strip is placed below the electron strip to form each frame. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. Below this line the satellite position in earth radii is given once per hour in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; identifier "01200" = >290 keV protons (ions), integral flux.

Data set name - 32 SECOND AVERAGE SURVEY PLOTS ON MICROFICHE

NSSDC ID 77-102A-10F, 32 SEC AVG SURVEY PLOTS ON MFICHE

Time period covered - 01/02/79 TO 06/30/80

Quantity of data - 84 CARDS OF B/W MICROFICHE

This data set consists of experimenter-supplied hard copy, microfiched at NSSDC, of 32-s-averaged particle flux survey plots for the ISEE 1 and 2 Anderson experiments. Each day consists of six 8-h plots, three electron and three proton, per satellite. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. Below this line the satellite position in earth radii is given once per hour in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; identifier "01200"

= >290 keV protons (ions), integral flux.

ISEE 1, BAME
FAST PLASMA AND SOLAR WIND IONS

Data set name - FAST PLASMA AND SOLAR WIND DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-01C, FAST PLASMA+SOLAR WIND DPOOL,MFLM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08G), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The fast plasma data are shown on two types of plots, and they include four-level electron spectra, ion pseudodensity, ion average energies, and solar wind speed and pseudodensity.

Data set name - PLASMA VELOCITY, DENSITY, AND TEMPERATURE DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77 102A-01D, PLASMA VEL.,DEN.&TEMP. DPOOL,TAPE

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A 01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The fast plasma data include four-level electron spectra, ion pseudodensities, average energies, and solar wind peak speeds and pseudodensities.

Data set name - PROTON FLUID PARAMETERS 6 EARTH RADII - BOW SHOCK DATA ON MAGNETIC TAPE

NSSDC ID 77 102A 01I, PROTON FLUID PARAM 6RE BOW SHOCK

Time period covered - 10/29/77 TO 01/19/79

Quantity of data - 1 REEL OF TAPE

These experimenter-supplied, fast plasma proton fluid parameter data are on a 9 track, 1600 bpi, binary magnetic tape created on an IBM 360 computer. Data coverage includes the region from 6 earth radii out to (but excluding) the bow shock. The reasons for selecting this area of coverage are that the solar wind ion distributions are too cold to be adequately resolved by this instrument, and inside the region of 6 earth radii the fast plasma data would be contaminated by the energetic particle background. The physical records on the tapes are blocked with 50 88 byte logical records. The first record of each file is a header containing data identification information, orbit number, and start and end times for the file. Each data record contains universal time (in year, day of year, and seconds of day), orbit number, spacecraft position in solar ecliptic coordinates, number density, energy density, a flag indicating the energy range covered, components of the two dimensional bulk velocity in spacecraft coordinates, and the average two dimensional temperature.

Data set name - 5 MINUTE AVERAGED SOLAR WIND ION DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-01K, 5-MIN AVGD SOLAR WIND ION DATA

Time period covered - 10/30/77 TO 01/08/78

Quantity of data - 1 REEL OF TAPE

These data are contained on one 1600-bpi, 9-track, ASCII magnetic tape created on a VAX 11 computer. The records are of fixed length, with two records per physical block. The data consist of year, month, day and seconds of the day (UT); UT hours and minutes; spacecraft radial distance (Re), latitude (deg) and longitude (deg); spacecraft position in GSE coordinates; proton number density (1/cmee3) and bulk velocity (km/s); azimuthal flow angle (deg) and meridional flow angle (deg); alpha-proton flux ratio; and average proton temperature (deg K). The UT hours and minutes "are sometimes wrong near the end of an hour and should be ignored."

Data set name - HOURLY AVERAGED SOLAR WIND PLASMA DENSITY VELOCITY, PROTON TEMPERATURE DATA ON TAPE

NSSDC ID 77-102A-01L, HR-AVG SW DEN, V, PROT TEMP, TAPE

Time period covered - 10/30/77 TO 12/31/79

Quantity of data - 1 REEL OF TAPE

These data are contained on one 1600-bpi, 9-track, ASCII magnetic tape created on a VAX 11 computer. The tape is written in 2048-byte physical blocks. The data consist of the date (year, month, day) and UT (hour, minute) UT of the midpoint of the hour over which each set of data is averaged; and the hourly averaged solar wind plasma density (1/cmee3), velocity (km/s), and proton temperature (deg K).

Data set name - HOUR AVERAGED SOLAR WIND N, V, T PLOTS AND LISTINGS ON MICROFICHE

NSSDC ID 77-102A-01M, HR-AVG SW N, V, T PLT&LIST, FICHE

Time period covered - 10/30/77 TO 12/31/79

Quantity of data - 4 CARDS OF B/W MICROFICHE

This data set contains both plots and listings of 1 h averages of solar wind parameters on microfiche. The parameters are the solar wind density (1/cmee3), velocity (km/s), and temperature (deg K). The log of the density, the velocity, and the log of the temperature are plotted vs time on separate graphs. The parameters used to make the plots are listed vs time. The times given are at the middle of the averaged hours.

ISEE 1, FRANK
HOT PLASMA

Data set name - ION AND ELECTRON DENSITY POOL DATA ON MAGNETIC TAPE

NSSDC ID 77 102A 03B, ION & ELECTRON DENSITY DPOOL,TAPE

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9 track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240 byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A 01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The hot plasma algorithm outputs include proton densities, 10 keV electron fluxes, and energy range indicators.

Data set name - COLOR SLIDES OF LEPEDEA ENERGY TIME SPECTROGRAMS FOR CHANNELS 4P AND 4E

NSSDC ID 77 102A-03C, E T SPECTGMS CHAN 4P & 4E,SLIDES

Time period covered - 11/01/77 TO 12/30/81

Quantity of data - 2747 COLOR SLIDES

This data set contains energy-time color spectrograms of the count rates from the equatorial plane detectors (4P and 4E) on 35-mm color slides. Each slide contains five energy-time spectrograms plotting count rates according to a color scale vs the logarithm of the energy (eV) along the ordinate and universal time (h) along the abscissa. The color scale is shown on the right hand side of the slide. The count rates are proportional to the particle flux and also to the phase space density multiplied by the energy squared. The four top spectrograms of each slide display the proton detector count rates from the sunward, duskward, antisunward, and dawnward looking quadrants, respectively. The fifth spectrogram displays the azimuthally averaged electron detector count rates. Spacecraft positions are listed below the time values in spherical GSE coordinates. Each slide contains 24 h displays for low bit rate data and 6 h displays for high bit rate data. The instrument and the spectrograms have two energy modes, either 1 eV to 45 KeV or 215 eV to 45 KeV. The data set documentation contains more details and examples. Similar plots of azimuthally averaged count rates from detectors 1P, 1E, and 6P exist in data set 77 102A 03D, beginning at January 1, 1982.

Data set name COLOR SLIDES OF LEPEDEA ENERGY-TIME SPECTROGRAMS FOR CHANNELS 1P, 1E AND 6P

NSSDC ID 77 102A-03D, E T SPECTGMS,CHAN 1P,1E&6P,SLIDES

Time period covered - 01/01/82 TO 09/26/87

Quantity of data 3206 COLOR SLIDES

This data set contains energy time color spectrograms of the azimuthally averaged count rates from detectors 1P, 1E, and 6P on 35-mm color slides. Each slide contains three energy time spectrograms plotting count rates according to a color scale vs the logarithm of the energy (eV) along the ordinate and universal time (h) along the abscissa. The color scale is shown on the right side of the slide. The three panels display ion responses in detectors 1P and 6P and electron responses in detector 1E, respectively. Detectors 1P and 1E are centered 13 deg from the spacecraft spin axis and detector 6P is centered 152 deg from the spacecraft spin axis. Spacecraft positions are listed below the time values in spherical GSE coordinates. Each slide contains 24-h displays for low bit rate data or 8 h displays for high bit rate data. The instrument and the spectrograms have two energy modes, either 1 eV to 45 keV or 215 eV to 45 keV.

Data set name HOT PLASMA DATA POOL PLOTS WITH PROTON NUMBER DENSITY ON MICROFILM

NSSDC ID 77-102A-03E, HOT PLASMA DATA POOL PLOTS, MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data 109 REELS OF MICROFILM

These data are contained on 35 mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77 102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08G), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The hot plasma experiment data plotted are the spin averaged proton number density. These same data are contained on each of two types of plots

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ISEE 1, GURNETT
PLASMA WAVES

Data set name - 562 HZ WAVE ELECTRIC AND MAGNETIC FIELD DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77 102A-07C, 562 HZ WAVE E + B FIELD POOL DATA

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600-bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240 byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; Z offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The plasma wave algorithm outputs include instantaneous samples from the 562 Hz filter channels of the electron and magnetic spectrum analysers.

Data set name - 24 HR ELECTRIC SPECTRUM ANALYZER SURVEY PLOTS ON MICROFILM

NSSDC ID 77 102A-07D, 24-HR ELEC SPEC ANALYZER PLTS,FILM

Time period covered 10/22/77 TO 12/31/84

Quantity of data 7 REELS OF MICROFILM

This data set consists of experimenter supplied survey plots on microfilm. Each plot displays 24 h of data from the ISEE 1 University of Iowa Gurnett Plasma Wave Experiment electric spectrum analyzer (ESA). The top line on each plot contains letters indicating which of four antennas is connected to the electric spectrum analyzer. For the ESA plots, V is Heppner's 215 m long wire antenna; U is Mozer's 73.5-m double antenna; S is Scarf's 0.61 m short electric dipole antenna; and B is the Z-axis search coil magnetometer. The second line indicates the geocentric radial distance of the spacecraft in earth radii. The third line (immediately above the data) and the line immediately below the data indicate universal time in hours and minutes. Orbit parameters are included in the electric spectrum analyzer plots. The date and start time of each plot are given on the left side of each plot, along with the geocentric solar ecliptic coordinates at the start time. The ESA consists of 20 channels covering the frequency range from 5.6 Hz to 311 kHz. The channels are logarithmically spaced with four frequency channels per decade. The center frequency of each channel is indicated on the left side of the plots and the channel number is indicated on the right side of each plot. The bandwidths of the channels below 10 kHz are about plus or minus 15 percent of the center frequencies, and the bandwidths for the 10 kHz and higher channels are about plus or minus 5 percent of the center frequencies. The outputs from the spectrum analyzers are voltages approximately proportional to the logarithm of the field strength with a dynamic range of about 110 dB. The baseline of each channel is at about 0.1 microvolts/m. On the plots the vertical lines represent the geometric mean of all the data points in a 114 s time interval. The solid line above the average data represents the peak value observed over the same interval of time. The graph for each channel runs from 0.00 to 5.12 volts. Full scale (5.12 V) represents a signal strength about 110 dB above the baseline level. Each plot has been made from the raw data and has not been calibrated. Known errors and interference have been removed with one exception: when the experiment is turned off (which may happen during special tests or near perigee on shadow orbits) all channels read about one half of full scale.

Data set name 24 HR MAGNETIC SPECTRUM ANALYZER SURVEY PLOTS ON MICROFILM

NSSDC ID 77 102A-07I, 24 HR MAG SPEC ANALYZER PLOTS,FILM

Time period covered - 10/22/77 TO 12/31/84

Quantity of data 7 REELS OF MICROFILM

This data set consists of 24 h survey plots of the signal strength in the 14 channels of the magnetic spectrum analyzer and in the lowest 1 kHz of a single (indicated) range of the wideband data. For each of these plots, the average values over 144-s intervals, as well as the peak values in these intervals, are plotted. The channels are logarithmically spaced, with four frequency channels per decade, and cover the range from 56 Hz to 10.0 kHz. The center frequency of each channel is indicated on the left side of the plots. The bandwidths of the channels below 10 kHz are approximately + or -15% of the center frequency and the bandwidth of the 10.0 kHz channel is approximately + or -7.5%. The displayed output is not calibrated, but is approximately proportional to the logarithm of the input field strength. Full scale represents a signal strength 110 dB above the baseline level, which is at approximately 10 microvolts. The wideband receiver antenna used, the wideband receiver mode, and the wideband receiver range are indicated at the top of the plots. The three lines below the wideband receiver plot display the magnetic spectrum analyzer antenna used, the geocentric radial distance of the spacecraft (Re), and the universal time of the data. Below the

plots are displayed, at hourly intervals, the universal time, spacecraft geocentric radial distance (Re), geomagnetic latitude (deg), magnetic local time (hours), separation distance between ISEE 1 and ISEE 2 (km), orbit number, and L value (when available).

Data set name - PLASMA WAVE DATA POOL PLOTS WITH ELECTRIC AND MAGNETIC FIELD VALUES ON MICROFILM

NSSDC ID 77-102A-07J, PLASMA WAVE DATA POOL PLOTS,MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08G), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The plasma wave experiment data plotted are the 562-Hz wave electric and magnetic field values.

ISEE 1, HARVEY
PLASMA DENSITY

Data set name - PLASMA DENSITY PROPAGATION ON-OFF DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-08C, PLASMA DEN PROPAGATN ON-OFF,DPOOL

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600-bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240 byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number, minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A 01D), hot plasma (03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (09C), electrons and protons (10C), and ion composition (12B). The plasma density algorithm outputs include indicators of the activity of the sounder and the propagation transmitters during each 64 second period.

Data set name - SUMMARY SPECTROGRAMS ON MICROFICHE

NSSDC ID 77 102A 08F, SUMMARY SPECTROGRAMS, MFICHE

Time period covered - 10/22/77 TO 12/31/82

Quantity of data - 272 CARDS OF B/W MICROFICHE

This data set contains 3-h summary spectrograms plus other experiment, ephemeris, and plasma information on each frame of microfiche. Each frame displays four panels of information. The lowest two panels are spectrograms using grey scales of 10 3-dB steps to display the average power received by the sounder as a function of time and of the sounder's 128 frequency steps with center frequencies ranging from 0.5 to 50.7 kHz. The two spectrograms plot the same data using grey scales covering different ranges. The value of the top of the scale used in the upper spectrogram and the value of the bottom of the scale used in the lower spectrogram are given in the boxes marked MAX and MIN on the left side of each frame. The ranges of these scales change with time. Immediately above the spectrograms is a panel that gives a summary presentation of data from the propagation experiment, including the mean electron density in each 32-s period, the rms fluctuation of the density, and the electron gyrofrequency obtained from the data pool tape or a magnetospheric model. The top panel contains experiment status information (sounder step duration, frequency step, and antenna used) as indicated in the square box to the left. Ephemeris information on the left side of each frame include B and L coordinates, magnetic local time, magnetic latitude, ecliptic local time, the geocentric radial distance and GSE coordinates in Re, and the ISEE 1 - ISEE 2 separation distance in km. The two sets of values correspond to the beginning and the end of the 3-h interval. Data set users should consult the more detailed description found in C. C. Harvey et al., Early Results from the ISEE Electron Density Experiment, Space Science Review, vol. 23, pp. 39 58, March 1979.

Data set name - PLASMA DENSITY EXPERIMENT ON-OFF DATA ON DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-08G, PLASMA DEN.ON-OFF DPOOL PLTS,MFLM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm. The data are given in sets of eight types of plots for each day. Each type of plot shows indicators of when the plasma density experiment was turned on. Each plot type also shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the quasi-static electric field experiment's electron gun was turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (05C), plasma waves (07J), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A).

ISEE 1, HELLIWELL
VLF WAVE PROPAGATION

Data set name - SELECTED SPECTROGRAMS ON 35MM PAPER

NSSDC ID 77-102A-13A, SELECTED SPECTROGRAMS, PAPER

Time period covered - 08/20/79 TO 08/20/79

Quantity of data - 2 ROLLS OF STRIP OR BRUSH CHARTS

This data set contains spectrograms of parts of VLF wave data from a VLF emission event on a 35 mm paper reel. The event was triggered by nonducted signals (10.2, 11.05, and 11.33 kHz) from the Omega navigational transmitter in North Dakota. The plot shows the intensity of signals received vs frequency from 9.5 to 11.5 kHz across each paper strip and vs time along the strip. Time code pulses appear at the top edge of the spectrogram. The beginning of each minute is marked by the leading edge of a 1-cm long dash. Seconds are marked by the leading edges of 5 mm dots.

Data set name - SELECTED SPECTROGRAMS ON 35 MM POSITIVE FILM

NSSDC ID 77 102A 13B, SELECTED SPECTROGRAMS, 35MM FILM

Time period covered - 07/12/83 TO 07/31/83

Quantity of data - 2 REELS OF MICROFILM

This data set contains spectrograms of parts of the VLF wave data from two VLF emission events on separate reels of microfilm. The events were triggered by nonducted signals (10.2, 11.05, and 11.33 kHz) from the Omega navigational transmitter in North Dakota. The plots show the intensity of signals received vs frequency from 9.5 to 11.5 kHz across the microfilm and vs time along each strip of microfilm. Time code pulses appear at the top edge of the spectrograms. The beginning of each minute is marked by the leading edge of a 1-cm long dash. Seconds are marked by the leading edges of 5 mm dots.

ISEE 1, HEPPNER
DC ELECTRIC FIELD

Data set name - PLASMASPHERIC ELECTRIC FIELDS 3 SECOND AVERAGED DATA ON MAGNETIC TAPE

NSSDC ID 77 102A 11D, 3 S AVGD PLASMASPHERIC ELEC.FIELD

Time period covered - 12/02/77 TO 11/30/78

Quantity of data - 1 REEL OF TAPE

This data set comprises all the usable data from this instrument in the plasmasphere (mostly inside L of 6) for the time period covered. The electric fields are given in a coordinate system corotating with an observer on the earth. Several selections were made to avoid any data that might be

unreliable. The data that were kept were generally from regions of electron densities greater than 30 to 50/cmee3. The components of the electric field in the spin plane were measured. The third component (solar ecliptic Z) was calculated assuming that the scalar product of E and B is zero. The resulting vector electric field was then transformed into radially outward and azimuthally eastward components perpendicular to B. These fields were then projected to the magnetic equatorial plane and to the ionosphere, assuming that the magnetic field lines were equipotentials and that the magnetic field was a dipole. When projected to the northern hemisphere ionosphere these components become the northward and eastward electric fields. The data items contained in this data set are time, L value, magnetic local time, radial and azimuthal electric field components in the equatorial plane, and the ionospheric projections (north and east) of these. Time difference between data points is 3 s. These data are on 9-track, 1600-bpi, binary magnetic tape created on an IBM 360 computer.

ISEE 1, HOVESTADT
LOW-ENERGY COSMIC RAYS

Data set name - LOW ENERGY COSMIC RAY COUNT RATE DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-05B, LO-E COSMIC RAY CNT.RTE.DATA POOL

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600-bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77-102A 01D), hot plasma (03B), fluxgate magnetometer (04C), low-energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The low energy cosmic ray algorithm outputs include count rates of protons in three energy intervals between 0.17 and 20 MeV, plus those of alpha particles from 0.12 to 0.25 MeV and of Z>2 particles above 0.1 MeV.

Data set name - LOW-ENERGY COSMIC RAY DATA POOL PLOTS WITH PARTICLE COUNT RATES ON MICROFILM

NSSDC ID 77-102A-05C, LO-E COSMIC RAY DPOOL PLOTS,MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (07J), plasma density (-08G), energetic electrons and protons (09B), electrons and protons (10A), and ion composition (-12A). The low-energy cosmic ray experiment data plotted are the count rates of protons in three energy intervals between 0.17 and 20 MeV, plus those of alpha particles from 0.12 to 0.25 MeV and of Z>2 particles above 0.1 MeV/nucleon.

ISEE 1, MOZER
QUASI-STATIC ELECTRIC FIELDS

Data set name - QUASI-STATIC ELECTRIC FIELD GUN ON-OFF DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-06B, E-FIELD ELECTRON GUN ON-OFF,DPOOL

Time period covered - 10/22/77 TO 01/07/87

Quantity of data - 21 REELS OF TAPE

These data are contained on 1600-bpi, binary, 9 track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77-102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (10C), and ion composition (-12B). The quasi-static electric field algorithm outputs indicate whether the experiment's electron guns were on or off during each 64-second interval.

Data set name - SPIN-PERIOD AVERAGED DATA ON TAPE

NSSDC ID 77-102A-06C, SPIN-PERIOD AVERAGED DATA

Time period covered - 10/25/77 TO 05/05/84

Quantity of data - 148 REELS OF TAPE

This electric field data set is on 1600-bpi, 9-track, binary magnetic tape created on a PDP 11/40 computer. The tapes contain physical records consisting of one 3536-byte logical record each. Each logical record contains an 80-byte record header and 48 72-byte data groups. Each record header contains: the year, day of year, and hour; the spacecraft geocentric radius, local time (GSM), and latitude (GSM); McIlwain parameter; up to five sets of I bias values and their time offsets; the duration of the plasma density experiment's duty cycle and of its active part; and several flags with information about the plasma density experiment's status. Each data group contains data from one spacecraft spin period, consisting of: time offset to be added to the time in the record header; X and Y components of the electric field in BDM, BSM, GSE, and GSM coordinates (BDM and BSM coordinates are defined in the data set documentation); the standard deviations of the total electric (E) and magnetic (B) field values; the numbers of available E and B values; the E field phase (in BDM); the B field latitude and longitude (GSM) and the B field components (in Cartesian GSE coordinates); a parameter proportional to the voltages of sphere #2 with respect to the experiment signal ground; and three D.C. voltages proportional to the log of the power in the frequency range of each of the three wide bandpass filters with center frequencies of 6, 32, and 256 Hz. Because the experiment measures the electric field in the spacecraft spin plan, which coincides with the solar ecliptic plane to within a few degrees, the measureed fields are given as the X and Y components. The third component, Ez, is calculated from the requirement that E is perpendicular to B. Users of this data set should contact the principal investigator for information about corrections to be made as a function of the state of instrument operation and for assistance in distinguishing the perturbations caused by ISEE 1 active experiments and other effects.

Data set name - ELECTRON GUN ON OFF DATA FOR QUASI STATIC E-FIELD EXPT. DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-06D, ELECTRN GUN ON-OFF DPOOL PLT,MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35 mm microfilm. The data are given in sets of eight types of plots for each day. Each type of plot shows indicators of when this experiment's electron gun was turned on. Each plot type also shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment was in use, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03D) fluxgate magnetometer (-04B), low-energy cosmic rays (05C), plasma waves (07J), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A).

ISEE 1, OGILVIE
FAST ELECTRONS

Data set name - 5 MINUTE AVERAGED ELECTRON PARAMETERS ON MAGNETIC TAPE

NSSDC ID 77-102A-02C, 5 MIN AVG ELECTRON PARAMETERS

Time period covered - 10/30/77 TO 10/08/78

Quantity of data - 2 REELS OF TAPE

These data are contained on 9-track, 1600-bpi, binary magnetic tapes created on an IBM 3081 computer. The data are blocked with 200 124-byte logical records per physical record. Each logical record contains the year, day of the year (0 to 365), and 5-min interval (0 to 287) of the day over which the electron parameters were averaged; the number of fine scale points used in the average; the spacecraft radius (km), GSE coordinates (km), and GSM Y and Z coordinates (km); the 5-min averaged electron temperature (deg K), density (1/cm**3), and speed (km/s); the standard deviations of the temperature, density, and speed; the flow speed components in GSE coordinates (km/s); the heat flux components in GSE coordinates (erg/sec*cm**2); the cosine of the angle between the flow speed and heat flux vectors; the components of the magnetic field (nT) from the data pool magnetometer data in quasi-GSE coordinates; and the standard deviations of the magnetic field components. At least two points are required; only points for which the status of the quasi-static electric fields experiment was passive and the status of the plasma density experiment was "off before, off after" were used.

ISEE 1, RUSSELL
FLUXGATE MAGNETOMETER

Data set name - MAGNETIC FIELD DATA POOL PLOTS ON MICROFILM

NSSDC ID 77 102A-04B, MAGNETIC FIELD DPOOL PLOTS,MFILM

Time period covered 10/22/77 TO 09/26/87

Quantity of data 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric fields experiment were turned on, plus outputs of investigators' quick look algorithms for one or two of the following experiments: fast plasma (77 102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08C), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The fluxgate magnetometer data include the magnetic field magnitude and its components in spacecraft coordinates (along the direction of the spacecraft spin axis, along the spin-plane projection of the spacecraft sun line, and along a third orthogonal coordinate). These same data are given in two types of plots: one linear (from +100 to -100 nT) and one semilog plot of magnetic field vs time.

Data set name THREE COMPONENT MAGNETIC FIELD DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77 102A 04C, 3 COMP. MAGNETIC FIELD DATA POOL

Time period covered 10/22/77 TO 01/07/87

Quantity of data 21 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9 track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number, year, day of year, and seconds of day for the start and end of file; clock at start of file, group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate, dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A 01D), hot plasma (-03B), fluxgate magnetometer (-04C), low energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The fluxgate magnetometer algorithm outputs include 25 hourly parameters and the components of the magnetic field in spacecraft coordinates.

Data set name 64 SEC AVERAGED MAGNETIC FIELD DATA POOL PLOTS ON MICROFICHE

NSSDC ID 77-102A-04F, 64 SEC MAG FLD DPOOL PLOTS,MFICHE

Time period covered - 10/22/77 TO 02/02/84

Quantity of data - 49 CARDS OF B/W MICROFICHE

This data set comprises the magnetometer output from the data pool tape plotted on microfiche in a format different from that on the data pool microfilm. There are three frames per orbit, and each frame covers 24 h; consequently there is about a 14-h overlap. One frame is centered at perigee, one ends at apogee, and one begins at apogee. There are 30 orbits on each fiche. On each frame the 64-s averages of the three rectangular components of the field and the total field are plotted in spacecraft coordinates, which are very close to solar ecliptic coordinates. Logarithmic ordinate scales are used for the perigee frame and linear ones are used for the others.

Data set name - 24-HOUR MAGNETIC FIELD SUMMARY PLOTS ON MICROFICHE

NSSDC ID 77-102A-04G, 24-HR MAG FLD SUMMARY PLOTS,FICHE

Time period covered - 10/22/77 TO 12/27/85

Quantity of data - 125 CARDS OF B/W MICROFICHE

This experimenter-supplied microfiche consists of summary plots of observed magnetic field components, the resultant magnitudes, and the corresponding standard deviations averaged over 64 s vs time. These summary plots were prepared from ISEE 1 decommutated tapes. There are three pairs (B-field and standard deviation) of 24-h frames for each ISEE 1 orbit and 25 days per fiche. The first pair (perigee plot) is centered on the ISEE 1 perigee point, the second pair (pre-apogee) ends at apogee and the third pair (post-apogee) starts at apogee. The magnetic field components are in spacecraft coordinates. Also, date rate, instrument sensitivity, and flip state are provided on the standard deviation plots. Correlative magnetic field and standard deviation vs time plots, with the same format (using ISEE 1 time frames as above), may be found in data sets 77 102B 04D (ISEE 2) and 73-078A-01E (IMP 8, with no standard deviation plots).

Data set name MAGNETOPAUSE CROSSINGS, B VS TIME ON MICROFICHE

NSSDC ID 77 102A 04H, MAGNETOPAUSE XING, B VS T, MFICHE

Time period covered 10/24/77 TO 12/29/78

Quantity of data 4 CARDS OF B/W MICROFICHE

This data set contains 1 h plots of 12 s averages of processed magnetic field data vs time for periods surrounding spacecraft magnetopause crossings, on microfiche. The 12-s averages are overlapped by 2/3 so that a 12 s average is calculated and plotted every 4 s. Thus, they have been called "four second data." This information also exists on magnetic tape (data set 77 102A 04E). The plots contain four traces corresponding, from top to bottom, to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed, and the same scale is used to plot each of the four traces. When the field exceeds 160 nT, the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name - BOW SHOCK CROSSINGS, B VS TIME ON MICROFICHE

NSSDC ID 77 102A 04K, BOW SHOCK CROSSING,B VS TIME,FICH

Time period covered 07/03/78 TO 01/05/80

Quantity of data 12 CARDS OF B/W MICROFICHE

This data set contains 1 h plots of 12-s averages of processed magnetic field data vs time for periods surrounding spacecraft bow shock crossings, on microfiche. The 12-s averages are overlapped by 2/3 so that a 12-s average is calculated and plotted every 4 s. Thus, they have been called "four-second data." This information also exists on magnetic tape (data set 77 102A-04E). The plots contain four traces corresponding, from top to bottom, to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed and the same scale is used to plot each of the four traces. When the field exceeds 160 nT the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name - HOURLY PLOTS OF 4-SECOND AVERAGED MAGNETIC FIELD DATA ON MICROFICHE

NSSDC ID 77-102A-04N, 4-SEC MAGNETIC FIELD PLOTS,MFICHE

Time period covered - 10/22/77 TO 12/31/79

Quantity of data - 402 CARDS OF B/W MICROFICHE

This data set contains 1-h plots of 12 s averages of processed magnetic field data vs time on microfiche. The 12-s averages are overlapped by 2/3 so that a 12-s average is calculated and plotted every 4 s. Thus, they have been called "four-second data." This information also exists on magnetic tape (data set 77-102A-04E). The plots contain four traces corresponding, from top to bottom, to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed and the same scale is used to plot each of the four traces. When the field exceeds 160 nT the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name - ONE-MINUTE AVERAGED MAGNETIC FIELD DATA ON TAPE.

NSSDC ID 77-102A-04Q, ONE MINUTE AVERAGED MAGNETIC FLD

Time period covered - 01/13/80 TO 07/26/83

Quantity of data - 61 REELS OF TAPE

This data set contains 60-s-averaged values of the measured magnetic field vector and its relation to magnetic field models, plus spacecraft ephemeris data expressed in many ways and coordinate systems. The data set is contained on 1600-bpi, ASCII, 9 track magnetic tapes. Each tape contains 10 files, each file contains data for one orbit (perigee to perigee), and the format is "self defining" in the sense that the first three logical records of each file list the data parameters, the format of each parameter, and fill data indicators, respectively. Each succeeding logical record contains one set of values for all data set parameters. The data set contains the magnitude and the components of the 60 s averaged local magnetic field, and their standard deviations, the differences between the local and model field components, and the ratio of the local and model fields; and the geographic coordinates of the field line ground intercepts and the subspacecraft point. The spacecraft ephemeris parameters include the orbit number, geocentric radial distance, GSE and GSM coordinates and latitude and longitude; the dipole tilt angle, I value, local time, geomagnetic latitude, sun earth spacecraft angle, and spin period; the spacecraft velocity components and ISEE 1 to ISEE 2 separation components; the components of the normals to the model magnetopause and to the model bow shock; and the elements of the rotation matrices between various coordinate systems.

Data set name 24 HOUR DETRENDED SUMMARY PLOTS ON MICROFICHE

NSSDC ID 77-102A-04R, 24 HR DETRENDED SUMMARY PLOTS,FCH

Time period covered - 01/12/80 TO 01/16/83

Quantity of data 23 CARDS OF B/W MICROFICHE

This data set contains plots of 60 s averages of ISEE 1 magnetic field component values (nT) vs time, on microfiche. Each fiche card contains 20 orbits of data, with three plot panels per orbit. These plots are distinct from the ISEE 1 64-s summary plots. The three plot panels each span 24 h, with the panel labeled PERIGEE centered on the perigee of the spacecraft. The panels labeled PRE APOGEE and POST APOGEE somewhat overlap the period of the PERIGEE panel and they also display the magnetic field magnitude. Each orbit is completely covered. The coordinates of the PRE APOGEE and POST APOGEE panels are GSM. The coord nates of the PERIGEE panel refer to a system with Z in the direction of the local model field (Olson/Pfitzer, 1977), Y azimuthally eastward (and orthogonal to the local model field), and X completing the system. In addition, the Z component is detrended, i.e., the model field value corresponding to the spacecraft position and UT is subtracted from the measured Z component. The data shown on these plots are also available in digital form from NSSDC as data set 77-102A-04Q.

ISEE 1, SHARP
ION COMPOSITION

Data set name - PLASMA DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-12A, PLASMA DATA POOL PLOTS,MFILM

Time period covered - 10/22/77 TO 09/26/87

Quantity of data - 109 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric fields experiment were turned on, plus outputs of the investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A 01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08C), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The composition experiment data plotted are the cold plasma density. These same data are contained on each of two types of plots

Data set name ELECTRON DENSITY DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-12B, ELECTRON DENSITY DATA POOL TAPE

Time period covered - 10/22/77 TO 01/07/87

Quantity of data 21 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9-track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240 byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77 102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (06B), plasma waves (07C), plasma density (08C), energetic electrons and protons (-09C), electrons and protons (-10C), and ion composition (-12B). The ion composition data include the cold plasma density and flags indicating the presence of high ion temperatures and bulk flow in the plasma.

Data set name SOLAR WIND ENERGY AND MASS SPECTRA PLOTS+ LISTS IN SUN-SYNCH MODE ON MICROFICHE

NSSDC ID 77-102A-12C, SOL.WIND ENERGY&MASS SPECTRA,FICH

Time period covered 11/11/77 TO 11/22/78

Quantity of data 77 CARDS OF B/W MICROFICHE

This data set consists of microfiche containing hourly averages of counting rates for individual mass and energy steps, presented in the form of plots and lists. For each hour of sun-synch data and each sensor there are two projected three dimensional plots, one contour line plot, and one list, all representing the same set of data. The boldfaced letters and numbers on the top of each fiche are internal codes used during fiche production and bear no significance to the data. The microfiche are read column by column, top to bottom. The upper left-hand panel indicates the orbit number and the time interval during that orbit for which data are available. This panel is followed by two to three panels with remarks, including a graph of the orbit segment that was traversed during the indicated time interval. Following these panels there are plots and lists, i.e., a panel with plots followed by one to two lists corresponding to the plots. The times indicated do not always start and stop at a full hour; the start time shows the beginning of the first record found on the data tape after the previous full hour. This need not be a record with useful solar wind data. The stop time indicates the last record with useful solar wind data during this hour. If a full hour period is missing, there was a data gap larger than an hour. For each data period the fraction of time for which solar wind data are available is shown. This indicates the total time of all records (on the data tape) that contained any useful data (one record equals 63.7 s). Occasionally, records are not filled to 100 percent with useful data, therefore, time of actual data coverage may be slightly, but not much, smaller than the time indicated. Except for this, panels of plots and lists are self-explanatory.

Data set name - THERMAL ION MEASUREMENTS DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-12D, THERMAL ION MEASUREMENTS DATA

Time period covered - 11/29/77 TO 12/25/79

Quantity of data - 29 REELS OF TAPE

These experimenter-supplied, thermal ion measurement data are on magnetic tape created from a merge of the plasma composition experiment telemetry data tapes and the definitive attitude ephemeris tapes. A substantial amount of preprocessing was applied to unpack the telemetry format, determine instrument pointing directions, and collate the ion data with measurements of the magnetic field. The data were written on 9-track, 1600-bpi, binary tapes on a Univac 1180 computer. Each physical block contains 10 logical records of 302 36-bit words. In summary, each logical record contains header parameters, selected attitude data, 32 sequential measurements from each of the three ion sensor outputs, 32 corresponding measurements of the magnetic field components, and 32 pitch angle calculations. Because thermal ion measurements are generally obtained when the spacecraft is in the magnetosphere, the tapes will exclude periods when the spacecraft was in the solar wind and periods of special studies in which the instrument concentrated on specific energetic populations.

Data set name - THERMAL ION DATA PLOTS ON MICROFICHE

NSSDC ID 77-102A-12E, THERMAL ION DATA PLOTS, MFICHE

Time period covered 11/29/77 TO 11/30/77

Quantity of data - 15 CARDS OF B/W MICROFICHE

This data set contains sets of six plots on microfiche displaying particle fluxes and pitch angles vs the RAM angle (the angle in the spacecraft spin plan between the direction the instrument is pointing and the spacecraft velocity), and particle fluxes vs mass. One of the six plots in each set shows the fluxes of ions detected vs the mass detector setting. The positions of H+, He+, He++, O+, and O++ ions are marked, and responses caused by background radiation are shown at the highest mass detector setting. The other five plots use a different format to display flux and pitch angle data vs RAM angle for various kinds of ions. Each plot shows the angle between the direction the instrument is pointing at each measurement and the measured ambient geomagnetic field. This is done by using the 90-deg scale on the right of each plot and the symbols N and S to indicate the geohemisphere toward which the instrument is pointing. Four of these plots also show the fluxes (one for He+, one for O+, and two for all masses at two different times, both labeled H+) measured in each of the 32 retarding potential analyzer (RPA) energy channels vs RAM angle. The 32 channels are designated by the letters A through V, the numerals 1 through 9, and the asterisk. The plot labeled 0-100 eV shows the background fluxes detected with the RPA voltage turned off, for the total background and for He+, He++, and O+ ions. Each type of plot has a header that lists the following data: spacecraft radius (Re); local time; year, day, hour, and minute; seconds of the day; angle between the spacecraft spin axis and velocity (deg); spacecraft velocity (m/s) and spin rate (rpm); GSE coordinates (km); geomagnetic latitude and longitude (deg), and RAM angle of the sun (deg).

Data set name - SUMMAR ION DATA: R-FILES, FORMAT4 ON MAGNETIC TAPE

NSSDC ID 77 102A 12F, SUMMARY: R FILES (FORMAT4)

Time period covered 12/30/77 TO 12/30/79

Quantity of data - 13 REELS OF TAPE

This data set contains averaged values of ion composition data, excluding periods when the instrument was dedicated to solar wind observations. The data are in digital form plus supplemental hard copy plots. Analysis and plot programs accompany the data. Each file covers one spacecraft orbital revolution, approximately 57 h and 20 min. For survey purposes each orbit was divided into time intervals appropriate for display on one summary plot. The length of each interval (ranging from 30 min to 3 h) was chosen to be roughly proportional to the inverse of the spacecraft velocity. Within each interval, the ion count rates were averaged over time in various bins according to energy, species, and direction of motion of the ion. Programs are provided that generate plots as follows: (1) mass spectra for given energy; (2) differential ion flux spectra (for six directions of ion motion) vs energy per charge for masses 1 and 16; (3) the same for masses 2 and 4; and (4) number density, mean energy in the plasma frame, and magnitude and angle (in the spin plane) of the inferred drift velocity, vs time. Hard copy plots of type 4 are also provided, with data points typically at 1 3 min intervals. The programs also can generate a table of beta (ratio of ion kinetic pressure to magnetic pressure) and other parameters related to the moment calculations. The analysis and plotting programs provided are written in Fortran for VAX 11/780 and use either Versatec Versaplot V07 graphics subroutines or Precision Visuals DI 3000 graphics subroutines. In addition to the hard copy plots of type 4 above, which show one interval per plot, supplemental three-dimensional plots covering one orbit per plot are included for seven plot types: directional differential flux of H+ and O+, for both "transverse" and "parallel" directions; directional differential flux for He+ and He++, averaged over all pitch angles; and background rate, normalized to appear as a flux spectrum. An extensive user's guide for the data set was provided by the investigator.

ISEE 1, WILLIAMS
ENERGETIC ELECTRONS AND PROTONS

Data set name - ENERGETIC ELECTRON AND PROTON DATA POOL PLOTS ON MICROFILM

NSSDC ID 77-102A-09B, ENERG ELECT+PROT DPOOL PLOTS,MFLM

Time period covered - 10/22/77 TO 08/15/79

Quantity of data - 28 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of eight types of plots for each day. Each type of plot shows the spacecraft height above the earth's surface and its GSE Cartesian coordinates, the magnetic field magnitude, and flags indicating when the plasma density experiment or the electron gun of the quasi-static electric field experiment were turned on, plus outputs of investigators' quick-look algorithms for one or two of the following experiments: fast plasma (77-102A-01C), hot plasma (-03E), fluxgate magnetometer (-04B), low-energy cosmic rays (-05C), static electric field (-06D), plasma waves (-07J), plasma density (-08C), energetic electrons and protons (-09B), electrons and protons (-10A), and ion composition (-12A). The energetic electron and proton experiment data plotted are electron differential fluxes in the 39 to 75 keV and 120 to 189 keV energy ranges and proton differential fluxes in the 44.3 to 65.3keV and 95.5 to 142 keV energy ranges. These fluxes are taken in or near the spin-normal (normally ecliptic) plane.

Data set name - ELECTRON AND PROTON DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 77-102A-09C, ELECTRON + PROTON DATA POOL TAPE

Time period covered - 10/22/77 TO 08/15/79

Quantity of data - 17 REELS OF TAPE

These data are contained on 1600 bpi, binary, 9 track magnetic tape. The data pool tapes were created in IBM 360 representation with unblocked, 3240-byte records. The first record of each file is a data pool file label containing satellite ID number; year, day of year, and seconds of day for the start and end of file; clock at start of file; group number; minimum and maximum value of spin period in seconds; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day; clock; bit rate; dummy record indicator; time line indicator; data record number; spin period average; satellite position vector in GSE coordinates; and outputs of investigators' quick-look algorithms for the following experiments: fast plasma (77-102A-01D), hot plasma (-03B), fluxgate magnetometer (-04C), low-energy cosmic rays (-05B), static electric field (-06B), plasma waves (-07C), plasma density (-08C), energetic electrons and protons (-09C), electrons and protons (10C), and ion composition (-12B). The energetic electron and proton algorithm outputs include both electron and proton differential fluxes in the 32 to 50 keV and the 80 to 126 keV energy ranges. These fluxes are taken in or near the spin normal (nominally ecliptic) plane.

Data set name SURVEY PLOTS OF SELECTED PARTICLE DATA ON MICROFILM

NSSDC ID 77-102A-09E, PARTICLE DATA SURVEY PLOTS, MFILM

Time period covered 11/01/77 TO 01/19/79

Quantity of data 5 REELS OF MICROFILM

This data set consists of survey plots on microfilm submitted by the experimenter. The survey plots combine three different plots of selected ISEE 1 and ISEE 2 particle data. All are plotted on a time scale of 24 h per frame. Radial distance at integral earth radii is indicated on the time scale. The scale below the time axis on the "PROTON SURVEY PLOT" is as yet unused. The ISEE 1 sensor rotates through 160 deg with respect to the spin axis. This rotation is synchronized to the spin period, and requires 12 spins for a complete swing and 12 more to return. Thus, each spin at a 24-spin cycle corresponds to a particular angle between the sensor and the spin vector. The points on the "PROTON AND ELECTRON SURVEY PLOTS" for ISEE 1 (second and fourth trace from the bottom) represent counts per second, averaged over all sectors of spins 4, 7, 16, and 19 in the 24 spin cycle

(numbered 0 to 23). Only one point in four is plotted, so points are about 5 min apart in time. For ISEE 2, counts are averaged over all measurements in four spins for low bit rate, six spins for high bit rate. In all cases, counts are summed across the entire energy band shown. The Y scale is logarithmic. The "SPIN-ALIGNED FLUX" contains ISEE 1 data only. Ion and electron counts per second are spin averaged and summed over spins 0 and 23, then 11 and 12. These count rates indicate the particle count in the two directions (10 deg and 170 deg) most nearly parallel to the satellite spin axis. The "MAGNETIC FIELD PLOT" displays the B-field magnitude and its vector components in nT (gammas) for each satellite. Note the linear scale for values > or = 10 nT, logarithmic above 10 nT. Only every second point is plotted, so points are approximately 2.5 min apart.

********** ISEE 2 **********

Data set name - MULTI-COORDINATE PLOTS ON MICROFICHE

NSSDC ID 77-102B-00D, MULTI-COORD PLOTS, MFICHE

Time period covered - 10/22/77 TO 06/10/86

Quantity of data - 164 CARDS OF B/W MICROFICHE

This data set consists of plots of the orbital position of the spacecraft in 11 different formats based on the multicoordinate ephemeris tapes. Eight full orbits are on each microfiche. One frame is a polar plot of approximate I value vs local magnetic time extending out to values of 15 earth radii. There is a magnetic latitude vs radial distance plot in a similar format. The next plot is a rectangular one giving the distance perpendicular to the earth-sun line vs the distance along the earth-sun line. The next three rectangular plots are the three possible projections in the geocentric solar ecliptic system. These are followed by three similar plots in the geocentric solar magnetospheric system (GSM). The final two plots use the quantity (GSM Z - Z of the neutral sheet) as the ordinate and the GSM X and Y coordinates as the abcissas, respectively; both the Russell-Brody and Fairfield models for the neutral sheet are used.

Data set name ATTITUDE-ORBIT LISTINGS, GSE AND GSM COORDINATES ON MICROFICHE

NSSDC ID 77-102B-00E, ATTITUDE-ORBIT LISTINGS, MFICHE

Time period covered - 10/22/77 TO 12/20/86

Quantity of data 700 CARDS OF B/W MICROFICHE

This data set contains computer listings of several types of attitude-orbit parameters on microfiche. There are two different sets of listings, one in GSE and the other in GSM coordinates. In each set, data for a particular time appear on two adjacent pages. Each microfiche contains 208 pages of listings covering four orbits, and there is an entry every minute near perigee and every 5 min around apogee. For each point the first page of the GSE listings contains the date, the universal time (h and min), the spacecraft position in GSE coordinates (in Re), the coordinates of both a model normal to the magnetopause and a model normal to the bow shock, the scalar products of the ISEE 1 - ISEE 2 separation vector with both the model magnetopause normal and the model bow shock normal, the magnetic field magnitude and components of the earth in GSE coordinates from the Barraclough model (nT), and the field strength where the model field line crosses the magnetic equator (nT). The second page of GSE listings contains the universal time, the magnitude and spacecraft coordinate components of the internal plus external model magnetic field (nT) spin period (s), the ISEE 1 - ISEE 2 separation vector in GSE coordinates (km), the longitude and latitude of the spin axis (deg), the elements of the conversion matrix from spacecraft coordinates to GSE, and an input tape quality indicator. The first page of the GSM listings contains the date, universal time, spacecraft position in GSM coordinates (in Re), distance of the neutral sheet above the GSM equator at the spacecraft's GSM Y position, tilt angle, I value, magnetic latitude, local time, sun-earth-spacecraft angle, clock angle about earth-sun line in GSM coordinates, magnitude and GSM coordinates of magnetic field from internal field model (Barraclough), and field strength where the model field line crosses the magnetic equator. The second page of the GSM listings contains universal time; magnitude and GSM coordinates of internal plus external model magnetic field; geographic latitude and longitude of northern and southern hemisphere magnetic field line footprints (every 5 min starting on the hour); magnitude and GSM coordinates of ISEE 1 - ISEE 2 separation vector (km); latitude and longitude of the spacecraft spin axis in GSM coordinates; elements A22, A23, A32, and A33 of the conversion matrix from GSE to GSM coordinates (A11=1, A12=A13=A21=A31=0); and an input tape quality indicator.

Data set name - GROUND MAGNETIC FIELD LINE INTERCEPT PLOTS ON MICROFICHE

NSSDC ID 77-102B-00G, GND MAG FLD LINE INTERCEPT PLOTS

Time period covered - 10/24/77 TO 09/14/87

Quantity of data - 23 CARDS OF B/W MICROFICHE

This data set, prepared by the magnetometer investigator group, consists of microfiche plots that show, on a world map, the predicted northern and southern hemisphere ground intercepts ("footprints") of the magnetic field line passing through the satellite position. The intercepts were calculated by using the Olson-Pfitzer model (W. P. Olson and K. A. Pfitzer, "Magnetospheric Magnetic Field Modeling," McDonnell-Douglas Astronautics Company preprint, 1977), which includes both internal and external field contributions. This model is appropriate for quiet magnetic conditions and is limited to field lines that cross the equator earthward of 15 earth radii. Two microfiche frames are used to cover each world map, which is displayed in Mercator projection. Each map shows the field line intercepts for two orbits, which are identified by number. Start and stop times of each segment are printed on the map, and tick marks are located at 1-h intervals along the segments.

Data set name - ORBITAL PLOTS FOR PROMIS PERIOD

NSSDC ID 77-102B-00H, ORBITAL PLOTS FOR PROMIS PERIOD

Time period covered - 03/29/86 TO 06/16/86

Quantity of data - 3 CARDS OF B/W MICROFICHE

This data set in microfiche provides orbital plots of the spacecraft for the PROMIS period, March 29-June 16, 1986. Each frame covers a time interval of 24 h, and contains plots of X, Y, and Z components (GSM), in earth radii, of the radius vector to the spacecraft. Also plotted is the distance of the spacecraft from a modeled neutral sheet (Fairfield, J. Geophys. Res., vol. 85, p 775, 1980), in earth radii.

ISEE 2, ANDERSON
ELECTRONS AND PROTONS

Data set name ELECTRON AND PROTON FLUX AND COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 77-102B-08A, PARTICLE FLUX&CNT RATE DATA,TAPE

Time period covered 11/03/77 TO 04/01/79

Quantity of data 6 REELS OF TAPE

These experimenter-supplied, particle data are on 7-track, 556-bpi, binary magnetic tape created on a Varian computer (four of the tapes were copied on 9-track, 1600 bpi tape on the Modcomp IV computer at NSSDC). A physical record contains two logical records of three parts: record header, experimental data, and analog housekeeping information. The first 26 words are the record header, consisting of time in day of year and milliseconds of day, satellite position in geocentric solar ecliptic coordinates, spacecraft clock, frame count and average frame rate, and a number of data flags. The count and average frame rate, and a number of data flags. The experiment data (words 27-278) consist of 64 minor frames of electron and ion fluxes at energies of 2, 6, 15, and 30 keV and ion fluxes of 200 keV, and coincidence count rates of electrons and ions. The rest of the logical record is analog housekeeping, which specifies the experiment condition.

Data set name 32 SEC AVERAGED SURVEY PLOTS OF PARTICLE DATA ON MICROFILM

NSSDC ID 77-102B-08B, 32 SEC AVGD SURVEY PLOTS, MFILM

Time period covered - 10/23/77 TO 07/31/78

Quantity of data - 5 REELS OF MICROFILM

This data set consists of experimenter-supplied hard copy, microfilmed at NSSDC, of 32-s averaged particle flux survey plots for the ISEE 1 and 2 Anderson experiments. Each day consists of six 8-h plots, three electron and three proton, per satellite. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. The three lines below this line give the satellite position in earth radii in the following formats: X Re, 0.0; Z Re, total Re, respectively. This is given once per hour, in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle

fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; and identifier "DT200" = >290 keV protons (ions), integral flux.

Data set name - 24-HOUR SURVEY PLOTS ON MICROFILM

NSSDC ID 77-102B-08C, 24-HR SURVEY PLOTS, MFILM

Time period covered - 10/23/77 TO 06/30/78

Quantity of data - 2 REELS OF MICROFILM

This data set contains 24-h particle flux survey plots for the ISEE 1 and 2 Anderson experiments, on microfilm. Each frame of microfilm contains 1 day of data consisting of the six 8-h plots, three electron and three proton, per satellite. The three plots of each type of flux are placed together in a 24-h strip, and the proton strip is placed below the electron strip to form each frame. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. The three lines below this line give the satellite position in earth radii in the following formats: X Re, 0.0; Y Re, 0.0; Z Re, total Re, respectively. This is given once per hour in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; identifier "DT200" = >290 keV protons (ions), integral flux.

Data set name - 32 SECOND AVERAGE SURVEY PLOTS ON MICROFICHE

NSSDC ID 77-102B-08D, 32 SEC AVG SURVEY PLOTS ON MFICHE

Time period covered - 01/02/79 TO 12/31/80

Quantity of data - 109 CARDS OF B/W MICROFICHE

This data set consists of experimenter supplied hard copy, microfiched at NSSDC, of 32-s-averaged particle flux survey plots for the ISEE 1 and 2 Anderson experiments. Each day consists of six 8-h plots, three electron and three proton, per satellite. The day of the year, processing date, and scale factors for the various curves are shown across the top of the plot. The next bold line is the plot date, the satellite ID, the particle species, and the symbols identifying the various curves. The three lines below this line give the satellite position in earth radii in the following formats: X Re, 0.0; Y Re, 0.0; Z Re, total Re, respectively. This is given once per hour in GSE coordinates. Below the plot is the time given in hours (UT). Solid horizontal bars on the plot itself are used to indicate missing data. The identifiers represent particle fluxes in the following energy ranges: identifier "2keV" = approximately 2 keV electrons and approximately 2 keV protons (ions), differential fluxes; identifier "6keV" = approximately 6 keV electrons and approximately 6 keV protons (ions), differential fluxes; identifier "8keV" = >19 keV electrons and >19 keV protons (ions), integral fluxes; identifier "30keV" = >42 keV electrons and >42 keV protons (ions), integral fluxes; identifier "DT200" >290 keV protons (ions), integral flux.

ISEE 2, FRANK
HOT PLASMA

Data set name - 128- & 512 SECOND RESOLUTION HOT PLASMA DATA ON MAGNETIC TAPE

NSSDC ID 77-102B-03A, 128 &512-S RES. PLASMA DATA,TAPE

Time period covered 12/01/77 TO 12/12/77

Quantity of data 1 REEL OF TAPE

These experimenter-supplied, 128- and 512-s-resolution plasma data are on 7 track, 800-bpi, binary magnetic tape created on a Univac 418 computer. Each logical record of data contains 300 Univac 36 bit words. There are 10 logical records per physical block. The data consist of spacecraft identification; time in year, day, hour, minute, and second; solar ecliptic and solar magnetospheric coordinates; energy range flag; magnetic field components in solar ecliptic coordinates; and the following information for both plasma proton and electron data: number and energy flux, number and energy density, average energy, bulk flow velocity, velocity uncertainty, temperature, and percentage of energy coverage.

Data set name - COLOR SLIDES OF LEPEDEA ENERGY-TIME SPECTROGRAMS

NSSDC ID 77-102B-03B, COLOR E-T SPECTROGRAMS, SLIDES

Time period covered - 11/01/77 TO 01/10/78

Quantity of data - 140 COLOR SLIDES

This data set contains energy-time color spectrograms of the count rates from the equatorial plane detectors (4P and 4E) on 35-mm color slides. Each slide contains five energy-time spectrograms plotting count rates according to a color scale vs the logarithm of the energy (eV) along the ordinate and universal time (h) along the abscissa. The color scale is shown on the right-hand side of the slide. The count rates are proportional to the particle flux and also to the phase space density multiplied by the energy squared. The four top spectrograms of each slide display the proton detector count rates from the sunward-, duskward-, antisunward-, and dawnward-looking quadrants, respectively. The fifth spectrogram displays the azimuthally averaged electron detector count rates. Spacecraft positions are listed below the time values in spherical GSE coordinates. Each slide contains 24-h displays for low bit rate data and 6-h displays for high bit rate data. The instrument and the spectrograms have two energy modes, either 1 eV to 45 KeV or 215 eV to 45 KeV. The data set documentation contains more details and examples.

ISEE 2, GURNETT
PLASMA WAVES

Data set name 24-HR SPECTRUM ANALYZER SURVEY PLOTS ON MICROFILM

NSSDC ID 77-102B-05D, 24-HR SPEC ANALYZER PLOTS, MFILM

Time period covered 10/22/77 TO 12/31/84

Quantity of data 7 REELS OF MICROFILM

This data set consists of 24 h survey plots of the signal strength in the 16 channels of the spectrum analyzer and in the lowest 1 kHz of a single (indicated) range of the wideband data. The channels are logarithmically spaced, with four frequency channels per decade, and cover from 5.6 Hz to 31.1 kHz. Bandwidths are approximately + and 15% of the center frequencies for the channels below 10 kHz, but + and -7.5% for the 10 kHz and higher channels. Average values over 144-s intervals are plotted, as well as the peak values in these intervals. The displayed output is not calibrated, but is approximately proportional to the logarithm of the input field strength. Full scale represents a signal strength approximately 110 dB above the baseline level (approximately 1 microvolt/m). Each plot indicates geocentric solar ecliptic coordinates of the spacecraft at the start time, geomagnetic latitude, magnetic local time, separation distance between ISEE 1 and ISEE 2, orbit number, and L (when available). Also indicated on each plot is the antenna that is in use: 30-m tip-to-tip long electric dipole, search coil, or 0.61 m short electric dipole.

ISEE 2, PASCHMANN
FAST PLASMA

Data set name FAST PLASMA EXPERIMENT DATA ON MAGNETIC TAPE

NSSDC ID 77-102B-01A, FAST PLASMA EXPERIMENT

Time period covered - 12/01/77 TO 12/12/77

Quantity of data - 1 REEL OF TAPE

These experimenter-supplied, fast plasma data are on a 9-track, 1600 bpi, binary magnetic tape created on a CDC 6600 computer. The records are blocked with 20 140-byte logical records per physical record. Each logical record contains satellite identification number (1 or 2 for ISEE 1 or 2); description of mode of operation; proton and electron low/high energy sweep; year, day of year, and milliseconds of day at start of sweep; orbit number; spin period (in seconds); spacecraft position in solar ecliptic coordinates; and the following variables for both proton and electron data: density, bulk speed, flow azimuth (ecliptic plane), mean temperature (deg K), and density of energetic part of distribution (electrons above approximately 2 keV or protons above approximately 7 keV).

Data set name - SPECTROGRAMS ON MICROFILM

NSSDC ID 77-102B-01E, SPECTROGRAMS ON MFILM

Time period covered - 10/26/77 TO 09/20/78

Quantity of data - 2 REELS OF MICROFILM

This data set consists of experimenter-supplied spectrograms on microfilm. Each grey-scale frame contains eight horizontal panels and includes both ion and electron data obtained during a 6-h period. The top four panels display ion energy/charge spectra averaged over longitude for the quadrants centered on the spacecraft noon, dusk, midnight, and dawn meridians, respectively. The fifth panel from the top displays the ion angular distribution summed over all energies. The sixth panel shows electron energy/charge spectra averaged over all longitudes, and the seventh and eighth panels display electron angular distributions summed over all energy/charge values greater than 100 eV and 10 eV, respectively. Intensity of the spectra and angular distributions is proportional to the measured count rate corrected for detector efficiency. Because the distribution function, f, is proportional to upsilon to the -4 power, where upsilon is the particle speed, this method of data presentation helps emphasize phenomena occurring at the higher energies. Time runs from left to right, the hour in UT being indicated beneath the bottom panel. Also on each frame are 1) a calibration wedge, 2) spacecraft number, 3) date, 4) orbit number, and 5) alternating sequences of orbital information. The first, third, and fifth sequences of item 5 each give the radial distance in Re, the solar ecliptic latitude and longitude, and the solar magnetospheric latitude and longitude. The second, fourth, and sixth sequences provide the X, Y, and Z values in solar ecliptic and solar magnetospheric coordinates, respectively. The numbers at the right-hand edge of each panel refer to either the log of the energy/charge or the look angle of the measurement, as appropriate.

Data set name - PROTON FLUID PARAMETERS 6 EARTH RADII - BOW SHOCK DATA ON MAGNETIC TAPE

NSSDC ID 77-102B-01F, PROTON FLUID PARAM 6 RE BOW SHOCK

Time period covered - 10/27/77 TO 01/19/79

Quantity of data 1 REEL OF TAPE

These experimenter-supplied, fast plasma proton fluid parameter data are on 9-track, 1600-bpi, binary magnetic tape created on an IBM 360 computer. Data coverage includes the region from 6 earth radii out to (but excluding) the bow shock. The reasons for selecting this area of coverage are that the solar wind ion distributions are too cold to be adequately resolved by this instrument and inside the region of 6 earth radii the fast plasma data would be contaminated by the energetic particle background. The physical records on the tapes are blocked with 50 88-byte logical records. The first record of each file is a header containing data identification information, orbit number, and start and end times for the file. Each data record contains universal time (in year, day of year, and seconds of day); orbit number; spacecraft position in solar ecliptic coordinates; number density; energy density; a flag indicating the energy range covered; components of the two-dimensional bulk velocity in spacecraft coordinates; and the average two-dimensional temperature.

ISEE 2, RUSSELL
FLUXGATE MAGNETOMETER

Data set name 24-HOUR MAGNETIC FIELD SUMMARY PLOTS ON MICROFICHE

NSSDC ID 77-102B-04D, 24-HR MAG FLD SUMMARY PLOTS,FICHE

Time period covered - 10/22/77 TO 12/27/85

Quantity of data - 125 CARDS OF B/W MICROFICHE

These experimenter-supplied microfiche consist of summary plots of observed magnetic field components, the resultant magnitudes, and the corresponding standard deviations (s.d.) averaged over 64 s vs time. The time scale and orbit number are those of the ISEE 1 magnetometer data (77-102A-04G). These summary plots were prepared from ISEE 2 decom tapes. There are three pairs (B field and s.d.) of 24-h frames for each ISEE 1 orbit and 25 days per fiche. The first pair (perigee plots) is centered on the ISEE 1 perigee point, the second pair (pre-apogee) ends at apogee, and the third pair (post-apogee) starts at apogee. The magnetic field components are in spacecraft coordinates. Also, data rate, instrument sensitivity, and flip rate are provided on the standard deviation plots. Correlative IMP 8 magnetic field vs time plots using ISEE 1 time frames (as described above) may be found in data set 73-078A-01E.

Data set name - MAGNETOPAUSE CROSSINGS, B VS TIME, ON MICROFICHE

NSSDC ID 77-102B-04E, MAGNETOPAUSE XING, B VS T, MFICHE

Time period covered - 11/17/77 TO 11/11/78

Quantity of data - 4 CARDS OF B/W MICROFICHE

This data set contains 1-h plots of 12-s averages of processed magnetic field data vs time for periods surrounding spacecraft magnetopause crossings, on microfiche. The 12-s averages are overlapped by 2/3 so that a 12-s average is calculated and plotted every 4 s. Thus, they have been called "four-second data." This information also exists on magnetic tape (data set 77-102B-04B). The plots contain four traces corresponding from top to bottom to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed, and the same scale is used to plot each of the four traces. When the field exceeds 160 nT, the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name BOW SHOCK CROSSINGS, B VS TIME, ON MICROFICHE

NSSDC ID 77-102B-04F, BOW SHOCK CROSSING,B VS TIME,FICH

Time period covered - 10/25/77 TO 12/31/81

Quantity of data - 8 CARDS OF B/W MICROFICHE

This data set contains 1-h plots of 12-s averages of processed magnetic field data vs time for periods surrounding spacecraft bow shock crossings, on microfiche. The 12-s averages are overlapped by 2/3 so that a 12-s average is calculated and plotted every 4 s. Thus, they have been called "four-second data." This information also exists on magnetic tape (data set 77-102B-04B). The plots contain four traces corresponding from top to bottom to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed, and the same scale is used to plot each of the four traces. When the field exceeds 160 nT, the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name HOURLY PLOTS OF 4-SECOND AVERAGED MAGNETIC FIELD DATA ON MICROFICHE

NSSDC ID 77-102B-04K, 4-SEC AVGD MAG FIELD PLOTS,MFICHE

Time period covered - 10/22/77 TO 06/29/86

Quantity of data - 615 CARDS OF B/W MICROFICHE

This data set contains 1-h plots of 12-s averages of processed magnetic field data vs time, on microfiche. The 12-s averages are overlapped by 2/3 so that a 12-s average is calculated and plotted every 4 s. Thus, they have been called "four-second data." This information also exists on magnetic tape (data set 77-102B-04B). The plots contain four traces corresponding from top to bottom to Bx, By, Bz, and the total field magnitude. The scale, in nT, varies from hour to hour according to the range of the data during the hour to minimize crossing of the traces. Baselines are kept fixed, and the same scale is used to plot each of the four traces. When the field exceeds 160 nT, the scale of the plots becomes logarithmic. The plots are given in spacecraft coordinates, with Z along the spin axis and X along the projection of the solar direction in the spin plane.

Data set name - 1 MINUTE AVERAGED MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 77-102B-04M, 1-MIN AVGD MAG. FLD.(INCLD PROMIS

Time period covered - 10/22/77 TO 07/06/86

Quantity of data - 54 REELS OF TAPE

This data set contains 60-s-averaged values of the measured magnetic field vector and its relation to magnetic field models, plus spacecraft ephemeris data expressed in many ways, and coordinate systems. The data set is contained on 1600-bpi, ASCII, 9-track magnetic tapes. Each tape contains 10 files, each file contains data for one orbit (perigee to perigee), and the format is "self-defining" in the sense that the first three logical records of each file list the data

parameters, the format of each parameter, and fill data indicators, respectively. Each succeeding logical record contains one set of values for all data set parameters. The data set contains the magnitude and the components of the 60-s-averaged local magnetic field and their standard deviations; the differences between the local and model field components, and the ratio of the local and model fields; and the geographic coordinates of the field line ground intercepts and the sub-spacecraft point. The spacecraft ephemeris parameters include the orbit number, geocentric radial distance, GSE and GSM coordinates, and latitude and longitude; the dipole tilt angle, L value, local time, geomagnetic latitude, sun-earth-spacecraft angle, and spin period; the spacecraft velocity components, and ISEE 1 to ISEE 2 separation components; the components of the normals to the model magnetopause and to the model bow shock; and the elements of the rotation matrices between various coordinate systems.

Data set name - 24-HOUR DETRENDED SUMMARY PLOTS ON MICROFICHE

NSSDC ID 77 102B-04N, 24 HR DETRENDED SUMMARY PLOTS,FCH

Time period covered 10/22/77 TO 01/13/80

Quantity of data - 17 CARDS OF B/W MICROFICHE

This data set contains plots of 60 s averages of ISEE 2 magnetic field component values (nT) vs time, on microfiche. Each fiche card contains 20 orbits of data, with three plot panels per orbit. These plots are distinct from the ISEE 2 64-s summary plots. The three plot panels each span 24 h, with the panel labeled PERIGEE centered on the perigee of the spacecraft. The panels labeled PRE-APOGEE and POST-APOGEE somewhat overlap the period of the PERIGEE panel and they also display the magnetic field magnitude. Each orbit is completely covered. The coordinates of the PRE-APOGEE and POST-APOGEE panels are GSM. The coordinates of the PERIGEE panel refer to a system with Z in the direction of the local model field (Olson/Pfitzer, 1977), Y azimuthally eastward (and orthogonal to the local model field), and X completing the system. In addition, the Z component is detrended, i.e., the model field value corresponding to the spacecraft position and UT is subtracted from the measured Z component. The data shown on these plots are also available in digital form from NSSDC as data set 77-102B-04M.

ISEE 2, WILLIAMS
ENERGETIC ELECTRONS AND PROTONS

Data set name SURVEY PLOTS OF SELECTED PARTICLE DATA ON MICROFILM

NSSDC ID 77 102B 07C, SURVEY PLOTS ON MFILM

Time period covered 11/01/77 TO 01/19/79

Quantity of data 5 REELS OF MICROFILM

This data set consists of survey plots on microfilm submitted by the experimenter. The survey plots combine three different plots of selected ISEE 1 and ISEE 2 particle data. All are plotted on a time scale of 24 h per frame. Radial distance at integral earth radii is indicated on the time scale. The scale below the time axis on the "PROTON SURVEY PLOT" is as yet unused. The ISEE 1 sensor rotates through 160 deg with respect to the spin axis. This rotation is synchronized to the spin period, and requires 12 spins for a complete swing and 12 more to return. Thus, each spin at a 24-spin cycle corresponds to a particular angle between the sensor and the spin vector. The points on the "PROTON AND ELECTRON SURVEY PLOTS" for ISEE 1 (second and fourth trace from the bottom) represent counts per second, averaged over all sectors of spins 4, 7, 16, and 19, in the 24-spin cycle (numbered 0 to 23). Only one point in four is plotted, so points are about 5 min apart in time. For ISEE 2, counts are averaged over all measurements in four spins for low bit rate, six spins for high bit rate. In all cases, counts are summed across the entire energy band shown. The Y scale is logarithmic. The "SPIN-ALIGNED FLUX" contains ISEE 1 data only. Ion and electron counts per second are spin averaged and summed over spins 0 and 23, then 11 and 12. These indicate the particle count in the two directions (10 deg and 170 deg) most nearly parallel to the satellite spin axis. The "MAGNETIC FIELD PLOT" displays the B-field magnitude and its vector components in nT (gammas) for each satellite. Note the linear scale for values < or = 10 nT, logarithmic above 10 nT. Only every second point is plotted, so points are approximately 2.5 min apart.

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********** ISEE 3 **********
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Data set name - EPHEMERIS DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-00D, EPHEMERIS, DATA POOL TAPE

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator; time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick-look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma ray bursts (14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (04B), energetic protons (08B), and cosmic ray electrons and nuclei (-06B).

Data set name - JPL TRAJECTORY FOR COMET GIACOBINI-ZINNER ENCOUNTER.

NSSDC ID 78-079A-00E, JPL TRAJ COMET G-Z ENCOUNTER

Time period covered - 09/10/85 TO 09/12/85

Quantity of data 1 REEL OF TAPE

This data set contains trajectory information for the spacecraft encounter with Comet Giacobini-Zinner, from the "SAVE TAPE" produced by the JPL Navigation Section after the encounter. The data are in ASCII characters, with one value per hour for each of 114 parameters. The spacecraft location and velocity vector components are given in geocentric and heliocentric coordinates, for earth true equator of date and earth true orbit of date systems, plus body-fixed coordinates for earth, Giacobini Zinner, and Venus. Various angles relative to these and other bodies are also given.

ISEE 3, ANDERSON
INTERPLANETARY AND SOLAR ELECTRONS

Data set name 8 HOUR INTERPLANETARY AND SOLAR ELECTRON SUMMARY PLOTS ON MICROFILM

NSSDC ID 78-079A 09A, 8-HR ELECTRON SUMMARY PLOTS,MFILM

Time period covered 08/18/78 TO 11/22/79

Quantity of data 4 REELS OF MICROFILM

This data set contains 8 h summary plots of particle fluxes and angular histograms from the three telescopes of the interplanetary and solar electron experiment, on 35 mm microfilm. There are two types of plots, one for electrostatic analyzer (ESA) data and the other for data from the two solid state detector telescopes (SST). Each type of plot displays spin averaged differential fluxes (1/cmee2esresekeV) vs universal time and also rough histograms of flux vs spin angle in the ecliptic plane. The ESA plot displays the total flux from each of the four sets of four contiguous channels and the anticoincidence channel count rate. The SST plot displays the total flux of particles triggering the first detector of each telescope in each of two contiguous energy ranges and also the count rate of particles triggering both detectors of the open telescope. The legend on each type of plot displays the day of the plot, the GSE coordinates and radius, the threshold level indicator, the number of angular sectors used, the feature used for the first angular sector position, and whether the sun sectors were blocked out. The legend also gives the energy ranges of the plotted data and the factors by which they have been multiplied to be plotted. The energies on the ESA plot are the mean energies for the included channels, and the energies on the SST plot are the overall energy ranges.

Data set name - INTERPLANETARY AND SOLAR ELECTRON DATA

POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-09B, I.P.& SOLAR ELECTRONS DPOOL TAPES

Time period covered - 08/12/78 TO 10/03/86

Quantity of data - 8 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low-energy cosmic rays (78 079A-03B), magnetometer (-02B), radio mapping (10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The interplanetary and solar electron data contain fluxes of electrons above 15 keV, at 5-min intervals. These data were replaced by fill data when the experiment failed on November 22, 1979.

Data set name - INTERPLANETARY AND SOLAR WIND ELECTRON DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A 09C, I.P.&SOLAR ELECT DPOOL PLOTS,MFLM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A 01A), magnetic fields (02A), low-energy cosmic rays (-03A), medium energy cosmic rays (-04A), cosmic ray electrons and nuclei (06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (10A), and X ray and gamma-ray bursts (14D). The interplanetary and solar electron experiment data are the integral electron flux above 15 keV.

ISEE 3, ANDERSON
X- AND GAMMA-RAY BURSTS

Data set name - 32-SECOND AVERAGED WEEKLY X RAY AND GAMMA-RAY PLOTS ON MICROFICHE

NSSDC ID 78-079A-14A, 32-SEC AVGD WEEKLY PLOTS,MFICHE

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 407 CARDS OF B/W MICROFICHE

This data set contains 4 h plots of 32-s-averaged X-ray count rates from the proportional counter and the NaI(Tl) scintillator detector, on microfiche. There are three types of plots for each 4-h period. The first type contains plots of count rates from the proportional counter channels 1 and 2, and the sums of channels 3 and 4, and of channels 5 and 6. The second type contains plots of the scintillator detector channels 1 and 2, and the sums of channels 3 and 4, and of channels 5, 6, and 7. The third type contains plots of the sums of scintillator channels 8 and 9, and of channels 10 and 11, and plots of channel 12, and of the plastic guard scintillator surrounding the NaI(Tl) scintillator.

Data set name - 32-SECOND-AVERAGED WEEKLY X-RAY AND GAMMA-RAY NUMERIC LISTINGS ON MICROFICHE

NSSDC ID 78-079A-14B, 32-SEC AVGD WEEKLY LISTING,MFICHE

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 2080 CARDS OF B/W MICROFICHE

This data set contains listings of the 32-second averages of the X-ray data for all instrument channels, on microfiche. Each line of the listing contains the time (h, min, s, and ms), the outputs from each of the seven channels (counts/s), the sum of channels SC3 and SC4, and the sum of channels SC5, SC6 and SC7.

Data set name - X- AND GAMMA-RAY BURST DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-14C, X- & GAMMA RAY BURST DPOOL TAPES

Time period covered - 08/12/78 TO 10/25/86

Quantity of data - 8 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low energy cosmic rays (78 079A 03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X ray and gamma ray bursts (14C), solar wind plasma (-01B), plasma waves (07B), medium-energy cosmic rays (-04B), energetic protons (08B), and cosmic ray electrons and nuclei (06B). The X-ray and gamma-ray burst data include count rates for 20 to 37 keV gamma rays at 5-min intervals.

Data set name - X- AND GAMMA-RAY BURST DATA POOL COUNT RATE PLOTS ON MICROFILM

NSSDC ID 78-079A-14D, X- & GAMMA RAY DPOOL PLOTS, MFILM

Time period covered 08/12/78 TO 02/07/87

Quantity of data - 69 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigators' quick-look algorithms for one of the following experiments: solar wind plasma (78-079A 01A), magnetic fields (02A), low-energy cosmic rays (03A), medium energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The X-ray and gamma-ray burst experiment data are count rates in the nominal energy range of 43 to 78 keV. The energy range was changed on command for various tests, but this range has been the most common.

ISEE 3, BAME
SOLAR WIND PLASMA

Data set name - PLASMA + SOLAR WIND DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-01A, PLASMA+SOLAR WIND DPOOL PLOTS,FLM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The solar wind plasma data shown are linear plots of the solar wind pseudo-speed (km/s) and solar wind pseudo-angle (the solar wind direction in the ecliptic with respect to the direction of the sun, in deg), and a semi-log plot of the ion pseudo-density (1/cm**3).

Data set name - PLASMA AND SOLAR WIND DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-01B, 5-MIN PLASMA+SOLAR WIND,DATA POOL

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick-look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The solar wind plasma data include ion pseudo-density (particles/cc), solar wind pseudo-speed (km/s), and solar wind pseudo-flow angle (deg), at 5-min intervals.

Data set name - SOLAR WIND DATA, 5-MIN, MAGNETIC TAPE

NSSDC ID 78-079A-01D, SOLAR WIND DATA, 5-MIN, MAG TAPE

Time period covered - 08/16/78 TO 02/19/80

Quantity of data - 1 REEL OF TAPE

These experimenter-supplied, solar wind data are on 9 track, 1600 bpi, ASCII magnetic tape created on a VAX 11/780 computer. Each logical record contains time in year, day of year, and seconds of day; GSE spacecraft coordinates; hydrogen density (per cc); hydrogen bulk flow velocity (km/s); hydrogen bulk flow azimuthal angle (deg); hydrogen parallel and perpendicular temperatures and average temperature; helium density (per cc); and helium average temperature (K). The solar wind parameters were calculated from search mode spectra, which were measured once every 5.2 min. However, the complete measurement required only 3.5 s to complete. Thus, the data records represent snapshots of the solar wind taken about 5.2 min apart.

Data set name - SOLAR WIND PLOTS FROM ISEE 3 DATA POOL TAPE ON MICROFICHE

NSSDC ID 78-079A-01F, SOLAR WIND DPOOL PLOTS, MFICHE

Time period covered - 08/12/78 TO 04/30/85

Quantity of data - 50 CARDS OF B/W MICROFICHE

Each frame of this microfiche data set contains 24-h plots of four solar wind parameters, and it is labeled with the start and end dates, the date of production, the corresponding ISEE 1 and 2 orbit number and orbital phase, and the ISEE 3 position at the start of the plot in GSE and GSM coordinates in units of earth radii. The plot at the top of each frame is of the azimuthal flow angle in the ecliptic plane. Positive angles denote flow from east of the sun. A constant aberration angle corresponding to a solar wind velocity of 400 km/s has been removed. The plot saturates at + or -15 deg. The second panel shows the solar wind velocity. The scale is rather coarse, 200 km/s per cm, but so are the data. The third panel shows the number density in 1/cmee3 on a log scale. The bottom panel shows the logarithm of the dynamic pressure in dynes/cmee2.

Data set name - PLASMA PARAMETER PLOTS FROM ISEE 3 DATA POOL TAPE ON MICROFICHE

NSSDC ID 78-079A-01G, PLASMA PARAMETER DPOOL PLOTS,FICH

Time period covered - 08/12/78 TO 03/02/84

Quantity of data - 43 CARDS OF B/W MICROFICHE

Each frame of this microfiche data set contains 24-h plots of five plasma parameters, and it is labeled with the start and end dates, the date of production, the corresponding ISEE 1 and 2 orbit number and orbital phase, and the ISEE 3 position at the start of the plot in GSE and GSM coordinates in units of earth radii. For use in estimating the time delay, or at least the order of magnitude of the time delay of magnetic field phenomena between ISEE 3 and the earth, three estimates have been plotted. The simplest and probably the least correct, labeled TV, is shown in the middle panel of each frame. It is simply the distance between ISEE 3 and the earth divided by the solar wind velocity. In the second panel, TC is approximately the corotation time. It was assumed that planes of constant interplanetary conditions are convecting to the earth. These planes are perpendicular to the ecliptic plane and contain the magnetic field direction. In the top panel, TD relaxed the assumption that the plane must be perpendicular to the ecliptic plane. Rather, this calculation assumed that the planes are defined by the magnetic field direction and the Parker spiral direction cosines (.707, -.707, 0). These planes can have quite varied directions. Note that to avoid rather noisy plots these calculations were performed only every 5 min on 5-min averages. The second plot from the bottom shows the logarithm of the magnetosonic Mach number. A constant sound velocity of 57 km/s has been assumed in this calculation. The bottom panel shows the logarithm of plasma beta. Again, a constant total temperature for the plasma has been assumed (230,000 K).

Data set name - SOLAR WIND BASIC PARAMETER LISTING ON MICROFICHE

NSSDC ID 78-079A-01H, SOLAR WIND PARAMETER LISTING,FICH

Time period covered - 08/16/78 TO 02/19/80

Quantity of data - 7 CARDS OF B/W MICROFICHE

This data set contains a simple continuous listing of several solar wind parameters on microfiche. The listing consists of lines of parameters calculated from search mode spectra, which were measured at intervals of about 5.2 min. Each line contains: the date (year, month, and day), universal time (hour, minute, and second), seconds of the day, hydrogen density (1/cmee3), hydrogen bulk velocity (km/s), hydrogen bulk flow direction (deg), and hydrogen parallel and perpendicular temperatures (K). (The average hydrogen temperature may be found by using one-third of the sum of the parallel temperature and twice the perpendicular temperature.) The bulk flow direction has the range of -25 to +25 deg and has been corrected for the aberration caused by the earth's motion around the sun.

Data set name - DISTANT GEOMAGNETIC TAIL ELECTRONS, COLOR SPECTROGRAM SLIDES

NSSDC ID 78-079A-01J, DIST GMTAIL ELECTRONS, COLOR SPEC

Time period covered - 10/17/82 TO 04/20/83

Quantity of data - 278 COLOR SLIDES

This data set contains electron energy spectra and angular distributions for 12 h periods on 35-mm color slides. The top four panels of each slide display the energy spectra averaged over the quadrants centered on the spacecraft's solar, dusk, antisolar, and dawn meridians, respectively. The bottom four panels display the angular distributions in the four energy passbands of 10 to 27, 37 to 99, 137 to 362, and 500 to 958 eV. The energy (in keV) or look angle (in deg) scales are on the right edges of the panels. The spacecraft position in GSE and SM coordinates is given every 4 h at the bottom of the slide. There are two types of solar photon-induced signals present in these spectrograms: photoelectrons associated with the spacecraft potential and photoelectrons produced internally within the analyzer.

Data set name - HOUR AVERAGED PLASMA ELECTRON DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-01K, HRLY S.W. PARMS BASED ON ELECTNS

Time period covered - 08/16/78 TO 10/16/82

Quantity of data - 1 REEL OF TAPE

This experimenter supplied, solar wind data set is on a 9-track, 1600-bpi, ASCII magnetic tape created on a VAX 11/780 computer. The data are electron-based and have been corrected and normalized to existing ion data. Each logical record contains the date (YYMMDD), the universal time (HRMIN), the spacecraft position in GSE coordinates in earth radii, the electron density (1/cmee3), the bulk speed (km/s), and the electron temperature (K). Although the bulk parameters given are reliable, standard errors associated with them are higher for electrons than for ions. A few "bad" points remain on the tape. Densities less than .01/cmee3 and velocities less than 100 km/s should be considered erroneous.

ISEE 3, HOVESTADT

LOW-ENERGY COSMIC RAYS

Data set name - LOW ENERGY COSMIC RAY DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-03A, LOW ENERGY C.R. DPOOL PLOTS,MFILM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The low energy cosmic ray experiment data are the count rates of protons in three energy intervals between 0.17 and 20 MeV, plus those of alpha particles from 0.12 to 0.25 MeV and of Z>2 particles above 0.1 MeV/nucleon.

Data set name - LOW ENERGY COSMIC RAY DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-03B, 15-MIN LOW ENERGY C.R.,DATA POOL

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick-look algorithms for the following experiments: low energy cosmic rays (78 079A 03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The low-energy cosmic ray data include proton fluxes in the ranges 0.17 to 0.4, 5 to 10, and 10 to 20 MeV, alpha particle fluxes in the range 0.12 to 0.25 MeV, and fluxes of particles with Z>2 and energies >0.1 MeV/nucleon. These five data are given at 15-min intervals.

Data set name - 512 SECOND PROTON, HELIUM AND HEAVY ION (Z>2) RATE DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-03C, 512 S RATES H, HE, AND Z>2, TAPE

Time period covered - 01/01/80 TO 12/31/81

Quantity of data - 2 REELS OF TAPE

This data set, supplied by the experimenter, consists of counting rates in many energy channels for protons (0.03 to 20 MeV), helium ions, and heavier ions. Fluxes may be readily obtained by use of the data set documentaion. The data were written in multiple files at 1600-bpi on 9-track tapes using IBM 360 binary representation. Logical record length is 400 bytes and block size is 6400 bytes. The data set has a time resolution of 512 s and contains quantities selected from only two of the instrument sensor systems: the electrostatic deflection analyzer (ULECA) and the wide angle proportional counter/solid state detector telescope (ULEWAT). Data from within the earth's magnetosphere are excluded, as are data affected by sunlight. Information included are: tape and experiment identifiers, times (UT), spacecraft clock, various housekeeping parameters, position in GSE Cartesian coordinates, spin period, indicators of the spin angle sectors that were averaged together (out of eight sectors), and 31 pairs of accumulated counts and accumulation time. The 31 count/time pairs correspond to 11 energy channels for protons from 0.03 to 20 MeV, 7 channels for helium ions from 0.015 to 20 MeV, and 3 channels for heavy ions (Z>2) from 0.13 to 43 MeV/nucleon, plus 10 monitor rates, which are single rates from individual detectors relevant to the other 21 rates that are coincidence rates. This data set includes only parameters that do not require very detailed knowledge of the instrument. The more detailed data, which require substantial involvement of the experimenters, may be obtained directly through the principal investigator.

ISEE 3, HYNDS
ENERGETIC PROTONS

Data set name - 3-CHANNEL PROTON FLUX, 256-SECOND OMNI AND SECTOR DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-08A, 3-CH PROTN FLUX,256-S OMNI&SECTOR

Time period covered - 08/15/78 TO 12/31/78

Quantity of data - 1 REEL OF TAPE

This proton flux data set is on one 800-bpi, 9-track binary magnetic tape. Each file contains one day's data in 2560-byte physical records. Each physical record contains 32 80-byte logical records, the first of which is a record label and the rest are data records or fill records at the end of the last physical record in the file. The header records contain the year, day of year (Jan. 1=1), times of the first and last data records in the physical record (each expressed as hours of the day and seconds of the hour), and the number of logical records containing data in the physical record. The experiment records data over an integral number of spacecraft spins, which are not the same as or synchronized with the telemetry sampling period. Therefore, each data record has data from an integral number of spins, which varies from record to record. The data records contain: the start time of the record (hours of day and seconds of hour); the number of spins of data in the record for each of the three telescopes in the instrument; an overflow flag for the sector count data; the isotropic components of the differential flux (particles/cm**2*s*sr*keV) for the energy ranges 35 to 56, 91 to 147, and 384 to 620 keV; and the particle counts for each of the eight spacecraft rotation sectors for each of the three telescopes.

Data set name - ENERGETIC PROTON DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78 079A 08B, ENERGETIC PROTON DATA POOL TAPES

Time period covered - 08/12/78 TO 10/03/86

Quantity of data 8 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3 day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick-look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The energetic proton data include proton fluxes in the ranges 78 to 205 and 536 to 1400 keV, an isotropy index, and quadrant. These data are given at 20-min intervals.

Data set name - ENERGETIC PROTON DATA POOL PLOTS WITH SPIN-AVERAGED PROTON FLUXES ON MICROFILM

NSSDC ID 78-079A-08D, ENERGETIC PROTON DPOOL PLOTS,MFLM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35 mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and

solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The energetic proton data are two differential spin-averaged proton fluxes from the telescope inclined at 60 deg to the spin axis. The two fluxes are from Channel 3 and Channel 4 combined and from Channel 8. These correspond to energy ranges of 91 to 237 keV and 1.0 to 1.6 MeV, respectively. The data are averages for periods of 21 min and 20 s.

ISEE 3, MEYER
COSMIC-RAY ELECTRONS AND NUCLEI

Data set name - COSMIC RAY ELECTRONS AND NUCLEI DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-06A, C.R.ELECT&NUCLEI DPOOL PLOTS,MFLM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma ray bursts (-14D). The cosmic ray electron and nuclei data plotted are 30-min averages of the low-energy electron count rates for the energy range of 5 to 400 MeV.

Data set name - COSMIC RAY ELECTRON AND NUCLEI DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-06B, C.R.ELECT+NUCLEI DATA POOL TAPE

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9 track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3 day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The cosmic ray electrons and nuclei data include the count rate of 5 to 150 MeV electrons, at 30-min intervals.

Data set name - COSMIC RAY ELECTRON COUNT RATE AND PROTON COUNT RATE PLOTS ON MICROFILM

NSSDC ID 78-079A-06C, C.R.ELECT&PROTN CNT RTE PLTS,MFLM

Time period covered - 08/15/78 TO 12/21/85

Quantity of data - 1 REEL OF MICROFILM

This data set contains multiple sets of three survey plots, showing proton count rates, electron count rates, and data coverage information. The plots are contained on one reel of 16 mm microfilm that was generated at NSSDC from the experimenter's plots. These plots are designed to be used to identify time intervals for further study and not as the basis for scientific research. The plots in each set cover the same period (in most cases 7 days) of universal time. The proton rate plots display the count rate of the special "low energy proton" coincidence, which counts protons with energies from 35 to 145 MeV and electrons from 2 to 4 MeV. The electron rate plots display the count rate of the special "low energy electron" coincidence, which counts electrons with energies above 5 MeV. Both types of plots contain eight traces that correspond to the eight optical aspect sensors. Usually these traces cannot be distinguished from each other, but when they can be resolved visually the anisotropy is well enough defined for detailed studies. The data coverage plots display five traces that summarize the operation of the instrument. Two traces, labeled DLINE and LVT-COV, indicate whether data exist at each time and the percentage of the data coverage time in each hour, respectively. The three remaining traces, labeled LVTR-PR0, LVTR-PR1, and LVTR-PR2, give the "livetime ratios" for each of the three priority channels. The livetime ratio is defined as (total number of coincidences of a given priority)/(number of pulse height-analyzed events recovered).

ISEE 3, SCARF
PLASMA WAVES

Data set name - PLASMA WAVE 24-HR SUMMARY PLOTS ON MICROFICHE

NSSDC ID 78-079A-07A, 24-H PLASMA WAVE SUMRY PLTS,FICH

Time period covered - 08/12/78 TO 12/31/86

Quantity of data - 57 CARDS OF B/W MICROFICHE

This data set consists of experimenter-supplied microfiche copies of plots. The data for each 24-h period are plotted on two pages. One page has 16 channel, E-field measurements (U or V antennas) and the other has 8 channel, B-field data. The measurements are given in a format showing averages over 128 s (vertical black lines) and 128 s peaks (isolated dots).

Data set name - PLASMA WAVES DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-07B, PLASMA WAVES, DATA POOL TAPE

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600 bpi, 9 track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3 day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick-look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The plasma wave data include the maximum voltages at 31 Hz, 1 kHz, and 31 kHz, and the antenna status at 5-min intervals.

Data set name - PLASMA WAVE DATA POOL PLOTS WITH ELECTRIC AND MAGNETIC FIELD VALUES ON MICROFILM

NSSDC ID 78-079A-07C, PLASMA WAVE DATA POOL PLOTS,MFILM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35 mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The plasma wave data are the peak electric or magnetic field values (uncalibrated 1output voltages in 5-min accumulations) from the 31 Hz, 1 kHz, and 31 kHz channels of the main 16-channel analyzer. Also shown is an indicator of the antenna in use: the magnetic search coil, or one of the electric antennas with effective lengths of 45 m (U axis or V axis) or of 0.6 m (short E).

ISEE 3, SMITH
MAGNETIC FIELDS

Data set name - MAGNETIC FIELD DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-02A, MAGNETIC FIELD,DPOOL PLOTS,MFILM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A 01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The triaxial vector magnetometer data include the magnetic field value in Cartesian spacecraft coordinates (along the direction of the spacecraft spin axis, along the spin-plane projection of the spacecraft-sun line, and along a third orthogonal coordinate) on one type of plot and in spacecraft spherical coordinates on a second type of plot. All six quantities plotted are 5 ISEE min averages.

Data set name - 1-MINUTE INTERVAL MAGNETIC FIELD DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A 02B, 64-S AVG B FIELD, DATA POOL TAPES

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low-energy cosmic rays (78-079A 03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The magnetometer data include the spin-axis component, the satellite-sun line component, and the third orthogonal component of the magnetic field vector plus the magnitude, latitude, and longitude of the total magnetic field vector. These are given at 64-s intervals.

Data set name - 64 SEC AVGD MAG FIELD DATA POOL PLOTS WITH ISEE 1 ORBIT TIME FORMAT ON MFICHE.

NSSDC ID 78-079A-02C, 64 SEC MAG FLD DPOOL PLOTS,MFICHE

Time period covered - 08/12/78 TO 04/30/85

Quantity of data - 50 CARDS OF B/W MICROFICHE

This data set comprises the magnetometer output from the data pool tape plotted on microfiche in a format different from that on the data pool microfilm (78-079A-02A). The time scale format is chosen to match that for the ISEE 1 magnetometer (77-102A-04F), and the orbit number on each frame refers to ISEE 1. There are three frames per ISEE 1 orbit, and each frame covers 24 h; consequently, there is about a 14-h overlap. One frame is centered at ISEE 1 perigee, one ends at ISEE 1 apogee, and one begins at ISEE 1 apogee. The abscissa has 1-h ticks, day of year (Jan. 1 is day 1), year, month, and day. There are 30 orbits on each fiche except the first one. On each frame, the 64-s averages of the three rectangular components of the field and the total field are plotted in spacecraft coordinates, which are very close to solar ecliptic coordinates. A linear ordinate scale is used.

Data set name - ONE-MINUTE, HOURLY AND DAILY AVERAGED VECTOR HELIUM MAGNETOMETER DATA ON TAPE

NSSDC ID 78-079A-02D, 1-MIN,1-H &1-D AVGD MAGNETOM DATA

Time period covered - 08/13/78 TO 12/31/85

Quantity of data - 40 REELS OF TAPE

This experimenter-supplied magnetic field data set is on 1600-bpi, 9-track, ASCII magnetic tape created on a Univac 1108 computer. Each day's data are contained in a set of 50 physical records. The first physical record is a 240 byte header record, and the rest consist of 30 240-byte logical records. The 1440 logical records of physical records 2 through 49 contain magnetic field averages for the 1440 min of the day. In physical record 50, the first 24 logical records contain hourly averages, the 25th contains the daily averages, and the last 5 contain blanks. The header record contains the year, day of year, spacecraft position in GSE coordinates at the start of the day's data, and identifying text that notes the coordinate system in which the magnetic field averages are given. Each data record contains: the number of milliseconds for which data exist in the period over which the average was taken; the averaged magnetic field magnitutde and its components, and the squares of the magnitude and the components; the averages of the products of each combination of two magnetic field components; and the average of the ratio of each component to the total magnetic field.

Data set name - HIGH RESOLUTION MAGNETIC FIELD REDUCED DATA RECORDS(RDR) ON MAGNETIC TAPE

NSSDC ID 78-079A-02E, HI RES. REDUCED B-FIELD DATA(RDR)

Time period covered - 01/01/81 TO 01/04/81

Quantity of data - 1 REEL OF TAPE

This magnetic field data set is on one 9 track, 1600 bpi, binary magnetic tape created on an SEL 32 computer. It is known as an RDR tape, containing a sample of the high-resolution reduced magnetometer data. The first record of each file is a 3120-byte header record, and all other records are 3120-byte data records. Each header record contains the year, day of year (Jan. 1=1), spacecraft ID, program version, coordinate system (the ISEE 3 spacecraft coordinate system), date of reduction, and fill data. Each data record contains: the number of data points in the record; the average frame period (microseconds); frame counter; fill, bit rate, time quality, and spacecraft position flags; the spacecraft position in GSE coordinates; and the ground received time (ms) and magnetic field Cartesian components for each data point. If there are fewer than 192 points in the data record the remainder of the record is filled with zeros.

Data set name - 64 SEC AVGD MAGNETIC FIELD PLOTS, GSM COORD FROM ISEE 3 DATA POOL TAPE ON MFICHE

NSSDC ID 78-079A-02G, 64 SEC GSM MAG FLD D.P. PLOT,FICH

Time period covered - 08/12/78 TO 03/02/84

Quantity of data - 43 CARDS OF B/W MICROFICHE

Each frame of this microfiche data set contains 24-h plots of interplanetary magnetic field coordinates and magnitude, and it is labeled with the start and end dates, the date of production, the corresponding ISEE 1 and 2 orbit number and orbital phase, and the ISEE 3 position at the start of the plot in GSE and GSM coordinates in units of earth radii. The plot contains the 64-s average interplanetary magnetic field data from data set 78-079A-02B, rotated into GSM coordinates. The direction of the spacecraft spin axis was assumed to lie along the ecliptic pole. In fact, it was seldom more than 1 deg away from this direction. The rotation matrix from GSE to GSM for each data point was calculated for the time of the observations at ISEE 3. Ideally, the time for the conversion should have been the time at which the IMI reached the magnetopause.

Data set name - ANGLES AND ELECTRIC FIELD PLOTS FROM ISEE 3 DATA POOL TAPE ON MICROFICHE

NSSDC ID 78-079A-02H, ANGLES + E-FIELD DPOOL PLOTS,FICH

Time period covered - 08/12/78 TO 03/02/84

Quantity of data - 43 CARDS OF B/W MICROFICHE

Each frame of this microfiche data set contains 24-h plots of five parameters related to the solar wind and interplanetary magnetic field, and it is labeled with the start and end dates, the date of the production, the corresponding ISEE 1 and 2 orbit number and orbital phase, and the ISEE 3 position at the start of the plot in GSE and GSM coordinates in units of earth radii. The top panel is designed to indicate the sector polarity. It is the dot product of the nominal

Parker spiral direction (direction cosines are: .707, -.707, 0) and the magnetic field direction. Positive values denote toward sectors and negative values away sectors. The second panel shows the cone angle (alpha), which is the angle between the solar direction and the magnetic field direction. The next panel, beta, is the orthogonal angle, i.e., the azimuth about the solar direction, measured in GSM coordinates with beta=0 deg along the positive Y direction and beta=90 deg along the positive Z direction. To minimize rollover of angles near + or -180 deg, the plot extends above 180 deg and below -180 deg if the previous point is close to + or -180 deg. The next panel labeled ZGSB, is the distance (earth radii) of ISEE 3 above the VB plane that contains the earth. (The VB plane is the plane containing both the solar wind velocity vector and the magnetic field direction.) This distance is important in using ISEE 3 to correlate with terrestrial data because it measures the distance between the earth and ISEE 3 perpendicular to the magnetic field, and the correlation length across the field is thought to be small (20 Re). The bottom panel is simply V Bz, in mV/m, which approximates Ey in GSM coordinates, the dawn to dusk electric field. Positive values are the geoeffective ones.

Data set name - 1 MINUTE AVERAGED FIELD WITH SPEED DATA

NSSDC ID 78-079A-02J, 1 MIN. AVERAGED FIELD WITH SPEED

Time period covered - 08/13/78 TO 06/28/79

Quantity of data - 2 REELS OF TAPE

This magnetic field data set is on 1600-bpi, 9-track, binary magnetic tapes created on an IBM 360 computer. The tapes were created at NSSDC by combining parts of the reduced magnetometer data from data set 78-079A-02D and the plasma data from data set 78-079A-01D. The tapes contain physical records consisting of 300 88-byte logical records. Each logical record contains the following data: year, day of year (Jan.1=1), seconds of day at the start of the minute; solar wind flow speed (with 5-min resolution); spacecraft position (in GSE coordinates); 1-min averaged magnetic field magnitude and components (in GSE coordinates), and the squares of the magnitude and of the components; 1 min averages of the products of each combination of two magnetic field components; and 1-min average of the ratio of each component to the total magnetic field.

Data set name - HOURLY & DAILY AVERAGES OF MAGNETIC FIELD DATA (FROM 78 079A 02D) ON MAG. TAPE

NSSDC ID 78 079A 02K, 1-H &1-D B-FIELD AVGS (FROM 02D)

Time period covered 08/13/78 TO 12/31/83

Quantity of data 2 REELS OF TAPE

This magnetic field data set is on two 1600-bpi, 9-track ASCII magnetic tapes created on a MODCOMP computer. The tapes were created at NSSDC by extracting the hourly and daily magnetic field averages from data set 78-079A-02D. Each physical record contains 31 240 byte logical records. The first logical record is a header record, the next 24 contain hourly averaged data, the next contains the daily averages, and the last five contain blanks. The header record contains the year, day of year, spacecraft position in GSE coordinates at the start of the day's data, and identifying text that notes the coordinate system in which the magnetic field averages are given. Each data record contains: the number of milliseconds for which data exist in the period over which the average was taken; the averaged magnetic field magnitude and its components, and the squares of the magnitude and the components, the averages of the products of each combination of two magnetic field components; and the average of the ratio of each component to the total magnetic field.

Data set name 5-MINUTE AVERAGED SOLAR WIND MAGNETIC FIELD DATA ON MAGNETIC TAPE

NSSDC ID 78-079A 02I, 5 MIN AVG S WIND MAG. FIELD, TAPE

Time period covered - 06/29/79 TO 12/31/83

Quantity of data - 1 REEL OF TAPE

This magnetic field data set is on one 1600-bpi, 9-track, ASCII magnetic tape created on a MODCOMP IV computer. The tape was made at NSSDC using the 1-min magnetic field averages from data set 78 079A 02D to calculate 5-min averages. The tape contains 18,488 byte physical records, each of which has one day's data in the form of a header record and 288 data records. The header record contains the year, day of year (Jan.1=1), and spacecraft position at start of the day in GSE coordinates. Each data record contains the 5-min averages of the magnetic field components in GSE coordinates and the field magnitude. Since the data are time continuous, intervals for which no data exist are indicated by having all the magnetic field components and the magnitude set to 0. Two time gaps do exist in the data set corresponding to ISEE 3 passes through the geomagnetic tail. These gaps are for days 209 to 304 of 1982 and day 356 of 1982 to day 304 of 1983.

ISEE 3, STEINBERG
RADIO MAPPING

Data set name - RADIO MAPPING DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-10A, RADIO MAPPING DPOOL PLOTS,MFILM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick-look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low-energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-05A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X-ray and gamma-ray bursts (-14D). The radio mapping data are plots of 128-s averages of the output receiver voltages from the spin-plane antenna with 10 kHz bandwidths at 1000 kHz and 233 kHz. (If only 3 kHz bandwidth measurements were made by the instrument, these are plotted and the lower frequency is 188 kHz. There is no flag on the plots to denote this.)

Data set name RADIO MAPPING DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-10B, RADIO MAPPING, DATA POOL TAPE

Time period covered - 08/12/78 TO 10/25/86

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600-bpi, 9 track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The radio mapping data include the average voltages and their rms values at both 200 and 1000 kHz, at 2-min intervals.

Data set name 90 MINUTE AND 24 HOUR SURVEY PLOTS ON MICROFICHE

NSSDC ID 78 079A 10C, 90-MIN + 24-HR SURVEY PLOTS,FICHE

Time period covered 08/13/78 TO 02/07/87

Quantity of data 2902 CARDS OF B/W MICROFICHE

These microfiche were provided by the investigator. Each fiche card covers 24 h of data, displayed in 72 labeled frames. These frames contain 24-h summaries and 90-min plots. One frame notes the date of the data on the card and seven frames plot 24-h summaries of data. These seven include three frames of housekeeping data (power drawn by each receiver and temperature of the electronics) and four frames of scientific parameters. The four parameters are receiver output signals for both 10 kHz (denoted by GB) and 3 kHz (PB) bandwidths, for both the spin-plane (S) 90-m tip-to-tip antenna and the spin axis (Z) antenna, whose length was increased over 6 months by steps of about 3 feet from 0 to 18 feet. These four parameters are labeled ZGB, ZPB, SGB, and SPB. Each of these parameters is plotted at 12 frequencies per frame. The 12 frequency steps for the wideband receivers (GB) are 1980, 1000, 513, 360, 233, 160, 123, 94, 72, 60, 50, and 41 kHz. For the narrow band receivers (PB), the 12 frequencies are 1000, 466, 290, 188,

145, 110, 80, 66, 56, 47, 36, and 30 kHz. The other 64 frames display the same four parameters in 90-min plots covering the same day.

ISEE 3, STONE
HIGH-ENERGY COSMIC RAYS

Data set name - 15 MINUTE AVERAGED FLUXES AND COUNTING RATE FOR H, HE, AND Z>2 IONS ON TAPE

NSSDC ID 78-079A-12A, 15-MIN AVG FLUX: H, HE & Z>2;TAPE

Time period covered - 08/13/78 TO 12/01/78

Quantity of data - 1 REEL OF TAPE

This heavy isotope spectrometer data set is on one 9-track, 1600-bpi, binary magnetic tape created on a PDP 1 computer. The physical record length varies but is always less than 8000 bytes. The first physical record of the tape contains 10 64-byte header records, 28 276-byte data records, and a 4-byte logical record that flags the end of the physical record and contains the physical record number. The following physical records contain the data records and an end-of record flag. The last physical record on the tape contains a string of 100 4-byte logical records that flag the end of the tape, and each contains the number of physical records on the tape. Each header record contains the tape name, execution date, and program version date. The data records contain the following data for 15 min periods: the year, day of year (Jan.1=1), hour of day, and quarter hour of the data; an insufficient data flag; the number of H events in each of the first four energy ranges (up to 11.8 MeV/nucleon) and the number of He events in each of the first five energy ranges (up to 20.4 MeV/nucleon); the sum of the low-Z (H and He) counting rates (count/s) from all operational energy ranges, the low-Z counting rates and the hi-Z counting rates from each of the first five energy ranges, the single detector counting rates from each of the first seven detectors of the instrument, and the statistical uncertainty for each of the above counting rates; the differential flux (particles/cmee2esreseMeV/nucleon) of H in each of the first four energy ranges, the flux of He in each of the first five energy ranges, and the statistical uncertainty for each of these fluxes; the livetime for the analyzed low-Z events (s); and the fraction of events that trigger two or more nonadjacent strips on either of the first two detectors (M1 or M2), called the multiple hodoscope fraction. Consult the data set documentation for many details concerning this data set.

Data set name HOURLY AVERAGED FLUXES AND COUNTING RATES FOR H, HE AND Z>2 ON MAGNETIC TAPE

NSSDC ID 78 079A 12B, 1 HR AVG FLUX: H, HE & Z>2; TAPE

Time period covered - 12/01/78 TO 01/04/81

Quantity of data 4 REELS OF TAPE

This heavy isotope spectrometer data set is on 9 track, 1600 byte, binary magnetic tape created on a PDP 1 computer. The physical record length varies but is always less than 8000 bytes. The first physical record on each tape contains 10 64-byte header records, 28 276 byte data records, and a 4-byte logical record that flags the end of the physical record and contains the physical record number. The following physical records contain the data records and an end-of-record flag. The last physical record on each tape contains a string of 100 4-byte logical records that flag the end of the tape, and each contains the number of physical records on the tape. Each header record contains the tape name, execution date, and program version date. The data records contain 1-h averaged data for the period following the failure of a readout logic component. This caused the degrading of pulse-height-analysis data and hodoscope information, but counting rate data were not affected. Consult the data set documentation for the details of the changes caused by this failure. The data records contain: the year, day of year (Jan 1 1), and hour of day; an insufficient data or operational mode flag, the number of H events in each of the first four energy ranges (up to 11.8 MeV/nucleon) and the number of He events in each of the first five energy ranges (up to 20.4 MeV/nucleon); the sum of the low-Z (H and He) counting rates (counts/s) from all operational energy ranges, the low-Z counting rates and the hi-Z counting rates from each of the first five energy ranges, the single-detector counting rates from each of the first seven detectors of the instrument, and the statistical uncertainty for each of the above counting rates (counts/s); the differential flux of H in each of the first four energy ranges and the flux of He in each of the first five energy ranges, and the statistical uncertainty for each of these fluxes; the lifetime for the analyzed low-Z events (s); and the fraction of events that trigger two or more nonadjacent strips on either of the first two detectors (M1 or M2), called the multiple hodoscope fraction. Consult the data set documentation for many details concerning this data set.

ISEE 3, TEEGARDEN
GAMMA-RAY BURSTS

Data set name - GAMMA-RAY BURST SPECTROMETER DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-15A, GAMMA-RAY BURST SPECTROMETER DATA

Time period covered - 11/04/78 TO 12/05/80

Quantity of data - 1 REEL OF TAPE

This gamma-ray burst data set is on one 9-track, 1600 bpi, EBCDIC magnetic tape, which was created on an IBM 360 computer. The tape contains rate histories from one or two detectors for each of 16 cosmic gamma-ray burst events that occurred during the time period of the data set. Each event has a history from this experiment's detector, 11 events also have histories from the CsI crystal of Hovestadt's experiment (78 079A 03), and two other events have histories from the CsI crystal of Meyer's experiment (78-079A 06). The tape has 32,000-byte physical records containing 400 80-byte logical records each. All logical records have the same format, and each contains the time of a measurement in year, day of year (Jan. 1=1), hour, minute, and second; the rate measured (counts/s); and the time interval to the time of the succeeding record (s). The data set documentation contains several necessary details.

ISEE 3, VON ROSENVINGE
MEDIUM ENERGY COSMIC RAY

Data set name - MEDIUM ENERGY COSMIC RAY DATA POOL PLOTS ON MICROFILM

NSSDC ID 78-079A-04A, MED-ENERGY C.R. DPOOL PLOTS,MFILM

Time period covered - 08/12/78 TO 02/07/87

Quantity of data - 72 REELS OF MICROFILM

These data are contained on 35-mm microfilm reels. The data are plotted vs time in sets of 10 types of plots for each day. Each type of plot shows the magnetic field magnitude, flags indicating when the spacecraft maneuvering unit was on, and the spacecraft position in GSE coordinates (in Re) at a specified time during the day, plus outputs of the investigator's quick look algorithms for one of the following experiments: solar wind plasma (78-079A-01A), magnetic fields (-02A), low energy cosmic rays (-03A), medium-energy cosmic rays (-04A), cosmic ray electrons and nuclei (-06A), plasma waves (-07C), energetic protons (-08C), interplanetary and solar electrons (-09C), radio mapping (-10A), and X ray and gamma ray bursts (-14D). The medium energy cosmic ray experiment data plotted are the 15 min averaged preliminary counting rates for protons and alpha particles and Z>2 particles. The count rates are given for two energy ranges, which for protons (and alphas) are 4 to 57 and 18 to 70 MeV/nucleon.

Data set name - MEDIUM ENERGY COSMIC RAY DATA POOL DATA ON MAGNETIC TAPE

NSSDC ID 78-079A-04B, MEDIUM-ENERGY C.R. DATA POOL,TAPE

Time period covered - 08/12/78 TO 01/10/87

Quantity of data - 10 REELS OF TAPE

These experimenter-supplied data are on 1600 bpi, 9-track, binary magnetic tape. The data pool tapes are multifiled and were created in IBM 360 representation. Each file contains data pool information for a 3-day period. The physical records have a fixed length of 3240 bytes. The first record of each file is a label containing the satellite ID number; year, day of year, and seconds of day for both the start and end of the file; spacecraft clock at start of file; group number; minimum and maximum value of spin period within the file (s); magnetometer Z-axis offset; number of estimates made for Z offset; alpha and group number used to determine Z offset; and bit rates. The label record is followed by a number of data records containing day of year and seconds of day, spacecraft clock at start of record, bit rate, dummy record indicator, time line indicator, data record number, satellite position in GSE coordinates, spin period average, and outputs of investigators' quick look algorithms for the following experiments: low-energy cosmic rays (78-079A-03B), magnetometer (-02B), radio mapping (-10B), interplanetary and solar wind electrons (-09B), X-ray and gamma-ray bursts (-14C), solar wind plasma (-01B), plasma waves (-07B), medium-energy cosmic rays (-04B), energetic protons (-08B), and cosmic ray electrons and nuclei (-06B). The medium-energy cosmic ray data include fluxes of particles in the ranges 4 to 57, and 18 to 70 MeV/nucleon, at 15-min intervals. These data were not available from August 1979 to January 1980.

OGO 1

Data set name - ANALYZED, CONDENSED, ORBIT/ATTITUDE TAPE COVERING DATA TIME SPAN OF (64-054A-16)

NSSDC ID 64-054A-00G, CONDENSED ORBIT TAPE FOR EXPER.16

Time period covered - 09/07/64 TO 12/02/64

Quantity of data - 1 REEL OF TAPE

This analyzed data set contains, on one magnetic tape supplied by Dr. A. Konradi, a condensed set of the orbit/attitude parameters required for analysis of OGO 1 experiment number 16 (64-054A-16) for the complete life of that experiment. The data were extracted from the orbit/attitude tapes supplied by the OGO project. The tape is a 9-track, 1600-bpi, odd-parity, binary magnetic tape written on an IBM 360/75 containing one file of information written in 10,600-byte physical records. Each physical record contains 100 106-byte logical records, and each logical record contains 28 fields of information. The information includes date and time (UT); orbit number; satellite position in both GEI and B,L coordinates; model geomagnetic field strength and direction at the satellite; whether the satellite was in a stabilized, spinning, or unknown mode; the spin period; and the spin axis direction and orientation of the orbital plane experiment package in GEI coordinates.

Data set name - MULTICOORDINATE SYSTEM EPHEMERIS PLOTS

NSSDC ID 64-054A-00H, MULTICOORDINATE SYSTM ORBIT PLTS

Time period covered - 09/07/64 TO 06/03/67

Quantity of data - 2 REELS OF MICROFILM

This multicoordinate data set is on two reels of 35-mm microfilm, filmed by NSSDC from Calcomp plots generated by Dr. Edward J. Smith. The data set contains two-dimensional projections of individual orbits, with tick marks for time, in a variety of coordinate systems. Included are the distance from the earth sun line geomagnetic dipole plane; distance from the neutral sheet; the orbit in GSM, GSE, and geocentric solar cylindrical coordinates; and the distance from the earth sun line ecliptic pole plane. One orbit is included per plot, and all distances are in earth radii.

OGO 1, ANDERSON
SOLAR COSMIC RAYS

Data set name - ORIGINAL REDUCED SOLAR COSMIC RAY COUNT DATA ON MAGNETIC TAPE

NSSDC ID 64 054A 12A, SOLAR COSMIC RAY COUNTS, TAPE

Time period covered - 09/30/65 TO 05/03/66

Quantity of data - 1 REEL OF TAPE

This solar cosmic ray count data set is on one experimenter supplied, 7 track, 556 bpi, binary magnetic tape written on an IBM 360/40 system. The tape contains 35 files, each containing a variable number of records chosen for their solar flare information. The first 120 characters of each file are an identification header containing, among other things, the file and tape numbers of the original data tapes, the rate at which the data were telemetered, whether the data were real time or playback, and the start time of the data in year, day of the year, and seconds of the day. Each data record consists of 1044 six bit characters. The first 12 characters contain solar oriented experiment-package environment information. The next eight characters contain the day of the year and millisecond of the day for the first data value. The remaining 1024 characters contain 12 accumulations for each of the 32 channels for telemetry rates of 1, 8, and 64 kbs, each record contains 147.456, 18.432, and 2.304 s of data, respectively. The first 15 files contain data associated with the October 4, 1965, solar flare. Files 16 through 25 contain data associated with the March 24, 1966, solar flare. Files 26 through 35 contain data associated with the May 2, 1966, solar flare.

OGO 1, HARGREAVES
RADIO PROPAGATION

Data set name - IONOSPHERIC AND EXOSPHERIC ELECTRON CONTENT ON MICROFICHE

NSSDC ID 64-054A-05A, IONOSP + EXOSPH ELEC CONT, FICHE

Time period covered - 12/12/64 TO 05/20/67

Quantity of data - 2 CARDS OF B/W MICROFICHE

This data set consists of all the electron content observations for which complete data reduction was possible, as contained in R. B. Fritz and J. K. Hargreaves, "Measurements of Ionospheric and Exospheric Electron Content Using Radio Beacons on Orbiting Geophysical Observatories," Compilation of Data and Final Report, Space Environment Laboratory, ERL-NOAA, Boulder, CO, December 1973 (TRF B18548), on microfiche. The data set comprises 28 of the 62 orbits from which observations were taken. The data for each orbit are on two frames of microfiche. One frame contains spacecraft time and position information along with Kp and electron density at the F2 maximum (from the Boulder ionosonde). The other frame contains a plot of the following four quantities vs time (GMT): I(F), the total electron content from Faraday rotation techniques; I(F) (V), I(F) normalized to a vertical path through the F1 maximum; I(P), the value of the phase measurements (relative to I(F) since absolute values were not obtained); and I(X), I(P) minus I(F). Discussion and background information are also contained in this data set.

OGO 1, HELLIWELL
WIDEBAND AND NARROW-BAND STEP FREQUENCY VLF RECEIVERS

Data set name - VLF SPECTROGRAMS, LOW-RESOLUTION ON 35-MM PAPER

NSSDC ID 64-054A-08A, LO-RES VLF SPECTROGRMS,35MM PAPER

Time period covered - 11/10/64 TO 12/15/65

Quantity of data - 39 ROLLS OF STRIP OR BRUSH CHARTS

This data set consists of VLF spectrograms, produced by Rayspan equipment, on 39 100-ft reels of 35-mm positive photographic paper, showing time of signal occurrence vs frequency of received VLF signals. Relative signal intensity can be qualitatively judged only by contrast between the background and the signal traces. These data are records of signals received by the 0.3- to 12.5-kHz broadband receiver and transmitted in real time when the satellite was in range of a telemetry station. They represent all VLF broadband observations made prior to December 15, 1965. Subsequent observations have not been processed and/or released by the experimenter. These are low resolution data, having been photographed with low paper transport speeds. A primary use for this data form is in identification of data that may provide interesting cases to study with high resolution processing of the same data. The original tapes and processing at various transport speeds are available through the data set contact, Dr. J. Katsufrakis, at Stanford University. Since only time is noted on the sonograms, satellite position and other related information must be obtained from world maps (see data set 64-054A-00C).

Data set name - SELECTED HIGH RESOLUTION VLF SPECTROGRAMS ON MICROFILM

NSSDC ID 64-054A 08B, SELECTED HI RES VLF SPECTGMS,MFILM

Time period covered - 03/21/65 TO 11/24/65

Quantity of data - 16 REELS OF MICROFILM

This data set consists of VLF spectrograms, produced by Rayspan equipment, on 16 100 ft reels of 35 mm microfilm, showing time of signal occurrence vs frequency of received VLF signals. Relative signal intensity can only be qualitatively judged by contrast between the background and the signal traces. These data are records of signals received by the 0.3 to 12.5-kHz broadband receiver and transmitted in real time when in range of a telemetry station. These data are of particular interest to the investigator and were selected from the low resolution data (data set 64 054A 08A). These data are produced from the original telemetry tapes at higher film transport speeds than the low resolution data. The horizontal (time) axis is stretched by at least a factor of 2 compared to the low resolution data. This data set includes less than 0.2 of the low resolution data. Since only time is noted on the sonograms, satellite position and other related information must be obtained from world maps (see data set 64-054A 00C).

Data set name - VLF SIGNAL STRENGTH VS FREQUENCY ON 16 MM CINE FILM

NSSDC ID 64-054A-08C, VLF SIGNAL STRENGTH VS FREQ(CINE)

Time period covered - 09/07/64 TO 12/29/65

Quantity of data - 46 B/W POSITIVE FRAMES

This data set consists of graphical representations of VLF signal strength vs frequency, arranged chronologically on 46 reels of 16-mm motion picture film. These data have been through considerable processing in order to provide convenient reference to orbit and other selected geophysical information that may be useful. Each data frame consists of two parts. On the left side are three graphs, each pertaining to a particular receiver and covering one of the ranges from 0.2 to 1.6, 1.6 to 12.5, or 12.5 to 100 kHz. The graphs show frequency vs magnetic field intensity in decibels (referenced to 1 nT rms). For fixed-frequency operation, frequency is replaced by a time scale. The right half of each frame pictorially shows the satellite position in orbit looking both perpendicular to and parallel to the equatorial plane. Time, illumination, L, k, and other digital data for the time and/or position of observation are included on the frame in digital form. Data available include all observations taken prior to December 1965. Subsequent observations have not been processed and/or released by the experimenter. The data set includes both real time data and observations tape recorded on the spacecraft. Additional information and illustrations of these data are in W. E. Blair and B. P. Ficklin, "Summary of Digital Data Processing Systems for the OGO SU/SRI Very-Low-Frequency Experiments," Summary Report, Stanford Research Institute, Stanford, CA, July 1967 (NSSDC TRF B01263).

OGO 1, KONRADI
TRAPPED RADIATION SCINTILLATION COUNTER

Data set name - ALL PROTON-ELECTRON COUNT RATES, ANALYSED AND CONDENSED TO 1 KBS RATE, MAGNETIC TAPE

NSSDC ID 64 054A-16A, PROT&ELEC RTES,ALL TM EQUIV 1 KBS

Time period covered - 09/07/64 TO 11/16/65

Quantity of data - 4 REELS OF TAPE

This experimenter supplied proton and electron scintillator count rate data set is on four 9 track, 800 bpi, odd-parity, binary magnetic tapes written on an IBM 360/75 computer. The tapes contain one file and do not contain standard OS/360 tape labels. The tapes contain a complete set of ion electron detector data, including both the reduced data at a 1 kbs rate and the analyzed data transmitted at 8 or 64 kbs, which, on these tapes, have been condensed to an equivalent 1-kbs sampling rate. Each physical record contains 5184 bytes in eight 648-byte logical records. Each logical record contains time (UT); the detector currents and count rates measured during one revolution of the absorber wheel; a series of housekeeping parameters; orbit and attitude parameters defining the satellite position in GEI, geomagnetic, magnetospheric, and ecliptic coordinates; and the detector orientation. The data are time ordered, and data overlaps have been removed.

Data set name - HIGH BIT RATE REDUCED PROTON-ELECTRON DATA ON MAGNETIC TAPE

NSSDC ID 64-054A-16B, PROT+ELEC,HI-RATE DATA ONLY,TAPES

Time period covered - 09/07/64 TO 12/02/64

Quantity of data 7 REELS OF TAPE

This high transmission rate scintillator count rate data set is on seven experimenter-supplied, 7 track, 800-bpi, odd-parity, binary magnetic tapes written on an IBM 360/75 computer. The tapes contain one file each and do not contain standard OS/360 tape labels. The tapes contain the ion electron detector data transmitted at the 8 or 64-kbs rates but none of the 1-kbs rate data. Each physical record contains 5664 bytes in four 1416-byte logical records. Each logical record contains time (UT); the detector currents and count rates measured during 1/2 or 1/16 revolution of the detector absorber wheel; a series of housekeeping parameters; orbit and attitude parameters defining the satellite position in GEI, geomagnetic, magnetospheric, and ecliptic coordinates; and the detector orientation. The data are time ordered, and data overlaps have been removed. The same data, compressed to be equivalent to 1-kbs sampled data, along with the data recorded at 1 kbs, are in data set 64-054A-16A.

OGO 1, SIMPSON
COSMIC-RAY SPECTRA AND FLUXES

Data set name REDUCED COUNT RATE DATA ON MAGNETIC TAPE

NSSDC ID 64-054A-18A, REDUCED COUNT RATES ON MAG. TAPE

Time period covered - 09/06/64 TO 11/25/67

Quantity of data - 35 REELS OF TAPE

The data set consists of a copy of the original reduced data containing count rates ordered by solar rotation number, on 35 7-track, 800-bpi, IBM 7094, binary magnetic tapes. The particle count rates are from various detector coincidence combinations of the nuclear composition and proton-alpha telescopes, and some low-E proton telescope count rates. The tapes do not contain orbital data or pulse height data. Each tape has a 24-character (six bits/character) header record followed by a variable number of files. Each file has a 144-character header record, followed by a variable number of records that have a total length of 3972 characters, followed by a file trailer record (24 characters). A microfilmed index of this data set is also available (data set 64-054A-18D).

Data set name - SELECTED 1/2-HR AVERAGE DIGITAL AND ANALOG COUNT RATE PLOTS ON MICROFILM

NSSDC ID 64-054A 18B, SELECTED 30-M AVG RATE PLOTS,MFLM

Time period covered - 09/07/64 TO 11/25/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of a set of digital and analog plots of the most interesting OGO 1 half-hour average counting rates, on one reel of 35 mm microfilm. The data were generated using a Calcomp plotter. Each plot covers one solar rotation. These particle count rates are from various detector coincidence combinations of the nuclear composition and proton-alpha telescopes, and some low-E proton telescope count rates.

Data set name - PULSE HEIGHT ANALYZER DATA ON MAGNETIC TAPE

NSSDC ID 64 054A-18C, PROTON-ALPHA TELESCOPE PHA DATA

Time period covered 09/04/66 TO 11/25/67

Quantity of data - 3 REELS OF TAPE

This data set consists of reduced pulse height analyzer data, ordered by solar rotation number, on three 7 track, 800-bpi, XDS 930, binary magnetic tapes. Each tape has a 56-character header record followed by a variable number of files. Each file has a 25-character header record followed by a variable number of 4098-character records. Each record contains a list of the pulse height values of analyzed events plus the number of good, bad, fill, reset, and untransmitted events during a specified time period. The pulse height analysis was carried out for two of the dE/dx vs range telescope coincidence combinations (D1' not D2' not D4', and D1'D2' not D4'), corresponding to proton energies from 1.4 to 8.6 MeV and from 8.6 to 33 MeV. A microfilmed index of this data set is also available (data set 64 054A-18F).

OGO 1, SMITH
TRIAXIAL SEARCH-COIL MAGNETOMETER

Data set name - 36.864-SEC AVERAGED SEARCH COIL MAGNETOMETER DATA ON TAPE

NSSDC ID 64-054A 01A, 37-S SEARCH COIL MAG. DATA, TAPE

Time period covered - 09/23/64 TO 11/17/67

Quantity of data - 29 REELS OF TAPE

This experimenter generated magnetometer data set, on 29 7 track, 556 bpi, BCD magnetic tapes, contains 36.864 s averaged search coil magnetometer data from all experiment modes. Each file contains, in about 1600 records, data from one orbit, with the possibility of some overlap at the end of each file. An index to the time and size of each file is contained on microfilm in data set 64-054A-01D. In each record are day of year, millisecond of day, and the averaged vector field noise amplitudes for the 10-, 30-, 100-, 300-, and 800-Hz center frequency channels. For telemetry rates of 1, 8, and 64 kbs, each record contains 147.5, 18.4, and 2.3 s of data, respectively. Real-time data and tape-recorded playback data were processed separately. Though the tapes contain consecutive data, merging of these two types of data was not performed. As the instrument responded differently to broadband and monotone signals, it was not possible to calibrate the measured field signal magnitudes without independent knowledge of the nature of the measured signal. In any case, these data are useful as indicators of the times and places of magnetic activity, and may be used to identify shock fronts, magnetopause crossings, plasmapause

crossings, the nature of magnetospheric waves, etc., to the nearest minute.

Data set name - SEARCH-COIL MAGNETOMETER SQUISH PLOTS ON MICROFILM

NSSDC ID 64-054A-01B, SEARCH COIL DATA NOT TIME ORDERED

Time period covered - 09/23/64 TO 06/05/67

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set contains plots of 13 separate quantities plotted against a common time axis, on one reel of 35-mm microfilm. The plots contain the magnitudes of the 10-, 30-, 100-, 300-, and 800-Hz vector magnetic field data, averaged over 147.45-s periods. Also presented are (1) the 36.864-s-averaged 10-Hz Z channel data in spacecraft coordinates (the component along the spacecraft spin axis), (2) a data quality indicator, and (3) the Cartesian vector components of the digitized waveform data from the search-coil magnetometer, processed into two bands. The two bands are in the frequency ranges 0.1 to 0.15 Hz and greater than 0.2 Hz. The vector waveform data are averaged over 36.864 s, and are in spinning spacecraft coordinates. These data can be used to locate regions of magnetic activity such as shock fronts, magnetopause crossings, etc., to a crude time or spatial scale. Unfortunately, much of the film is of poor quality and may be difficult to use. Short portions of the data that were originally of poor quality were refilmed and are included at the end of the original data set. An index in the front of the data set identifies the intervals that are not in chronological order.

Data set name - MAGNETIC FIELD MAGNITUDE AND DIRECTION NORMAL TO THE SPACECRAFT SPIN AXIS ON FILM

NSSDC ID 64-054A-01C, PHASE AMPLITUDE B-FIELD PLTS,MFLM

Time period covered 09/05/64 TO 09/29/66

Quantity of data - 1 REEL OF MICROFILM

This data set consists of measurements of the amplitude and direction of the magnetic field component in the plane normal to the OGO spacecraft spin axis, on one reel of 35-mm microfilm made by NSSDC from experimenter generated Calcomp plots. The time resolution retrievable from these plots is limited to about 10 min.

OGO 1, WINCKLER
IONIZATION CHAMBER

Data set name PLOTS OF 1-MIN AVERAGED PULSE RATES VS TIME ON MICROFILM

NSSDC ID 64-054A-20A, 1 MIN AVG RATE VS T(1/3 ORB)PLOTS

Time period covered 09/12/64 TO 06/05/67

Quantity of data 1 REEL OF MICROFILM

This data set presents time-ordered, 1-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale, on one reel of 16 mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Each of the 244 frames contains data for up to one third of an orbit. Approximately 30% of the orbits during the period from September 12, 1964, to June 5, 1967, are represented in this data set.

Data set name ORIGINAL REDUCED PULSE RATES ON TAPE

NSSDC ID 64-054A-20B, REDUCED PULSE RATE,CONDEN. TAPES

Time period covered 09/05/64 TO 12/06/67

Quantity of data - 17 REELS OF TAPE

This ionization chamber count rate data set is on 17 experimenter submitted, 7-track, 556 bpi, binary magnetic tapes written on an IBM 7094 computer. Each tape is made up of an arbitrary number of records and covers an arbitrary amount of time. The records are of variable length, ranging from 21 to 1000 48-bit words. The first 20 words constitute a header that indicates, among other things, the rate at which the data were telemetered, the start and end times of the record, the number of words in the record, and whether or not the record is in exact time order. Each successive set of three words contains one 10 s-averaged pulse rate. The first word in the set contains the start time of the average in milliseconds of the day. The second word contains the actual duration of the average (which may be shorter than 10 s because of noise filtering), the number of voltage ramps in the average, and whether the average is based on unfiltered ramps, filtered ramps, clock pulses, or analog words. The third word gives the averaged pulse rate in normalized pulses per second. All the records have been ordered by start time of the record, and considerable overlap may exist in the time covered by consecutive records.

Data set name - ATLAS OF 10- TO 50-KEV SOLAR FLARE X RAYS ON MICROFILM

NSSDC ID 64-054A-20C, 10-50KEV SOLAR FLARE X-RAYS

Time period covered 05/02/65 TO 05/28/67

Quantity of data - 1 REEL OF MICROFILM

An ion chamber normally used for particle measurements also responded to bursts of hard (10 to 50 keV) X-rays that occurred during solar flares. These solar X-ray bursts were identified and separated from the particle data. This X-ray data set consists of copies of research reports containing plots of the excess ion chamber rate vs time, on one reel of 35-mm microfilm. Shortwave fadeouts and solar radio bursts, which accompanied the solar X-ray bursts, are also indicated on the plots. Similar data from OGO 3 (data set 66-049A-23D) are also included in these reports.

Data set name PLOTS OF 1-MIN AVERAGED PULSE RATES VS L ON MICROFILM

NSSDC ID 64-054A-20D, ION CHAMBER RATES VS L, MFILM

Time period covered - 09/07/64 TO 06/04/67

Quantity of data - 1 REEL OF MICROFILM

This ionization chamber count rate data set is on one reel of 16-mm microfilm that was generated at NSSDC from 322 plots submitted by the experimenter. The data set consists of time-ordered, 1-min averages of the number of normalized pulses per second times 1000, plotted on a logarithmic scale vs L (in earth radii). Each frame presents 2 h of playback data for L values between 1 and 8. Also presented on each frame are the beginning and end times and an indication of whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. Approximately 65% of the orbits during the period from September 7, 1964, to June 4, 1967, are represented in this data set.

Data set name TABULATIONS OF HOURLY AVERAGED PULSE RATES ON MICROFILM

NSSDC ID 64-054A-20E, HOURLY AVGD RATES (PRINTOUT) MFLM

Time period covered 09/05/64 TO 12/06/67

Quantity of data 1 REEL OF MICROFILM

This count rate data set is on one reel of 16 mm microfilm that was generated at NSSDC from computer printout submitted by the experimenter. The beginning and end times of the averaging period are given, and the pulsing rate of the ionization chamber, in normalized pulses per second, is given in four forms: unfiltered pulses, filtered pulses, clock pulses, and analog word pulses. Each of the rates represents data averaged over a period of 1 h unless shortened by a data gap. Also included are the original reel, file, and record numbers from which these data were obtained; an indication of whether the data were playback or real time; and the rate at which the data were telemetered. These data are time ordered and cover approximately 60% of the period from September 5, 1964, to December 6, 1967.

Data set name TABULATIONS OF 1-MIN AVERAGED PULSE RATES ON MICROFILM

NSSDC ID 64-054A-20F, 1 MIN AVGD RATES (PRINTOUT) MFLM

Time period covered 09/05/64 TO 12/06/67

Quantity of data 4 REELS OF MICROFILM

This pulse rate data set is on four reels of 16-mm microfilm that were generated at NSSDC from computer printout submitted by the experimenter. The pulsing rate of the ionization chamber, in normalized pulses per second, is presented in four forms: unfiltered pulses, filtered pulses, clock pulses, and analog word pulses. Each of the rates represents data averaged over a period of 1 min. Also included are the original reel, file, and record numbers from which these data were obtained; an indication of whether the data were playback or real time; and the rate at which these data were telemetered. These data are time ordered and cover approximately 60% of the period from September 5, 1964, to December 6, 1967.

Data set name - PLOTS OF 2-MIN AVERAGED PULSE RATES VS SPACECRAFT RADIAL DISTANCE ON MICROFILM

NSSDC ID 64-054A-20G, 2-MIN AVGD RATE VS R (PLOTS) MFLM

Time period covered - 09/07/64 TO 06/04/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered, 2-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale vs spacecraft radial distance (R) in earth radii. The data set is on one reel of 16-mm microfilm that was generated at NSSDC from 441 plots submitted by the experimenter. Each frame presents approximately 20 h of playback data for R values between 1 and 23. Also presented on each frame are the beginning and end times and an indication of whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. Approximately 60% of the orbits during the period from September 7, 1964, to June 4, 1967, are represented in this data set.

Data set name - PLOTS OF 2-MIN AVERAGED PULSE RATES VS TIME ON MICROFILM

NSSDC ID 64-054A-20H, 2 MIN AVG RATE VS T(1/2 ORB)PLOTS

Time period covered - 09/10/64 TO 06/05/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered, 2-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted vs time, on one reel of 16-mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Each of the 436 frames contains data from approximately one-half of an orbit. Approximately 40% of the orbits during the period from September 10, 1964, to June 5, 1967, are represented in this data set. Similar plots on a logarithmic scale covering about 70% of the orbits for the same period are found in data set 64-054A-20I.

Data set name - PLOTS OF 1-MIN AVERAGED PULSE RATES VS TIME (NEAR PERIGEE) ON MICROFILM

NSSDC ID 64-054A-20J, 1 MIN AVGD RATE VS T(PLOT)PERIGEE

Time period covered 09/15/64 TO 05/27/66

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered, 1-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale. The data set is on one reel of 16-mm microfilm that was generated at NSSDC from plots submitted by the experimenter. Each of the 125 frames contains data for a region up to 2 h on either side of perigee. Approximately 50% of the orbits during the period from September 15, 1964, to May 27, 1966, are represented in this data set.

OGO 1, WINCKLER
ELECTRON SPECTROMETER

Data set name - PLOTS OF 2-MIN AVERAGED COUNT RATES VS TIME (RADIATION BELTS) ON MICROFILM

NSSDC ID 64-054A-21A, 2-MIN AVGD RATE VS T (PLOTS) MFLM

Time period covered - 09/15/64 TO 05/27/66

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered, 2-min averages of the logarithm of the count rate vs time for each of the five electron spectrometer channels. The data set is on one reel of 16-mm microfilm that was generated at NSSDC from 116 plots submitted by the experimenter. The count rate, which has been corrected for background, may be converted to a flux value by using a conversion factor supplied by the experimenter. Each of the plots presented contains data from all five channels and approximately 3 h of data for that portion of the orbit in the vicinity of the radiation belts. These data cover approximately 60% of the orbits during the period from September 15, 1964, to May 27, 1966. No ephemeris information is presented.

Data set name - PLOTS OF COUNT RATES VS R ON MICROFILM

NSSDC ID 64-054A-21B, 15-MIN AVGD RATE VS R (PLOTS)MFLM

Time period covered - 09/07/64 TO 06/04/67

Quantity of data - 1 REEL OF MICROFILM

This count rate data set is on one reel of 16-mm microfilm that was generated at NSSDC from 417 plots submitted by the experimenter. The data set consists of 15-min averages of the background-corrected count rates of all five electron spectrometer channels, plotted on a logarithmic scale vs spacecraft radial distance (R) in earth radii, for values of R between 1 and 10. Also presented on each frame are the beginning and end times, the orbit number, and whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. The data are time ordered and cover approximately 70% of the orbits in the period September 7, 1964, to June 4, 1967. No additional ephemeris information is presented.

Data set name - ORIGINAL REDUCED ELECTRON SPECTROMETER ACCUMULATED COUNT DATA ON MAGNETIC TAPE

NSSDC ID 64-054A-21C, REDUCED COUNT DATA, CONDEN TAPES

Time period covered - 09/07/64 TO 12/06/67

Quantity of data - 11 REELS OF TAPE

This accumulated electron spectrometer count data set is on 11 experimenter-generated, 7-track, 556-bpi, IBM 7094, binary magnetic tapes. Each tape contains one file of reduced data, made up of an arbitrary number of records and covering an arbitrary amount of time. The records are of variable length: 21 to 1000 48-bit words. The first 20 of these words constitute a header that indicates, among other things, the rate at which the data were telemetered, the start and end times of the record, and the number of words in the record. The data words are grouped into 40-word data frames within which the data from each of the five spectrometer channels are presented four times, and background counts from each channel are presented three times. The remaining five words are synchronization words. Each data word indicates the channel and whether the data are analysis or background counts, the data in the form of accumulated counts, and the starting time of the accumulation cycle. Only nonzero data are presented. The accumulated counts may be converted to a flux value by using conversion factors supplied by the experimenter. All the records have been time ordered according to start time of the record, so considerable overlap may exist in the time covered by consecutive records.

Data set name - TABULATION OF 5 MIN AVERAGED COUNT RATES ON MICROFILM

NSSDC ID 64-054A-21D, 5 MIN AVGD RATE (PRINTOUT) MFILM

Time period covered 09/07/64 TO 06/05/67

Quantity of data - 6 REELS OF MICROFILM

This electron spectrometer count rate data set is on six reels of 16 mm microfilm that were generated at NSSDC from computer printout supplied by the experimenter. Data for each 5-min period for each of the five spectrometer channels include total counts, total background counts, average count rate, average background count rate, and average net count rate (average count rate minus average background count rate). Also included are the original reel, file, and record numbers from which these data were obtained; whether the data were playback or real time; and the rate at which the data were telemetered. These data are time ordered and cover approximately 60% of the period from September 7, 1964, to June 5, 1967.

Data set name - 2- AND 5 MINUTE AVERAGED ELECTRON COUNT RATES PLOTTED VS L, ON MICROFILM

NSSDC ID 64-054A-21E, 2&5 MIN AVGD RATE VS L PLOTS,MFLM

Time period covered - 09/07/64 TO 06/04/67

Quantity of data - 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 16-mm microfilm that was generated at NSSDC from 322 plots submitted by the experimenter. The data consist of 2- and 5-min averages of the background-corrected count rates of all five spectrometer channels, plotted on a logarithmic scale vs L (in the range 1.0 to 8.0 earth radii). The 2-min averages are presented only for L values that are less than 3, while the 5-min averages are presented only for L values greater than 3. Also presented on each frame are the beginning and end times, orbit number, and whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. These data are time ordered and cover approximately 75% of the orbits during the period from September 7, 1964, to June 4, 1967. No additional ephemeris information is presented.

Data set name - TABULATIONS OF ELECTRON COUNT RATES VS TIME AT DISCRETE L VALUES ON MICROFILM

NSSDC ID 64-054A-21F, DISCRETE L VALUE RATE LISTS,MFILM

Time period covered - 09/15/64 TO 12/05/65

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered count rates, corrected for background, from each of the five electron spectrometer channels listed for each of 12 discrete L values in the range 1.3 to 2.8. The data set is on one reel of 16-mm microfilm that was generated at NSSDC from computer printout submitted by the experimenter. Also presented are the dates and the equatorial pitch angles. The count rates may be converted to fluxes by using a conversion factor supplied by the experimenter. These data cover approximately 30% of the period from September 15, 1964, to December 5, 1965.

Data set name - PLOTS OF 5-MIN AVERAGED ELECTRON COUNT RATES VS T NEAR PERIGEE ON MICROFILM

NSSDC ID 64 054A-21G, 5MIN AV ELECT RTE VS T PLT,PERIGE

Time period covered - 09/07/64 TO 06/05/67

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time-ordered, 5-min averages of the count rates of all five electron spectrometer channels, plotted on a logarithmic scale vs time. The data set is on one reel of 16-mm microfilm that was generated at NSSDC from 230 plots submitted by the experimenter. The count rate, which has been corrected for background, may be converted to a flux value by using a conversion factor supplied by the experimenter. Each of the plots presented contains data from approximately one-third of an orbit, with perigee near the center of the plot. The plots themselves are not time ordered. These data cover approximately 60% of the orbits during the period from September 7, 1964, to June 5, 1967. No ephemeris information is presented.

Data set name PLOTS OF COUNT RATES VS TIME FOR DISCRETE L VALUES ON MICROFILM

NSSDC ID 64 054A 21H, RATE VS DAY,INNER ZONE (PLOT)MFLM

Time period covered 09/21/64 TO 12/05/65

Quantity of data 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 35-mm microfilm that was produced at NSSDC from plots submitted by the experimenter. Each pair of frames presents count rates (on a logarithmic scale), which have been normalized to an equatorial pitch angle of 90 deg, vs time for each of the five spectrometer channels. Data from channels 1, 3, and 5 are plotted on one frame, and data from channels 2 and 4 are plotted on a second frame. Each frame presents data for one of 12 specific L values between 1.3 and 2.8 for the entire time period. The time period covered by these data is September 1964 to December 1965, with each half month period indicated by a tick mark. These count rates can be reduced to flux values by using conversion factors supplied by the experimenter. Data sets 66 049A-22H, 66 049A-22I, and 66-049A 22J are also contained on this reel.

Data set name REDUCED L INTERPOLATED COUNT RATES ON MAGNETIC TAPE

NSSDC ID 64 054A-21I, L INTERPOLATED COUNT RATES

Time period covered - 09/15/64 TO 07/07/67

Quantity of data - 1 REEL OF TAPE

This electron spectrometer count rate data set is on one 7 track, 556 bpi, even parity, IBM 7094, BCD magnetic tape generated at NSSDC. It contains two files of reduced OGO 1 data and two files of OGO 3 data (data set 66-049A 22K). This data set contains count rates, equatorial pitch angles, times (UT), and L values. The first file of this data set contains inner zone electron data for 10 discrete L values in the range L = 1.3 to L = 2.4. The second file contains outer zone electron data for 16 discrete L values in the range L = 2.4 to L = 7.0. Each file is made up of an arbitrary number of 84-character records. Within each file there are five groups of records (one for each spectrometer data channel) in which the following sequence is repeated n times (n = number of discrete L values): a header record, a string of data records, and a trailer record.

OGO 3

Data set name - ANALYZED, CONDENSED, ORBIT/ATTITUDE TAPE COVERING DATA TIME SPAN OF 66 049A 10

NSSDC ID 66-049A-00G, CONDENSED ORBIT TAPE FOR EXP.10

Time period covered - 06/07/66 TO 01/29/67

Quantity of data - 1 REEL OF TAPE

This analyzed data set contains, on one magnetic tape, a condensed set of the orbit/attitude parameters required for analysis of OGO 3 experiment number 10 (66-049A-10, Konradi) for the complete life of that experiment. The 9-track, 1600-bpi, odd-parity, binary magnetic tape was written on an IBM 360/75 computer. The data were supplied by Dr. A. Konradi, who extracted them from the orbit/attitude tapes supplied by the OGO project. The tape has a standard OS/360 header label and contains one file of information written in 10,600-byte physical records. Each physical record contains 100 106-byte logical records, and each logical record contains 28 fields of information. The information includes: date and time (UT), orbit number, satellite position in both GEI and B, L coordinates, model geomagnetic field strength and direction at the satellite, whether the satellite was in a stabilized or spinning mode or mode unknown, the spin period and axis direction, and the orientation of the OPEP in GEI coordinates.

Data set name - MULTICOORDINATE SYSTEM EPHEMERIS PLOTS

NSSDC ID 66-049A-00H, MULTICOORDINATE SYSTM ORBIT PLTS

Time period covered - 06/07/66 TO 04/02/68

Quantity of data - 3 REELS OF MICROFILM

This multicoordinate data set is contained on three reels of 35-mm microfilm, filmed by NSSDC from Calcomp plots generated by Dr. Edward J. Smith. The data set contains two-dimensional projections of individual orbits, with tick marks for time, in a variety of coordinate systems. Included are the distance from the earth sun-line geomagnetic dipole plane, distance from the neutral sheet, distance from the earth sun-line ecliptic pole plane, and plots of the orbit projections in GSE and GSM coordinates. One orbit is included per plot, and all distances are in earth radii. For many orbits there is also a plot of the computed magnetic field magnitude and unit vector components vs time, or of B perpendicular and theta vs time.

OGO 3, ANDERSON
SOLAR COSMIC RAYS

Data set name SOLAR COSMIC RAY PARTICLE COUNT ACCUMULATIONS ON MAGNETIC TAPE

NSSDC ID 66 049A 01A, SOLAR COSMIC RAY COUNTS, TAPE

Time period covered - 06/24/66 TO 02/27/67

Quantity of data - 30 REELS OF TAPE

This solar cosmic ray count data set is on 30 experimenter supplied, 7 track, 556 bpi, binary magnetic tapes written on an IBM 360/40 system. Each tape contains a variable number of files, and each file contains a variable number of records chosen for their solar flare information. The first 120 characters of each file compose an identification header that includes the file and tape numbers of the original data tapes, the rate at which the data were telemetered, whether the data were real time or playback, and the start time of the data in year, day of the year, and seconds of the day. Each data record consists of 1044 six-bit characters. The first 12 characters contain solar-oriented experiment package environment information. The next eight characters contain the day of the year and millisecond of the day for the first data value. The remaining 1024 characters contain 12 accumulations for each of the 32 channels. For telemetry rates of 1, 8, and 64 kbs, each record contains 147.456, 18.432, and 2.304 s of data, respectively. The data set, which is time ordered, contains data for 15 flares between June 24, 1966, and February 27, 1967.

OGO 3, FRANK
LOW ENERGY ELECTRONS AND PROTONS

Data set name LOW ENERGY PROTON AND ELECTRON SPECTRA SURVEY OF THE MAGNETOSPHERE ON MOVIE FILM

NSSDC ID 66-049A-08A, LOW-E PROT&ELECT FLUX VS E, MOVIE

Time period covered - 07/14/66 TO 07/16/66

Quantity of data - 400 B/W POSITIVES

This data set consists of reduced data on one 400-ft reel of 16-mm movie film displaying observations of low-energy proton and electron spectra in the terrestrial magnetosphere. About 50 h of substantially continuous satellite observations are covered from 1331 UT on July 14, 1966, through 1521 UT on July 16, 1966. Each movie frame contains graphs of the observed energy spectra (0.3 to 50 keV) of protons and electrons for a given time and point in space. A pictorial representation of the satellite's position with respect to the sun, the earth, and the magnetosphere, plus a list of time, L, and magnetic latitude values is also given on each frame.

OGO 3, HADDOCK
RADIO ASTRONOMY

Data set name - 4- TO 2-MHZ SOLAR BURST LIST ON MICROFILM

NSSDC ID 66-049A-18A, 4-2 MHZ SOLAR BURST TABLES, MFILM

Time period covered - 06/13/66 TO 09/29/67

Quantity of data - 1 REEL OF MICROFILM

These data consist of tables listing radio bursts observed in the frequency band 4 to 2 MHz, on one reel of 35-mm microfilm. Some measured physical properties of selected bursts are also listed. These lists appear as appendixes to a thesis that is also on this reel. They may be considered analyzed data. The coverage from which these lists were drawn was about 91% complete from June 1966 through September 1967.

Data set name - 4 TO 2-MHZ RADIO NOISE DATA ON MICROFILM

NSSDC ID 66 049A-18B, 4-2 MHZ RADIO NOISE,MICROFILM

Time period covered 06/09/66 TO 08/16/68

Quantity of data - 86 REELS OF MICROFILM

These experimenter-supplied data, contained on 86 reels of 35-mm microfilm, are reduced data in the form of frequency vs time spectrograms on which the shade of grey indicates the intensity of the received radio noise. The data are cataloged but are not chronologically ordered. A catalog of the radio noise data measured between June 9, 1966, and October 3, 1967, is also available (data set 66-049A 18C).

Data set name - DATA SET CATALOG FOR 66 049A 18B ON MICROFILM

NSSDC ID 66-049A-18C, DATA SET CATALOG FOR 66 049A 18B

Time period covered - 06/09/66 TO 10/03/67

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set, on one reel of 16-mm microfilm, catalogs the data in the portion of data set 66-049A-18B between June 9, 1966, and October 3, 1967. This data set lists the dates and start and stop times of each interval of data processed, plus the data bit rates and the tape numbers used. This list is not time ordered. Additional experiment documentation is also contained on this reel of microfilm.

OGO 3, HEPPNER
MAGNETIC SURVEY USING TWO MAGNETOMETERS

Data set name - FIELD MAGNITUDE AS MEASURED BY THE GSFC RUBIDIUM VAPOR MAGNETOMETER, ON MICROFILM

NSSDC ID 66-049A-11A, M'FLM PLTS SCALAR B FIELD VS TIME

Time period covered - 06/09/66 TO 08/14/68

Quantity of data - 32 REELS OF MICROFILM

This set of OGO 3 Rubidium Vapor Magnetometer plots on 32 reels of experimenter-generated 35-mm microfilm contains 1/7-s averages of the scalar magnetic field plotted against time, with 2 min per frame and about 5 days per reel. The vertical scale changes according to the field magnitude. Included are the field magnitude, the difference between a model field and the measured field, and a calibration signal that allows determination of the vector field once every 5 min if the spacecraft orientation is known. The minimum detectable field by this instrument is about 3 nT. Uncertainties in low field measurements are high. A minimum practical field threshold for about 20% uncertainty in the field magnitude, including systematic errors such as spacecraft offset, is estimated at about 10 nT. Small field changes are detectable, limited by the resolution of the plots. The difference plot usually allows field changes of about 0.1 nT to be detected even for high field magnitudes. Much of the bad data has been edited from these data, and physical processes may be sorted from nonphysical processes, such as boom vibrations, with relative ease in the data that remain.

Data set name - MICROFILM LISTINGS OF 30-SEC AVG MAGNETIC FIELD MEASUREMENTS IN SEVERAL COORDINATES

NSSDC ID 66-049A-11B, 30-S AV TRIAX. FLUXGATE MAG.,MFLM

Time period covered - 06/09/66 TO 07/21/66

Quantity of data - 3 REELS OF MICROFILM

This experimenter-generated data set, on three reels of 35-mm microfilm, contains listings of 30-s-averaged magnetic field magnitude and Cartesian components in spacecraft and in topographic coordinates; a model reference field; the difference field (measured field minus model), and field magnitude and components in solar geomagnetic, GSE, and GSM coordinate systems. Field direction angles are also given for ecliptic coordinates. The data in the listings have not been corrected for spacecraft offset; the offset had been determined to be about 2 nT by ground measurement and was later confirmed when the spacecraft began its spin stabilized mode of operation. These data are for the interval June 9 to July 21, 1966, when the spacecraft was in the three-axis stabilized mode of operation. Bad data have been removed from this data set.

OGO 3, KONRADI
TRAPPED RADIATION SCINTILLATION COUNTER

Data set name ALL PROTON-ELECTRON COUNT RATES, ANALYSED AND CONDENSED TO 1-KBS RATE, MAGNETIC TAPE

NSSDC ID 66 049A-10A, PROT&ELEC RTES,ALL TM EQUIV 1 KBS

Time period covered 06/09/66 TO 01/26/67

Quantity of data - 14 REELS OF TAPE

This experimenter-supplied data set consists of a complete set of ion-electron detector data, plus ephemeris information, on 14 9 track, 800 bpi, odd parity, binary magnetic tapes written on an IBM 360/75 computer. The tapes each contain one file and do not contain standard OS/360 tape labels. The tapes contain both the reduced data recorded at a 1-kbs rate and the analyzed data transmitted at 8 or 64 kbs, which, on these tapes, have been condensed to an equivalent 1-kbs sampling rate. The tapes have 5184 byte physical records, and each physical record contains eight 648 byte logical records. Each logical record contains time (UT); the detector currents and count rates measured during one revolution of the absorber wheel; a series of housekeeping parameters, and orbit and attitude parameters defining the satellite position in geocentric inertial, geomagnetic, magnetospheric, and ecliptic coordinates; and the detector orientation. The data are time ordered, and data overlaps have been removed.

Data set name - HIGH BIT RATES OF REDUCED PROTON ELECTRON DATA ON MAGNETIC TAPES

NSSDC ID 66-049A-10B, PROT+ELEC,HI-RATE DATA ONLY,TAPES

Time period covered - 06/09/66 TO 01/16/67

Quantity of data - 9 REELS OF TAPE

This experimenter-supplied reduced data set consists of the ion-electron detector data transmitted at 8- or 64-kbs rates, but none of the 1-kbs rate data. It is contained on nine 7-track, 800-bpi, odd-parity, binary magnetic tapes written on an IBM 360/75 computer. The tapes contain one file each and do not have standard OS/360 tape labels. The data are written on the tapes in 5664-byte physical records, and each physical record contains four 1416-byte logical records. Each logical record contains time (UT); the detector currents and count rates measured during 1/2 or 1/16 revolution of the detector absorber wheel; a series of housekeeping parameters, and orbit and attitude parameters defining the satellite position in geocentric inertial, geomagnetic, magnetospheric, and ecliptic coordinates; and the detector orientation. The data are time ordered, and data overlaps have been removed. The same data, compressed to be equivalent to 1-kbs sampled data, along with the data recorded at 1 kbs are in data set

66-049A-10A.

OGO 3, SIMPSON
COSMIC-RAY SPECTRA AND FLUXES

Data set name - REDUCED COSMIC RAY PARTICLE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 66-049A-03A, REDUCED C.R. COUNT RATES, TAPE

Time period covered - 06/09/66 TO 12/01/69

Quantity of data - 65 REELS OF TAPE

The data set consists of a copy of original reduced count rate data on 65 7-track, 800-bpi, IBM 7094, binary magnetic tapes. The tapes contain count rates ordered by solar rotation number but do not contain pulse height or orbital data. The particle count rates are from various detector coincidence combinations of the nuclear composition and proton-alpha telescopes, and some low-E proton telescope count rates. Each tape has a 24-character (six bits per character) header record followed by a variable number of files. Each file has a 144-character header record, followed by a variable number of records that have a total length of 3972 characters, followed by a file trailer record (24 characters). A microfilmed index of this data set is available (data set 66-049A-03D).

Data set name 1/2-HR AVG DIGITAL AND ANALOG COUNT RATE PLOTS ON MICROFILM

NSSDC ID 66 049A-03B, 1/2-HR AVG COUNT RATE PLOTS, MFLM

Time period covered 06/09/66 TO 12/01/69

Quantity of data 2 REELS OF MICROFILM

The data set consists of a set of digital and analog plots of a selection of OGO 3 half-hour average rates. The data set is on one reel of 16-mm microfilm and one reel of 35-mm microfilm, and was produced from Calcomp plots. Each plot covers one solar rotation. The particle count rates are from various detector coincidence combinations of the nuclear composition and proton alpha telescopes, and some low I proton telescope count rates.

Data set name PULSE HEIGHT ANALYZER DATA ON MAGNETIC TAPE

NSSDC ID 66 049A 03C, PROTON ALPHA TELESCOPE PHA DATA

Time period covered 06/09/66 TO 08/16/68

Quantity of data 27 REELS OF TAPE

The data set consists of reduced pulse height analyzer data ordered by solar rotation number on 27 7 track, 800 bpi, IBM 7094, binary magnetic tapes. Each tape has a 56 character header record followed by a variable number of files. Each file has a 25 character header record followed by a variable number of 4098 character records. Each record contains a list of the pulse height values of analyzed events plus the number of good, bad, fill, reset, and untransmitted events during a specified time period. The pulse height analysis was carried out for two of the dE/dx vs range telescope coincidence combinations (D1' not D2' not D4', and D1'D2' not D4'), corresponding to proton energies from 1 6 to 8 6 MeV and from 8 6 to 33 MeV. A microfilmed index of this data set is available (data set 66 049A 03F)

OGO 3, SMITH
TRIAXIAL SEARCH COIL MAGNETOMETER

Data set name 36 864 SEC AVERAGED SEARCH COIL MAGNETOMETER DATA ON MAGNETIC TAPE

NSSDC ID 66-049A 12A, SEARCH COIL MAG. BCD DATA TAPES

Time period covered 06/09/66 TO 04/27/68

Quantity of data 41 REELS OF TAPE

These 41 experimenter-generated 7-track, 556-bpi, BCD magnetic tapes contain 36.864-s averaged search coil magnetometer data from all experiment modes. Each file contains data from one spacecraft orbit, with the possibility of some overlap at the end of those files that contain approximately 1200 records. An index to each file is contained on microfilm in data set 66-049A-12C. In each record are day of year, millisecond of day, and the averaged vector field amplitudes for the 10 , 30 , 100 , 300 , and 800 Hz center frequency channels. For telemetry rates of 1, 8, and 64 kbs, each record contains 147.5, 18.4, and 2.3 s of data, respectively. Real-time data and tape recorded data were processed separately. Though the tapes contain consecutive data, these two types of data were not merged. Since the instrument responds differently to broadband and monotone signals, it was not possible to calibrate the measured field signal magnitudes without independent knowledge of the nature of the measured signal. In any case, these data are useful as indicators of the times and places of magnetic activity, and may be used to identify shock fronts, magnetopause crossing, plasma-pause crossings, the nature of magnetospheric waves, etc., to the nearest minute.

Data set name - SEARCH-COIL MAGNETOMETER SQUISH PLOTS ON MICROFILM

NSSDC ID 66-049A 12B, SEARCH COIL DATA NOT TIME ORDERED

Time period covered - 06/09/66 TO 02/12/68

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set contains plots of 13 separate quantities plotted against a common time axis, on one reel of 35-mm microfilm. The plots contain the magnitudes of the 10-, 30-, 100-, and 800 Hz vector magnetic field data, averaged over 147.45 s periods. Also presented are (1) 36.864-s-averaged 10-Hz Z-channel data in spacecraft coordinates (the component along the spacecraft spin axis), (2) a data quality indicator, and (3) the Cartesian vector components of the digitized waveform data from the search coil magnetometer, processed into two bands. The two bands are in the frequency ranges 0.1 to 0.15 Hz and greater than 0.2 Hz. The vector waveform data are averaged over 36.864 s and are in spinning spacecraft coordinates. These data were received in an extremely compressed format and were blown back to a full-size plot 6 ft in length and 1 ft in width. The horizontal time axes are 30 s per 0.01 in., or 1.2 in./h. These data may be used to locate regions of magnetic activity such as shock fronts, magnetopause crossings, plasmapause crossings, etc., to a crude time or spatial scale. Unfortunately, much of the film is of poor quality and may be difficult to use.

OGO 3, TAYLOR, JR.
POSITIVE ION CONCENTRATION

Data set name ION CONCENTRATIONS VS L 5X8 FILM

NSSDC ID 66 049A 15A, ION CONCENTRATIONS VS L 5X8 FILM

Time period covered 07/24/66 TO 10/17/67

Quantity of data - 167 B/W POSITIVE FRAMES

This ion density data set was provided by the experimenter on 167 pieces of 5 by 8 in. film and contains profiles of H^+ and He^+ distributions plotted against the magnetic L parameter as the ordinate. The abscissa values are ion densities. Data taken after July 23, 1966, when attitude control was lost, are shown with ion currents as the abscissa values. These ion current plots can be qualitatively useful for describing the approximate fall-off of the plasmasphere density (H^+) as a function of altitude, local time, and magnetic activity. Because of the variability of the spacecraft orbit in magnetic coordinates, the time rate of change of L varies from pass to pass so that the spacing of plotted measurements also varies accordingly. The frame heading gives the date of measurements, indicates whether the pass was inbound (apogee to perigee) or outbound, and gives the Kp value. For example, if the frame shows Kp 24-1, it means that for the prior 24 h the highest Kp value was 1. Marked along the ordinate are groups of values for universal and local time, dip latitude, geographic latitude, and altitude. A discussion of the relative accuracy of the ion density and ion current values accompanies the data.

OGO 3, WINCKLER
ELECTRON SPECTROMETER

Data set name PLOTS OF 2-MIN AVERAGED COUNT RATES VS TIME (NEAR RADIATION BELTS) ON MICROFILM

NSSDC ID 66-049A 22A, 2 MIN AVGD RAD BELT RATES (PLOTS)

Time period covered - 06/11/66 TO 04/27/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 2-min averages of the background-corrected count rates for all five electron spectrometer channels, plotted on a logarithmic scale vs time. It is contained on two reels of 16-mm microfilm. This

microfilm was generated at NSSDC from 267 plots submitted by the experimenter. Each of the plots presented contains approximately 3 h of data from the portion of the orbit in the vicinity of the radiation belts. These data cover approximately 50% of the orbits during the period from June 11, 1966, to April 27, 1968. No ephemeris information is presented.

Data set name - PLOTS OF 15-MIN AVGD. SPECTROMETER COUNT RATES VS S/C RADIAL DISTANCE ON MICROFILM

NSSDC ID 66-049A-22B, 15MIN-AV SPECTROM RATE VS R PLOTS

Time period covered - 06/09/66 TO 04/02/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of 15 min averages of the background-corrected count rates for all five electron spectrometer channels, plotted on a logarithmic scale vs spacecraft radial distance values (in earth radii) between 1 and 18. It is contained on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 655 plots submitted by the experimenter. Also presented on each frame are the beginning and end times, the orbit number, and an indication of whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. The data are time ordered and cover approximately 45% of the orbits in the period June 9, 1966, to April 2, 1968. No additional ephemeris information is presented.

Data set name - ORIGINAL REDUCED ELECTRON SPECTROMETER COUNTS ON CONDENSED MAGNETIC TAPES

NSSDC ID 66-049A-22C, ELECT SPECTRMTR CNTS,CONDEN TAPES

Time period covered - 06/09/66 TO 05/03/68

Quantity of data - 18 REELS OF TAPE

This accumulated electron spectrometer count data set is on 18 experimenter-generated, 7-track, 556-bpi, IBM 7094, binary magnetic tapes. Each tape contains one file of reduced data, which is made up of an arbitrary number of records and covers an arbitrary period of time. The records are of variable length: 21 to 1000 48-bit words. The first 20 of these words constitute a header that indicates the rate at which the data were telemetered, the start and end times of the record, and the number of words in the record. The data words are grouped into 40-word data frames within which the data from each of the five spectrometer channels are presented four times, and background counts from each channel are presented three times. The remaining five words are synchronization words. Each data word indicates the channel and whether the data are analysis or background counts, the data in the form of accumulated counts, and starting time of the accumulation cycle. Only nonzero data are presented. All the records have been time ordered according to the start time of the record, so considerable overlap may exist in the time covered by consecutive records.

Data set name - TABULATIONS OF 5-MIN AVERAGED COUNT RATES ON MICROFILM

NSSDC ID 66-049A-22D, 5-MIN AV SPECTROM RATE LISTS,MFLM

Time period covered - 06/09/66 TO 05/01/68

Quantity of data - 7 REELS OF MICROFILM

This electron spectrometer count and count rate data set is on seven reels of 16-mm microfilm generated at NSSDC from experimenter-supplied computer printout. Data for each 5-min period for each of the five spectrometer channels include total counts, total background counts, average count rate, average background count rate, and average net count rate (average count rate minus average background count rate). Also included are the original reel, file, and record numbers from which these data were obtained; an indication of whether the data were playback or real time; and the rate at which the data were telemetered. These data are time ordered and cover approximately 70% of the period from June 9, 1966, to May 1, 1968.

Data set name - PLOTS OF 2- AND 5-MIN AVERAGED COUNT RATES VS L ON MICROFILM

NSSDC ID 66-049A-22E, 2&5-MIN AVGD RATE VS L PLOTS,MFLM

Time period covered - 06/11/66 TO 04/02/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of 2- and 5-min averages of the background-corrected count rates of all five electron spectrometer channels plotted on a logarithmic scale vs L (in the range 1.0 to 8.0 earth radii), on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 555 plots submitted by the experimenter. The 2-min averages are presented only for L values that are less than 3, while the 5-min averages are presented only for L values greater than 3. Also presented on each frame are the beginning and end times, orbit number, and whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. These data are time ordered and cover approximately 70% of the orbits during the period from June 11, 1966, to April 2, 1968. No additional ephemeris information is presented.

Data set name - TABULATIONS OF COUNT RATES VS TIME AT DISCRETE L VALUES ON MICROFILM

NSSDC ID 66-049A-22F, SPECTR RTE LIST,DISCRETE L'S,MFLM

Time period covered - 06/11/66 TO 12/27/67

Quantity of data - 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 16-mm microfilm generated at NSSDC from 65 pages of experimenter-supplied computer printout. Time ordered count rates, corrected for background, from each of the five spectrometer channels are presented for each of 19 discrete L values in the range 1.3 to 8.0. Also presented are the dates and the equatorial pitch angles. These data cover approximately 20% of the periods from June 11, 1966, to December 27, 1967, for L values less than or equal to 2.8, and from June 11, 1966, to September 1, 1967, for L values greater than or equal to 3.5.

Data set name - PLOTS OF 5-MIN AVERAGED COUNT RATES VS TIME ON MICROFILM

NSSDC ID 66-049A-22G, 5-MIN AVGD RATE VS T PLOTS, MFILM

Time period covered - 06/09/66 TO 04/30/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 5-min averages of the background corrected count rates for the five electron spectrometer channels, plotted on a logarithmic scale vs time, on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 662 plots submitted by the experimenter. Each of the plots presented contains data from approximately one-third of an orbit, with a perigee near the center of every third plot. These data cover approximately 50% of the orbits during the period from June 9, 1966, to April 30, 1968. No ephemeris information is presented.

Data set name - PLOTS OF COUNT RATES VS EQUATORIAL PITCH ANGLE FOR DISCRETE L VALUES ON MICROFILM

NSSDC ID 66-049A-22H, RATE VS PITCH ANGLE (INNER ZONE)

Time period covered - 01/00/67 TO 12/00/67

Quantity of data - 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 35 mm microfilm that was produced at NSSDC from plots submitted by the experimenter. Each pair of frames presents count rates (on a logarithmic scale) vs equatorial pitch angle (0 to 90 deg on a linear scale) for each of the five spectrometer channels. Data from channels 1, 3, and 5 are plotted on one frame; data from channels 2 and 4 are plotted on a second frame. Each frame presents data for one of a set of six specific L values between 1.4 and 2.4. The time period covered by each frame is either January to June 1967 or July to December 1967, and the two time periods contain different sets of L values. These count rates can be reduced to flux values by using conversion factors supplied by the experimenter. Data sets 64 054A-21H, 66-049A-22I, and 66-049A 22J are also contained on this reel.

Data set name - PITCH ANGLE NORMALIZED COUNT RATE VS T PLOTS FOR DISCRETE L VALUES, ON MICROFILM

NSSDC ID 66-049A-22I, DLY AVGD RATE VS T (DISCRETE L)

Time period covered - 12/00/66 TO 06/00/67

Quantity of data - 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 35-mm microfilm that was produced at NSSDC from plots submitted by the experimenter. Each pair of frames presents daily count rates (on a logarithmic scale), which have been normalized to an equatorial pitch angle of 90 deg, vs time for each of the five spectrometer channels. Tick marks are presented on the time axis for each 5-day period. Data from channels 1, 3, and 5 are plotted on one frame; data from channels 2 and 4 are plotted on a second frame. Each frame presents data for one of six specific L values between 1.4 and

2.4 for the time period December 1966 to June 1967. These count rates can be reduced to flux values by using conversion factors supplied by the experimenter. Data sets 64-054A-21H, 66-049A-22H, and 66-049A-22J are also contained on this reel.

Data set name - PLOTS OF COUNT RATES VS TIME FOR DISCRETE INNER ZONE L VALUES ON MICROFILM

NSSDC ID 66-049A-22J, AVG RATE VS DAY (INNER ZONE),MFLM

Time period covered - 06/00/66 TO 02/00/68

Quantity of data - 1 REEL OF MICROFILM

This electron spectrometer count rate data set is on one reel of 35-mm microfilm that was produced at NSSDC from plots submitted by the experimenter. Each pair of frames presents daily count rates (on a logarithmic scale), which have been normalized to an equatorial pitch angle of 90 deg, vs time for each of the five spectrometer channels. The experimenter has provided conversion factors that will allow these data to be compared with similar OGO 1 data (data set 64-054A-21). Data from channels 1, 3, and 5 are plotted on one frame; data from channels 2 and 4 are plotted on a second frame. Each frame presents data for one of 12 specific L values between 1.3 and 2.8. The time period covered by these data is June 1966 to February 1968, with each half-month period indicated by a tick mark. These count rates can be reduced to flux values by using conversion factors supplied by the experimenter. Data sets 64-054A-21H, 66-049A-22H, and 66-049A 22I are also contained on this reel.

Data set name - REDUCED L INTERPOLATED COUNT RATES ON MAGNETIC TAPES

NSSDC ID 66-049A-22K, L INTERPOLATED COUNT RATES

Time period covered - 06/11/66 TO 12/27/67

Quantity of data - 1 REEL OF TAPE

This electron spectrometer count rate data set is on one 7-track, 556-bpi, even-parity, IBM 7094, BCD magnetic tape generated at NSSDC. For storage convenience, this and another data set (64-054A 21I) are stored on the same tape. This data set contains count rates, equatorial pitch angles, times (UT), and L values. This data set occupies files number 3 and 4 on the tape. The first file of this set (file 3) contains reduced OGO 3 inner zone electron data for 10 discrete L values in the L range from L = 1.3 to L = 2.4. The second file (file 4) contains reduced OGO 3 outer zone electron data for 16 discrete L values in the range from L = 2.4 to L = 7.0. Each file is made up of an arbitrary number of 84 character records. Within each file there are five groups of records (one for each data channel) in which the following sequence is repeated n times (n = number of discrete L values): a header record preceding a string of data records, followed by a trailer record. All data originated from data set 66-049A-22I.

OGO 3, WINCKLER
IONIZATION CHAMBER

Data set name - PLOTS OF 1-MIN AVERAGED ION CHAMBER PULSE RATES VS TIME ON MICROFILM

NSSDC ID 66 049A-23A, 1 MIN AVGD RATES VS T, MFILM

Time period covered 06/08/66 TO 08/11/68

Quantity of data - 3 REELS OF MICROFILM

This data set consists of time-ordered, 1-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale. It is contained on three reels of 16-mm microfilm. This microfilm was generated at NSSDC from 1129 plots submitted by the experimenter. Each of the frames contains data for up to one-third of an orbit. Approximately 80% of the orbits during the period from June 8, 1966, to August 11, 1968, are represented in this data set.

Data set name - ORIGINAL REDUCED ION CHAMBER PULSE RATES ON MAGNETIC TAPES

NSSDC ID 66-049A-23B, ION CHAMBER CONDEN.PULSE RTE,TAPE

Time period covered 06/09/66 TO 08/12/68

Quantity of data - 31 REELS OF TAPE

This ionization chamber count rate data set is on 31 experimenter-supplied, 7-track, 556-bpi, binary magnetic tapes written on an IBM 7094. Each tape contains one file of reduced data, which is made up of an arbitrary number of records and covers an arbitrary period of time. The records are of variable length, ranging from 21 to 1000 48-bit words. The first 20 of these words constitute a header that indicates the rate at which the data were telemetered, the start and end times of the record, the number of words in the record, and whether or not the record is in exact time order. Each successive set of three words contains one 10-s averaged pulse rate. The first word in the set contains the start time of the average (in milliseconds of the day). The second word contains the actual duration of the average (which may be shorter than 10 s because of noise filtering); the number of voltage ramps in the average; and whether the average is based on unfiltered ramps, filtered ramps, clock pulses, or analog words. The third word gives the averaged pulse rate in normalized pulses per second. All the records have been ordered by start time of the record, and considerable overlap may exist in the time covered by consecutive records.

Data set name - PLOTS OF 1-MIN AVERAGED PULSE RATES VS L ON MICROFILM

NSSDC ID 66-049A-23C, 1-MIN ION CHAMBER RATES VS L,MFLM

Time period covered - 06/11/66 TO 04/02/68

Quantity of data - 2 REELS OF MICROFILM

This ionization chamber count rate data set consists of time-ordered, 1-min averages of the number of normalized pulses per second times 1000, plotted on a logarithmic scale vs L (in earth radii). It is contained on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 567 plots submitted by the experimenter. Each frame presents 2 h of playback data for L values between 1 and 8. Also presented on each plot are the beginning and end times, orbit number, and an indication of whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. Approximately 80% of the orbits during the period June 11, 1966, to April 2, 1968, are represented in this data set.

Data set name - ATLAS OF 10 TO 50-KEV SOLAR FLARE X RAYS ON MICROFILM

NSSDC ID 66-049A-23D, 10-50KEV SOLAR FLARE X-RAYS,MFILM

Time period covered - 06/25/66 TO 12/29/67

Quantity of data 1 REEL OF MICROFILM

An ionization chamber normally used for particle measurements also responded to bursts of hard (10 to 50 keV) X-rays that occurred during solar flares. These solar X ray bursts were identified and separated from the particle data. This X-ray data set consists of copies of research reports containing plots of the excess ion chamber rate vs time, on one reel of 35-mm microfilm. Similar data from OGO 1 (data set 66 054A 20C) are also included in these reports.

Data set name - PLOTS OF 2 MIN AVERAGED PULSE RATES VS SPACECRAFT RADIAL DISTANCE ON MICROFILM

NSSDC ID 66 049A-23E, 2-MIN ION CHAMBER RATES VS R,MFLM

Time period covered - 06/09/66 TO 04/02/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 2-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale vs spacecraft radial distance (R) in earth radii. It is contained on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 669 plots submitted by the experimenter. Each plot presents approximately 20 h of playback data for R values between 1 and either 18 or 19. Also presented on each plot are the beginning and end times and an indication of whether the data are for an inbound (apogee to perigee) or an outbound pass of the spacecraft. Approximately 85% of the orbits during the period from June 9, 1966, to April 2, 1968, are represented in this data set.

Data set name - TABULATIONS OF HOURLY AVERAGED PULSE RATES ON MICROFILM

NSSDC ID 66-049A-23F, 1-H AV ION CHAMBER RATE LIST,MFLM

Time period covered - 06/09/66 TO 08/10/68

Quantity of data - 1 REEL OF MICROFILM

This pulse rate data set is on one reel of 16-mm microfilm generated at NSSDC from computer printout submitted by the experimenter. The pulsing rate of the ionization chamber, in normalized pulses per second, is presented in four forms: unfiltered pulses, filtered pulses, clock pulses, and analog word pulses. Each of the rates represents data averaged over a period of 1 h unless shortened by a data gap. Also

included are the original reel, file, and record numbers from which these data were obtained; an indication of whether the data were playback or real time; and the rate at which the data were telemetered. The data, which are time ordered, cover approximately 65% of the period from June 9, 1966, to August 10, 1968.

Data set name - PLOTS OF 2-MIN AVERAGED PULSE RATES VS TIME ON MICROFILM

NSSDC ID 66-049A-23G, 2-MIN AVG RATE VS T(1/2 ORB)PLOTS

Time period covered - 06/09/66 TO 08/10/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 2-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted vs time, on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 731 plots submitted by the experimenter. Each of the plots contains data from approximately one-half of an orbit. Approximately 80% of the orbits during the period from June 9, 1966, to August 10, 1968, are represented in this data set. Similar plots on a logarithmic scale covering about the same percent of orbits for the same period are found in microfilm data set 66-049A-23K.

Data set name - TABULATIONS OF 1-MIN AVERAGED PULSE RATES ON MICROFILM

NSSDC ID 66-049A-23H, 1-MIN AVG ION CHAM RATE LIST,MFLM

Time period covered - 06/09/66 TO 08/10/68

Quantity of data - 5 REELS OF MICROFILM

This pulse rate data set is on five reels of 16-mm microfilm generated at NSSDC from computer printout submitted by the experimenter. The pulsing rate of the ionization chamber, in normalized pulses per second, is presented in four forms: unfiltered pulses, filtered pulses, clock pulses, and analog word pulses. Each of the rates represents data averaged over a period of 1 min. Also included are the original reel, file, and record numbers from which these data were obtained; an indication of whether the data were playback or real time; and the rate at which these data were telemetered. These data are time ordered and cover approximately 70% of the period from June 9, 1966, to August 10, 1968.

Data set name - PLOTS OF 1-MIN AVERAGED PULSE RATES VS TIME NEAR PERIGEE ON MICROFILM

NSSDC ID 66-049A-23J, 1 MIN AVGD PERIGEE RATE VS T MFLM

Time period covered - 06/11/66 TO 08/10/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 1-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale, on two reels of 16-mm microfilm. This microfilm was generated at NSSDC from 334 plots submitted by the experimenter. Each of the plots contains data for a region up to 2 h on either side of perigee. Approximately 75% of the orbits during the period from June 11, 1966, to August 10, 1968, are represented in this data set.

Data set name - PLOTS OF 2-MIN AVERAGED PULSE RATES VS TIME ON MICROFILM

NSSDC ID 66-049A-23K, 2 MIN AVGD RATE VS T MICROFILM

Time period covered - 06/09/66 TO 08/10/68

Quantity of data - 2 REELS OF MICROFILM

This data set consists of time-ordered, 2-min averages of the number of normalized ionization chamber pulses per second times 1000, plotted on a logarithmic scale, on two reels of 16-mm microfilm generated at NSSDC from plots submitted by the experimenter. Each of the 383 plots contains data for up to one orbit (apogee to apogee). Approximately 80% of the orbits during the period from June 9, 1966, to August 10, 1968, are represented in this data set.

****
********** OGO 5 **********
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Data set name - MULTI-COORDINATE EPHEMERIS DATA ON MICROFILM

NSSDC ID 68-014A-00D, EPHMRS PLOTS,MULTICOORD SYSTEMS

Time period covered - 03/04/68 TO 10/04/71

Quantity of data - 5 REELS OF MICROFILM

This multicoordinate ephemeris data set is contained on one reel of 16-mm microfilm and four reels of 35-mm microfilm generated by Dr. Christopher Russell of UCLA. The data set consists of two-dimensional projections of individual orbits, in a variety of coordinate systems. There are nine plots of each orbit, three in GSE coordinates, three in GSM coordinates, one in geocentric solar cylindrical coordinates, one local time vs L-value plot, and one polar plot of radial distance vs magnetic latitude.

Data set name - TABLE OF EPHEMERIS PARAMETERS ON MICROFILM

NSSDC ID 68-014A-00E, LAWRNCE RAD LAB EPHEMERIS LISTNG

Time period covered - 03/04/68 TO 04/26/70

Quantity of data - 12 REELS OF MICROFILM

This experimenter-supplied data set contains OGO 5 ephemeris information listed at variable time intervals (5 s near perigee, 10 min near apogee) on 12 reels of 35-mm microfilm. Ephemeris parameters include radial distance, geomagnetic latitude (not invariant latitude, derived from the subsatellite point), L, B/BO, GSE and GSM latitude and longitude, and geographic and geomagnetic local time. Orbital parameters are also listed at the start of each orbit. This data set was supplied by Dr. H. West of the Lawrence Radiation Laboratory and covers the first 301 OGO 5 orbits (March 4, 1968, to April 26, 1970).

OGO 5, ANDERSON
ENERGETIC RADIATIONS FROM SOLAR FLARES

Data set name - 147-SECOND-AVERAGED ELECTRON AND X-RAY COUNT RATES ON MAGNETIC TAPE

NSSDC ID 68-014A 04A, 147S AV ELECT&X-RAY CNT RTES,TAPE

Time period covered 05/31/68 TO 10/04/69

Quantity of data - 3 REELS OF TAPE

This experimenter supplied count rate data set is on three 7-track, 556-bpi, magnetic tapes written in a BCD card image format on a CDC 6000 series computer. Each card image includes the day of year, seconds of the day (UT), 147.456-s averaged electron count rates from the two energy channels with ranges of 22 to 27 keV and 50 to 90 keV, and 40-s averages from channels 1 and 8 of the X-ray detector corresponding to energies from 9.6 to 19.2 keV and greater than 128 keV. Each 2960-character physical record contains 37 80-character logical records. Data coverage is limited to spacecraft altitudes greater than 80,000 km, i.e., about 67% of each orbit.

Data set name - 40-SEC AVERAGED X-RAY COUNT RATES ON MAGNETIC TAPE

NSSDC ID 68-014A-04B, 40 SEC AVG X-RAY COUNT RATE, TAPE

Time period covered - 03/08/68 TO 10/04/69

Quantity of data - 10 REELS OF TAPE

This experimenter-supplied X ray count rate data set is on 10 7-track, 556-bpi, magnetic tapes written in a BCD card image format on a CDC 6000 series computer. Each card image includes the day of year, seconds of the day (UT), and eight channels of unnormalized 39.864-s averaged X ray count rates corresponding to energy intervals of 9.6 to 19.2, 19.2 to 32, 32 to 48, 48 to 64, 64 to 80, 80 to 104, 104 to 128, and greater than 128 keV. Each 2960 character physical record contains 37 80-character logical records.

Data set name - PROTON AND ALPHA PARTICLE COUNT RATES ON MAGNETIC TAPE

NSSDC ID 68-014A-04C, PROTON+ALPHA COUNT RATS,MAG.TAPES

Time period covered - 03/08/68 TO 11/17/69

Quantity of data - 2 REELS OF TAPE

This experimenter-supplied proton and alpha particle count rate data set is on two 7-track, 556-bpi, magnetic tapes written in a BCD card image format. Each card image includes the day of year, seconds of the day (UT), and six averaged

count rates: 147-s average for the proton and alpha particle channel with the energy range of 7 to 20 MeV/nucleon, and 9.216-s averages for the other five proton and alpha particle channels, with energy ranges of 20 to 45, 45 to 80, 80 to 130, 130 to 200, and greater than 200 MeV/nucleon. Data coverage was limited to spacecraft altitudes greater than 80,000 km, i.e., about 67% of each orbit.

OGO 5, BARTH
ULTRAVIOLET AIRGLOW

Data set name - AIRGLOW INTENSITIES AT 1304 A AND 1216 A ON MAGNETIC TAPES

NSSDC ID 68-014A-21A, AIRGLOW INTENSITIES (1304A,1216A)

Time period covered 03/04/68 TO 06/28/72

Quantity of data - 456 REELS OF TAPE

This reduced airglow intensity data set was generated at NSSDC, from magnetic tapes supplied by the experimenter, on 456 reformatted 7-track, 556-bpi, odd-parity, magnetic tapes generated in IBM 7094 format. Each tape contains one orbit of experiment data and consists of one file of information composed of one 22-word orbit information record, one 78-word attitude/orbit data record, and approximately 3750 438-word records at 1-min intervals, each containing 78 words of attitude/orbit data and 60 6 word sets of experiment data at 1-s intervals. All words are 36 bits long. The channel A and B outputs are presented as data numbers that range in magnitude from 0 to 255. Conversion values are available to transform these data numbers into kilorayleighs. Parameters provided include time and position relative to the earth, the sun, and the earth's magnetic field.

Data set name - CALCOMP PLOTS OF UV AIRGLOW AT 1216 A AND 1304 A ON MICROFILM

NSSDC ID 68-014A-21B, UV AIRGLOW PLOTS(1216A&1304A)MFLM

Time period covered - 03/27/68 TO 05/20/69

Quantity of data - 1 REEL OF MICROFILM

Some of the OGO 5 two-channel photometer experiment data were presented on experimenter-supplied Calcomp plots and were copied onto one reel of 35-mm microfilm at NSSDC. This data set contains a plot of every 10th orbit for orbits 10 to 150 and for orbits 260 to 360. Although basically the same data parameters are presented throughout the film, values from the first set of orbits are shown in one format, and those of the second set of orbits are displayed in a different format. In the first set's format, the data from each orbit are displayed on three graphs, each containing two curves, and all plots share true anomaly (designated as "ETA") as a common linear abscissa scale. Solar zenith angle and magnetic latitude values are plotted on the top graph, spacecraft position (right ascension and declination) values are shown on the middle graph, and the experiment outputs in kilorayleighs at wavelengths of 1216 A and 1304 A compose the bottom graph. Beneath the abscissa scale are printed values for geocentric radial distance, calendar date, and GMT. The orbit number is printed beneath these values. For the second set, the parameter values are displayed on two graphs, each containing four curves, and again are presented so that all plots share true anomaly as a common linear abscissa. The detector outputs expressed in kilorayleighs at wavelengths of 1216 A and 1304 A are shown on the top graph, along with values for the solar zenith angle and spacecraft radial distance. Values for the following four parameters are plotted on the bottom graph: spacecraft right ascension and declination, longitude, and magnetic latitude. The orbit number is printed beneath the abscissa scale.

OGO 5, BLAMONT
GEOCORONAL LYMAN-ALPHA MEASUREMENT

Data set name - LYMAN ALPHA GEOCORONAL DATA ON MAGNETIC TAPES

NSSDC ID 68 014A-22A, LYMAN ALPHA GEOCORONA DATA, MTAPE

Time period covered - 03/05/68 TO 12/31/69

Quantity of data - 32 REELS OF TAPE

This data set is on 32 9 track, 1600-bpi, magnetic tapes written on an IBM 360/65 computer in a floating point format. The number of files per tape varies from 4 to 25. Each file contains the data for an entire orbit and is arranged with a file label followed by a variable number of records. The records are of variable length and contain about 3 min of data. In addition to the measured Lyman-alpha intensity, several other parameters are presented, including attitude, altitude, location, and time.

OGO 5, COLEMAN, JR.
PARTICLE WAVE STUDY

Data set name - REAL TIME TELEMETERED ELECTRON DATA, 0.05 TO 1.2 MEV ON MAGNETIC TAPE

NSSDC ID 68-014A-13A, ELECTRON FLUX (6DIR) .05-1.2 MEV

Time period covered - 03/05/68 TO 04/20/70

Quantity of data - 89 REELS OF TAPE

This electron count rate data set contains all available significant real-time telemetered data from this experiment for the inclusive time period, on 89 experimenter-generated, 9- or 7-track magnetic tapes with IBM 360 eight-bit bytes. An experimenter-provided program that calculates the fluxes of particles is available. The program in its current form is expensive to run but contains calibration tables, etc., necessary to reduce the data. The physical record size of these tapes is 4088 bytes. For each physical record, the first eight bytes are sensor calibration data, followed nominally by up to 255 logical records of 16 bytes each containing data quality flags, channel number, time data flags, mode flags, and the electron count rates. Since this experiment was designed to study magnetospheric disturbances, data from times when no change in the count rate occurred are not included on these tapes. NSSDC has found physical records where the first seven data records are filled with irregular-looking data that do not fit this format, followed by apparently good data for the rest of the physical record. Physical records containing fewer than 255 logical data records are padded out with blanks.

Data set name - TAPE PLAYBACK ELECTRON DATA, 0.05 TO 1.2 MEV ON MAGNETIC TAPE

NSSDC ID 68-014A-13B, PLAYBACK ELECTRON FLUX .05 1.2MEV

Time period covered - 03/30/68 TO 02/14/71

Quantity of data 6 REELS OF TAPE

This electron count rate data set contains all available significant playback data from this experiment for the inclusive time period on six experimenter generated, 9- or 7 track magnetic tapes with IBM 360 eight-bit bytes. An experimenter-provided program that calculates the fluxes of particles is available. The program in its current form is expensive to run, but contains calibration tables, etc., necessary to reduce the data. The physical record size of these tapes is 4088 bytes. For each physical record, the first eight bytes are sensor calibration data, followed by up to 255 logical records of 16 bytes each containing data quality flags, channel number, time data flags, mode flags, and the electron count rates. Since this experiment was designed to study magnetospheric disturbances, data from times when no change in the count rate was detected are not included on these tapes. NSSDC has found physical records where the first seven data records are filled with irregular-looking data that do not fit this format, followed by apparently good data for the rest of the physical record. Physical records containing fewer than 255 logical data records are padded out with blanks

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OGO 5, COLEMAN, JR.
UCLA TRIAXIAL FLUXGATE MAGNETOMETER

Data set name - 1-MIN AVERAGED VECTOR MAGNETIC FIELD DATA ON MICROFILM

NSSDC ID 68 014A 14A, 1-MIN B-FIELD ROADMAP PLOTS,MFILM

Time period covered 03/05/68 TO 11/18/69

Quantity of data 16 REELS OF MICROFILM

This data set contains all existing data for the time period cited, on 16 reels of 35-mm microfilm. The data are presented as plots of 1-min-averaged Cartesian components and averaged magnitude vs time, with 5 h of data per frame, and are available in three separate coordinate systems: spacecraft body coordinates, GSE coordinates, and GSM coordinates. In addition, 1-min values of the rms fluctuation amplitude for the signal between 0.07 Hz and the sampling frequency are presented for each axis and for the field magnitude. A measure of the number of good data points that were used to generate each average is plotted on the same frame. A central processing program has attempted to remove or correct identifiable bad data, and, for the most part, the data are clean and reliable to within plus or minus 0.063 nT for relative changes. Offset errors of up to 10 nT are present in these data, so for absolute magnitudes the data must be used with caution. The

data are intended to be used as road maps of the satellite location in space.

Data set name - 1-MIN AVG VECTOR MAGNETIC FIELD AND RMS NOISE AMPLITUDE DATA TAPES IN S/C COORD.

NSSDC ID 68-014A-14B, 1 MIN AVG B-FIELD,S/C COORDS,TAPE

Time period covered - 03/05/68 TO 09/01/68

Quantity of data - 14 REELS OF TAPE

These experimenter-supplied data consist of time-ordered, 1-min-averaged vector magnetic field Cartesian components in spacecraft coordinates, the magnetic field magnitude, the rms deviations of each component and of the total field, and a data quality indicator. The data are on 14 UCLA standard-labeled 7- and 9 track, 800-bpi, IBM 360, binary magnetic tapes, with five data files per tape. Each file corresponds to one orbit. There are header and trailer files between each data file, totaling 15 files per tape, 1128 logical records per physical record, and a block size of 5132 words. There are no ephemeris data on these tapes. Offset corrections will have to be applied to these data to obtain accuracy in absolute magnitudes of better than 10 nT, but relative changes are reliable to 0.063 nT per component.

Data set name - 4.608-SEC AVERAGED FLUXGATE MAGNETOMETER DATA IN SPACECRAFT COORDINATES ON TAPE

NSSDC ID 68-014A-14C, 4.6 S AVG B FIELD,S/C COORDS,TAPE

Time period covered - 03/05/68 TO 01/10/69

Quantity of data - 5 REELS OF TAPE

This magnetic field data set is on 19 experimenter-supplied, 9-track, 800 bpi, binary magnetic tapes generated on an IBM 360/91 computer. Each tape contains data files with a header and trailer file for each data file. Each file contains overlapping data into the next orbit at perigee. As offset corrections are introduced at apogee and extrapolated backward and forward in time throughout each orbit, these overlapping periods in general will not exactly agree. Each physical record contains 128 logical records of six words each. Each logical record contains Bishop time (10ths of seconds since January 1, 1966), the vector magnetic field as averaged over 4.608 s in spacecraft coordinates, the total field magnitude, and a quality indicator. Offset corrections will have to be applied to these data to obtain accuracy in absolute magnitudes of better than 10 nT, but relative changes are reliable to 0.128 nT per component.

Data set name - 4.608 S AVERAGED FLUXGATE MAGNETOMETER B FIELD PLOTS IN S/C COORDS ON MICROFILM

NSSDC ID 68-014A-14D, 4.6-S AV B-FLD PLT,S/C COORD,MFLM

Time period covered - 03/05/68 TO 08/06/69

Quantity of data - 40 REELS OF MICROFILM

These 4.608-s averages of the fluxgate magnetometer data, plotted on 40 reels of 35-mm microfilm, are supplied by the experimenter principally to permit the study of magnetic field variations with 4-s resolution. Each frame contains 20 min of data. The three vector Cartesian components in spacecraft coordinates and the magnetic field magnitude are plotted on a linear scale against a common time axis. Also included are initial and final ephemeris information for each frame, such as L-value, radius, magnetic latitude, and either the total magnitude and Cartesian components of the magnetic field, plus the geographic latitude and longitude, or the GSE and GSM latitude and longitude. Because of coarseness of scale and accuracy of these plots, the magnetic tape data set 68-014A-14C should be used where accurate field values are required, especially when the ambient field is small. The first 37 orbits of data were plotted from preliminary versions of the data tapes in data set 68-014A-14C and, unfortunately, contain offset errors of up to 22 nT. The corrections of the plotted values to the tape data values are included in the documentation that will be sent with requests for these data. Note that even the tape data contain offset errors that must be accounted for by a user requiring absolute magnitude accuracy of better than 10 nT.

Data set name - 1-MIN AVG VECTOR MAGNETIC FIELD DATA ON TAPE IN GSE COORDINATES

NSSDC ID 68-014A-14E, 1-MIN AVG B-FIELD,GSE COORD.,TAPE

Time period covered - 03/05/68 TO 09/01/68

Quantity of data - 14 REELS OF TAPE

These experimenter-supplied data are the time-ordered, 1-min-averaged vector magnetic field Cartesian components and field magnitudes (data set 68-014A-14B), which the experimenter has rotated into GSE coordinates. The spacecraft position in GSE is also included. The data are on 14 UCLA standard-labeled, 7- and 9-track, 800-bpi, IBM 360 binary magnetic tapes, with five data files per tape and one orbit per file. There are header and trailer files for each data file, totaling 15 files per tape. The block size is 1232 characters. Offset corrections will have to be applied to these data to obtain accuracy in absolute magnitudes of better than 10 nT, but relative changes are reliable to 0.063 nT per component.

Data set name - 1-MIN AVG VECTOR MAGNETIC FIELD DATA ON TAPE IN GSM COORDINATES

NSSDC ID 68-014A-14F, 1-MIN AVG B-FIELD,GSM COORD.,TAPE

Time period covered - 03/05/68 TO 05/05/70

Quantity of data - 15 REELS OF TAPE

These data, supplied by the experimenter, consist of time-ordered, 1-min-averaged vector magnetic field Cartesian components and field magnitudes, which the experimenter has rotated into GSM coordinates. Also included are Bishop time (10ths of seconds since January 1, 1966), the spacecraft position in GSM coordinates, and the radial distance in earth radii. The data are on 15 UCLA standard-labeled, 7- and 9-track, 800-bpi, IBM 360, binary magnetic tapes, with five data files per tape and one orbit period per data file. There is a header and trailer file for each data file, totaling 15 files per tape. The block size is 1232 characters. Offset corrections will have to be applied to these data to obtain accuracy in absolute magnitudes of better than 10 nT, but relative changes are reliable to 0.063 nT per component.

Data set name - LISTING OF MAGNETOSPHERIC-B, MODEL B, L, DIPOLE DATA ON MICROFILM

NSSDC ID 68 014A-14H, MAGNETOSPHERIC-B,MODEL-B,L,DIPOLE

Time period covered - 03/06/68 TO 08/30/71

Quantity of data - 4 REELS OF MICROFILM

This magnetic field data set is on four reels of 16-mm microfilm generated at NSSDC from an experimenter-submitted printout. The two page, "dipole" printout is a listing of the field measured by the OGO 5 Fluxgate Magnetometer every minute around perigee and a comparison with field models. The first seven columns of page 1 list the following: day of year (January 1=1), month and day, hour and minute, geocentric distance in earth radii, L value, magnetic latitude, and local time. The next nine columns list the earth's main magnetic field as predicted by Jensen and Cain (1962), the measured field, and the difference between them, all in nT and GSM coordinates. The next three columns give the W. P. Olson (1969) field components expected for a magnetopause current system with tilt included. The last column gives the difference of the scalar magnitudes, measured minus predicted, using the Jensen-Cain model. The second page repeats the time in hours and minutes and then lists the Jensen-Cain field, the measured field, the difference field, and the Olson correction in dipole coordinates. Dipole coordinates are defined so that the Z axis is parallel to the earth's geomagnetic dipole axis, and the Y axis is perpendicular to the Z axis and to the radius vector from the center of the earth, i.e., perpendicular to the magnetic meridian. It points in the direction of electron gradient drift. The last six columns give the inclination and declination as predicted by Jensen and Cain, as measured, and as predicted when the Olson corrections are added. Inclination is the angle of the field with the local horizontal. Declination is the clock angle around the radius vector.

Data set name - HIGHEST TIME RESOLUTION INTERPLANETARY B DATA FROM ORBITS 2 TO 7 FOR SPECTRUM ANAL.

NSSDC ID 68-014A-14I, 8&64KBS B-FLD FOR SPECTRUM ANALYS

Time period covered - 03/07/68 TO 03/21/68

Quantity of data - 15 REELS OF TAPE

This high-bit-rate magnetic field data set is contained on 15 9-track, 800-bpi, magnetic tapes written on an IBM 360 computer. This data set contains data for orbits 2 through 7, with 50 points per second at 64 kbs and 5 points per second at 8 kbs. A physical record contains 128 logical records of six 32-bit words. A data record consists of Bishop time (10ths of seconds since January 1, 1966); X, Y, and Z spacecraft components of the magnetic field in nT; total field magnitude

in nT; and a quality indicator.

OGO 5, CROOK
PLASMA WAVE DETECTOR

Data set name - ORIGINAL ELECTRIC FIELD SONOGRAMS ON MICROFILM

NSSDC ID 68-014A 24A, 0-30 KHZ E-FIELD SONOGRAMS, MFILM

Time period covered - 03/11/68 TO 01/03/71

Quantity of data - 40 REELS OF MICROFILM

This data set consists of electric field sonograms, with time as one axis and frequency as the other, generated by the experimenter from analog data, on 40 reels of 35-mm microfilm. The intensity of the pattern indicates the relative power in an emission. The data cover an average of 3 h per day for 8 days interspersed between March 27 and September 15, 1968. The data were processed at a rate of 16 s per inch. The frequency intervals included in the set are 0 to 2.5, 0 to 5, 0 to 10, 9 to 10, 0 to 20, and 10 to 30 kHz, with the 0 to 5, 0 to 10, and 0 to 20 kHz intervals presented most often. The analog data used to generate these sonograms are from one axis of the three orthogonal dipoles of the TRW Plasma Wave Detector. Sensitivity calibration of the electric field amplitude vs frequency information is not included in this data set. Data set 68-014A 24E is also contained on these reels.

Data set name - TABULATED 3-MINUTE ELECTRIC AND MAGNETIC WAVE ENVELOPES ON MICROFILM

NSSDC ID 68-014A-24C, 3-MIN AVG E+B DIGITAL CHAN, MFILM

Time period covered 03/11/68 TO 01/11/71

Quantity of data - 5 REELS OF MICROFILM

These electric and magnetic field component magnitude data are contained on four reels of 35-mm microfilm of computer-generated listings made at TRW. The microfilm contains no data of questionable validity. The maximum, minimum, and average values, and the standard deviations of all the electric and magnetic field digital data (scalar sum over three axes of field component magnitudes), are given for each of the 12 frequency channels and for each 3.26-min experiment cycle, and are tabulated as functions of time. These data indicate the omnidirectional noise amplitude in the various discrete frequency channels between 0.56 and 70 kHz. The number of data points used in each calculation is included, and these numbers can be used to determine the data quality.

Data set name 3.26-MIN AVERAGED ELECTRIC AND MAGNETIC DIGITAL SPECTRUM ANALYSES ON MAGNETIC TAPE

NSSDC ID 68 014A 24D, 3-MIN AVG E+B DIGITAL CHAN, TAPE

Time period covered - 01/00/69 TO 03/00/70
(Date supplied by experimenter)

Quantity of data 5 REELS OF TAPE

This data set contains the electric and magnetic field component magnitude data of data set 68-014A 24C, on five 7-track, 800-bpi, BCD magnetic print tapes, generated by the experimenter at TRW. They contain no data of questionable validity. The maximum, minimum, and average values, and the standard deviations of all the electric and magnetic field digital data (scalar sum over three axes of field component magnitude), are given for each of the 12 frequency channels and, for each 3.26 min experiment cycle, as functions of time. These data indicate the omnidirectional noise amplitude in the various discrete frequency channels between 0.56 and 70 kHz. The number of points used in each calculation is included, and these numbers can be used to indicate the data quality. Periods of data earlier than January 1969 are not available on magnetic tape.

Data set name SELECTED 0 10 KHZ SPECTRA, MAGNETOSPHERIC AND PLASMASPHERIC BOUNDARIES ON MICROFILM

NSSDC ID 68 014A-24E, MSPH-PLASPH BNDRY SONOGRAMS,MFILM

Time period covered - 03/14/68 TO 05/12/69

Quantity of data - 14 REELS OF MICROFILM

These data are electric field sonograms similar to those contained in data set 68-014A-24A but include only data from selected magnetopause-to-plasmapause crossings (containing interesting features in the 0-to-10-kHz bandwidth). These experimenter-generated data are plotted on 14 reels of 35-mm microfilm. These sonograms have time as one axis and frequency as the other, and the intensity of the pattern indicates the relative power in an emission. Parts of data set 68-014A-24A are also contained on these reels.

OGO 5, HADDOCK
50 KHZ TO 3.5 MHZ SOLAR RADIO ASTRONOMY IN EIGHT STEPS

Data set name - SOLAR RADIO EMISSIONS VS TIME FOR 8 FREQUENCY CHANNELS, ON MICROFILM

NSSDC ID 68-014A-20A, PLOTS OF RADIO FLUX VS TIME,MFILM

Time period covered - 03/05/68 TO 09/30/71

Quantity of data - 50 REELS OF MICROFILM

This experimenter-supplied data set contains partially reduced radio astronomy data on 50 reels of 35-mm microfilm. The output voltages of the eight frequency channels are displayed in parallel, with the time axis running along the length of the film. The plots of the outputs of the eight channels are stacked across the width of the film, with the 3.5-MHz channel located at the top and the seven remaining channels displayed below in order of decreasing frequency. The eight tracings have the same time reference, i.e., a vertical line through all traces corresponds to the same time. Each frame on the microfilm contains 39 min of data. Blank spaces between frames are not data gaps but are due to the processing machine used. Each frame is labeled with the date and start-time (UT) for the frame, the number of the input data tape, and the number of the file on the input tape. Tick marks on the left side indicate the zero voltage levels for the eight outputs, and tick marks along the time axis indicate half-hour intervals. Because of the compressed time scale, inflight calibration signals appear as short vertical lines about 10 min apart. Attitude information, if available, is also incorporated, including time marks for apogee and perigee passes. For the period of March 1968 through June 1969, the data coverage was fairly complete with a total of 7212 h. Data for the period April 24, 1968, to June 18, 1968 (nonstepping mode, 3.5 MHz), were not processed. For the time period between July 1969 and February 1970, only sparse data were received, and the total coverage was less than 2000 h. Data at a particular time may be marred by inflight calibrations, data gaps in coverage, sporadic spacecraft interference, or ionospheric noise. Selected events have been replotted by the experimenter on large Calcomp plots. These Calcomp plots are available for viewing from the University of Michigan in Ann Arbor.

OGO 5, HEPPNER
MAGNETIC SURVEY USING TWO MAGNETOMETERS

Data set name - SCALAR RUBIDIUM MAGNETOMETER MAGNETIC FIELD MEASUREMENTS ON 35 MM MICROFILM

NSSDC ID 68 014A-15A, SCALAR B FIELD VS TIME PLOTS,MFILM

Time period covered 03/05/68 TO 05/13/70

Quantity of data 71 REELS OF MICROFILM

This data set, on 71 reels of 35-mm microfilm, generated by the experimenter and edited for bad data, contains plots of the magnetic field magnitude measured by the rubidium sensor, and the difference field between the measured 1// s value and the value calculated from the Cain GSFC field model dated 1966. There are 120 s of data plotted per 35-mm frame. These data are capable of being used for deriving vector field information every 295 s. This vector information is most accurate when the field magnitude is in the vicinity of 50 nT and the ambient field is steady. This data set contains many time gaps, which are due to telemetry gaps, times when the instrument was turned off, and edited intervals.

Data set name - 36.9 SEC AVG MAGNETIC FIELD VECTORS IN SPACECRAFT AND VARIOUS GEOPHYSICAL COORDS

NSSDC ID 68-014A-15B, 36.9 S AVG B-FIELD VECTORS, MFILM

Time period covered - 03/15/68 TO 03/08/70

Quantity of data 141 REELS OF MICROFILM

This data set consists of 36.868-s averages of the magnetometer measurements on 141 reels of 16 mm microfilm submitted by the experimenter. Each set of six lines corresponds to one averaging interval. The meaning of each number is summarized at the top of each frame of microfilm. The first line lists the following: DAY = day of 1year; YR MO DY = year, month, and day of month; MS OF DY = milliseconds of day (this time is the center of the 36.868-s-averaging interval); HRMNSEC = hour, minute, and second; X BODY, Y BODY, Z BODY = the measured field components in spacecraft body

coordinates; /F/ = the measured field intensity; FDEV = standard deviation of the 36.868-s set of measured field intensities; NRX, NRY, NRZ = the number of measurements of the X, Y, and Z axis fluxgate sensors used in the average (all acceptable data points are used in the average, thus this number varies with the spacecraft telemetry bit rate); and NRF = the number of individual values of /F/ used in the average. The second line lists (in topographic coordinates) FG1, FG2, and FG3 = measured field Cartesian X, Y, and Z components; BG1, BG2, and BG3 = model field Cartesian X, Y, and Z components; DXG, DYG, DZG = difference (measured field-model field) components; /F/, D, I = measured magnitude, declination, and inclination; and /B/, DC, IC = model field magnitude, declination, and inclination. The third line lists (in SM coordinates) FSGM1, FSGM2, and FSGM3 = measured components; BSGM1, BSGM2, and BSGM3 = model field components; DSGSM, DYSGM, and DZSGM = vector difference components; /F/, PHISGMF, and THSGMF = measured spherical components, magnitude, azimuth, and elevation; and /B/, PHISGMB, and THSGMB = model field, spherical components. The fourth and fifth lines list the same quantities as the third line, but in GSM and GSE coordinates, respectively. The sixth line lists CEX, CEY, and CEZ = the satellite's position in GEI coordinates, in units of kilometers; GCR = geocentric distance; LAT and LONG = geographic latitude and longitude of the subsatellite point, in degrees; H = altitude in kilometers; L = McIlwain parameter; P12, P23, P13, M1, M2, and M3 = quality parameters to check the transformation matrices used (the first three should be zero and the last three unity). The model field used is the GSFC (12/66) Main Field Model of Cain et al. (1967).

OGO 5, KREPLIN
SOLAR X-RAY EMISSIONS

Data set name - SOLAR X-RAY VARIATION ON MICROFILM

NSSDC ID 68-014A-23A, SOLAR X-RAY VARIATION ON MFILM

Time period covered - 03/08/68 TO 12/27/69

Quantity of data - 1 REEL OF MICROFILM

This data set contains images of 150 X-ray count rate plots on one reel of microfilm. Each plot displays three curves of count rates (counts/s) vs time (hours and minutes). The three curves are data from channel 1, the sum of channels 2 and 3, and the sum of channels 4 through 8. Also noted on each plot are the start and stop times and dates, and the telemetry bit rate.

OGO 5, MEYER
COSMIC-RAY ELECTRONS

Data set name - SELECTION OF VARIOUS PLOTS FOR PROTONS AND FOR ELECTRONS ON MICROFILM

NSSDC ID 68-014A-09A, PROTON + ELECTRON FLUX PLOTS,MFLM

Time period covered - 03/05/68 TO 07/13/72

Quantity of data - 1 REEL OF MICROFILM

This experimenter-supplied data set, on one reel of 35-mm microfilm, contains four sets of plots: (1) proton flux vs time (90 to 110 MeV); (2) proton integral flux vs time (143 to 169 MeV); (3) electron integral flux vs time (12 to 45 MeV); and (4) a set of 19 special electron (12 to 45 MeV) and 5 proton (90 to 110 MeV) integral flux plots of electron flare events. Set (1) covers the period March 5, 1968, to August 12, 1971; sets (2) and (3) both cover the periods March 5, 1968, to August 12, 1971, and June 3 to July 14, 1972; and set (4) covers flare events between June 9, 1968, and January 29, 1971. The data are in chronological order within sets (1), (2), and (3). Most of the plots cover four orbits each, giving the average rates over 4-h periods. The particle energy range, orbit number, and averaging interval appear at the top of each plot.

Data set name - PARTICLE ACCUMULATIONS AND PULSE HEIGHT ANALYSIS ON MAGNETIC TAPE

NSSDC ID 68-014A-09B, 1MIN CHARGED PART ACCUMS+PHA,TAPE

Time period covered - 03/05/68 TO 07/14/72

Quantity of data - 106 REELS OF TAPE

This experimenter-supplied data set consists of prescaled 1-min charged particle accumulations and pulse height analysis, on 109 7-track, 800-bpi, binary magnetic tapes, written using an XDS 930 computer. There are, in general, five files of data per tape with an end-of-file mark at the end of each and a double end-of-file mark at the end of the last file on a tape. Each file contains one orbit of data. There are a variable number of physical records per file, but each physical record will always be a multiple of 15 words (60 characters) and fewer than or equal to 1200 words total. A physical record contains time (UT); the individual telescope detector 1-min accumulations DO, D1, D2, D3, A1, and A2; coincidence modes D0D1D2D3 not A1 not A2, D0D1D2D3A2 not A1, and D0D2D3 not A1; pulse height analysis of D2 output (seven channels) and D3 output (eight channels) for certain coincidence modes; various data quality flags; telemetry bit rate (1, 8, or 64 kbs); and several housekeeping parameters. All telemetry frames with overlap or erroneous time information have been deleted. The time coverage is about 80% for spacecraft altitudes above 80,000 km.

OGO 5, SHARP
LIGHT ION MASS MAGNETIC SPECTROMETER

Data set name - OXYGEN, HELIUM, AND HYDROGEN ION CONCENTRATIONS AND EPHEM DATA ON MAG TAPE

NSSDC ID 68 014A-18A, O, HE, + H ION CONCS + EPHEM,TAPE

Time period covered - 03/07/68 TO 05/31/69

Quantity of data - 14 REELS OF TAPE

This ion concentration data set was supplied by the experimenter on 14 7-track, 800 bpi, Univac 1108, binary magnetic tapes. There are 7 to 12 files per tape, and the tapes contain header records in BCD format. The following information is contained on each tape: time, ion concentrations of oxygen, helium, and hydrogen ions, geodetic longitude, latitude and altitude, McIlwain L, geocentric distance, local time, magnetic latitude, egress latitude, and ingress latitude. With the exception of the time span from April 24 to June 12, 1968, there is complete coverage over the time period indicated.

OGO 5, SIMPSON
LOW-ENERGY HEAVY COSMIC-RAY PARTICLES

Data set name - HIGH-ATOMIC-WEIGHT, LOW ENERGY COSMIC-RAY COUNT RATES & P.H.A. DATA ON MAGNETIC TAPE

NSSDC ID 68 014A 27A, HI Z,LO E,C-R COUNT RTES&PHA DATA

Time period covered - 03/05/68 TO 07/14/72

Quantity of data - 6 REELS OF TAPE

This data set consists of reduced cosmic-ray telescope counting rates and pulse height analyzer data on six 7 track, 556-bpi, binary magnetic tapes written on an XDS 930 computer. The data are time ordered with a variable number of files per tape and a variable number of physical records per file. Each data record (physical record) contains 200 logical records with three 24-bit words each. These three words contain the three coincidence-mode count rates, from nuclei in the Z range from 1 to 28 and in the energy range from 2 to 61 MeV/nucleon, and the two pulse height analyzer outputs, one from the 512-channel (dE/dx) analyzer and one from the 1024-channel (total E) analyzer. In addition, the format contains the time and the telemetry bit rate.

Data set name - HIGH-ATOMIC-WEIGHT, LOW-ENERGY COSMIC-RAY COUNT RATE PLOTS ON MICROFILM

NSSDC ID 68-014A-27B, HI-Z,LO-E,C-R CNT RATE PLOTS,MFLM

Time period covered - 03/05/68 TO 07/13/72

Quantity of data - 1 REEL OF MICROFILM

This data set consists of count rate plots, in chronological order, on one reel of 35-mm microfilm. The plots are divided into three groups by particle telescope coincidence mode: (1) D1L not D3 (most abundant species is 0.6 to 6.0 MeV protons), (2) D1HD2 not D3 (most abundant species is 6.0 to 14 MeV/nucleon alpha particles), and (3) D1H not D2 not D3 (most abundant species is 2.0 to 6.5 MeV/nucleon alpha particles). Each plot covers one solar rotation (27 days). Averaging periods of 1/2 and 3-1/2 h were used in generating the plots. The distinction is obvious when looking at the plots. The maximum telemetry bit rate (1, 8, or 64 kbs) during the averaging interval is also displayed. The rates appear to saturate for larger solar events. The time coverage for the period covered by the data set is 90% or better.

OGO 5, SMITH
TRIAXIAL SEARCH-COIL MAGNETOMETER

Data set name - 2.5-MIN-AVG SEARCH-COIL MAGNETOMETER NOISE AMPLITUDES, 0.03-1000 HZ, MICROFILM

NSSDC ID 68-014A-16A, SEARCH COIL PLOTS .03-1000HZ,MFLM

Time period covered - 03/07/68 TO 03/07/71

Quantity of data - 6 REELS OF MICROFILM

These experimenter-generated compressed data plots, on one reel of 35-mm microfilm and five reels of 16-mm microfilm, summarize the triaxial search coil magnetometer response to both ambient and instrumental effects. Containing 36.9-s averages, the plotted magnetometer data are readable to about 1.5-min time resolution. Each orbit is represented by a pair of plots, the first containing compressed physical data and the second containing the information that may affect the experiment. The physical data consist of the seven magnitudes (averaged over three components) from the seven-channel triaxial spectrum analyzer, the data quality indicator, and the three sets of triaxial waveform data representing magnetic signals from 0.03 to 0.1 Hz, 0.1 to 0.3 Hz, and 0.3 Hz to experiment cutoff. The second plot contains instrument gain, bandwidth information, sample output from the E-field experiment (68-014A 24), sample output from the fluxgate magnetometer experiment (68-014A 14), and samples of the spacecraft status. These plots were useful in identifying the interplanetary region, bow shock, magnetopause, plasma and plasmasphere, etc., which the spacecraft could be sampling at any particular time.

Data set name - SEARCH-COIL MAGNETOMETER SUMMARY TAPES, 36 9-SEC TIME RESOLUTION

NSSDC ID 68-014A-16B, SEARCH COIL DATA .03-1000 HZ TAPE

Time period covered - 03/07/68 TO 01/01/71

Quantity of data - 45 REELS OF TAPE

This data set, on 45 experimenter-supplied, 9-track, 800-bpi, multiple-file, EBCDIC, digital magnetic tapes produced on an IBM 360/91 computer, contains summaries of about 2000 fine-time scale data tapes, which the experimenter currently holds. These data set tapes have 420 characters per record and about 1500 records per file, each of which represents one spacecraft orbit or about 2.7 days. These data are time ordered except for occasional overlapping data at the end of a file. A necessary, microfilmed index to the files on each tape is available in data set 68-014A-16C. Each data record contains 36.9-s averaged values for triaxial spectrum analyzer outputs at 10, 22, 47, 100, 216, 467, and 1000 Hz (21 values); and triaxial broadband data from 0.03 to 0.1 Hz, 0.1 to 0.3 Hz, and 0.3 Hz to the instrument Nyquist frequency, which is determined by bit rate (9 values). Aliasing does not occur except during the tape recorder playback mode. However, the question of aliasing is academic for the OGO 5 instruments operating in the waveform mode, as interference occurs between the seven spectrum analyzer channels and these three broadband modes, seriously degrading the broadband channels. A data quality indicator is also on the tapes.

Data set name - FREQUENCY TIME SPECTROGRAMS FOR 0-1000 HZ ANALOG SEARCH COIL MAGNETOMETER, MICROFILM

NSSDC ID 68-014A-16D, 0-1KHZ SEARCH COIL SONOGRAMS,MFLM

Time period covered - 03/06/68 TO 10/27/68

Quantity of data - 27 REELS OF MICROFILM

These experimenter-generated spectrograms, on 27 reels of 35-mm microfilm, contain 0- to 1000-Hz search coil signal amplitudes plotted as functions of frequency (on a linear scale) and time. The strength of the signal is proportional to the density of the image on the microfilm. The frequency resolution of these plots is about 5 Hz. The time resolution is approximately 0.5 s. Each segment of data is about 10 min long and has a start time indicated at the beginning of the run. Time is indicated by tick marks or dots at the bottom of the film. Time shown in dot representation lags actual time by approximately 6 s. The data were generated from the special purpose analog telemetry link aboard OGO 5, so that data coverage available was limited by the tracking acquisition from that portion of telemetered signal. An index to these spectrograms is available in data set 68-014A-16E.

Data set name - MICROFILM INDEX TO FREQUENCY-TIME 0-1 KHZ SEARCH COIL SPECTROGRAMS, 68-014A-16D

NSSDC ID 68-014A-16E, INDEX TO 68-014A-16D

Time period covered - 03/06/68 TO 04/25/68

Quantity of data - 1 REEL OF MICROFILM

This experimenter-generated data set summarizes the main characteristics of each spectrogram in data set 68-014A-16D for the first 50 days of operation, on one reel of 16-mm microfilm. Each frame, which describes one spectrogram and contains the date and start time of the spectrogram, may contain notes about the existence of whistlers and their types, and may contain notes and sketches about any notable features on the spectrogram. Each frame may also contain notes about the quality of both the microfilm and the time codes, and about the amount of interference.

OGO 5, SNYDER
PLASMA SPECTROMETER

Data set name - PLOTS OF HOUR AVERAGED PROTON BULK SPEED, 27 DAYS PER FRAME ON MICROFICHE

NSSDC ID 68-014A-17A, 1-HR AVG PLASMA PARAMETERS,MFICHE

Time period covered - 03/05/68 TO 04/30/71

Quantity of data - 2 CARDS OF B/W MICROFICHE

These data are experimenter-generated plots of 1-h averages of the proton bulk speed vs time, with 27 days of data and one solar rotation on one frame. This data set contains 26 solar rotation plots, on microfiche.

Data set name - HOUR AVERAGED PLASMA PARAMETERS

NSSDC ID 68-014A-17B, HR. AVG PLASMA PARAM ON TAPE

Time period covered - 03/05/68 TO 04/30/71

Quantity of data - 2 REELS OF TAPE

This experimenter-supplied data set consists of hourly averaged interplanetary plasma parameters, on both a 7-track, 556-bpi, BCD magnetic tape and a 9-track, 800-bpi, ASCII magnetic tape, with records containing one 80-character card image each. Contained in each record is the time; number of points in each average; proton bulk speed, temperature, and density; total charge density; and direction of plasma flow. Also included are the hourly averaged ratios of the alpha particle velocity to the proton velocity, the alpha temperature to proton temperature, and the alpha density to proton density. A computer listing of the contents of this tape is available (data set 68-014A-17F).

Data set name - LISTING OF HIGH-TIME-RESOLUTION INTERPLANETARY PLASMA PARAMETERS ON MICROFILM

NSSDC ID 68-014A-17C, PLASMA PARAM LISTING ON MICROFILM

Time period covered - 05/08/68 TO 04/30/71

Quantity of data - 2 REELS OF MICROFILM

This data set, on two reels of experimenter-generated 16-mm microfilm, contains some of the plasma parameters for each set of measurements on data set 68-014A-17D. The measurements represent the highest time resolution data available from the bulk processing program used to reduce the interplanetary data from this experiment. Contained in each record are time, direction of plasma flow, bulk speed, temperature, ion density (for protons, and for alphas when available), and some goodness-of-fit parameters that indicate reliability of each measurement. Time gaps exist in these data whenever the flow direction of the ambient plasma was diverted out of the entrance aperture so as to preclude data processing, such as in the earth's magnetosheath, and when errors introduced by the anomalous photo dip in the proton spectra prevented adequate correction of the data to obtain reliable plasma parameters.

Data set name - HIGH TIME RESOLUTION PLASMA DATA AND PLASMA PARAMETERS ON MAGNETIC TAPE

NSSDC ID 68-014A-17D, HI-RES PLASMA SPECTRA+PARAM, TAPE

Time period covered - 03/05/68 TO 04/30/71

Quantity of data - 12 REELS OF TAPE

This experimenter-supplied data set contains high resolution ion plasma spectra and parameters calculated from these spectra, on 12 7-track, 800-bpi, odd-parity, binary

magnetic tapes, generated on a Univac 1108 computer. There is one file per tape. Physical record size is 50 words, with one logical record of up to 50 words per physical record. Each logical record contains the time, some housekeeping parameters, particle type, direction of plasma flow, proton or alpha density, bulk speed, ion density, some goodness-of-fit parameters, and the plasma spectrum used to determine the previous parameters. Time gaps exist in these data whenever the flow direction of the ambient plasma was diverted out of the entrance aperture so as to preclude data processing, such as in the earth's magnetosheath, and when errors introduced by the anomalous photo dip in the proton spectra prevented adequate correction of the data to obtain reliable plasma parameters.

Data set name - HIGH TIME RESOLUTION PLOTS OF SOME PLASMA PARAMETERS ON MICROFILM

NSSDC ID 68-014A 17E, FINE TIME PLASMA PARAM PLOTS,MFLM

Time period covered - 03/05/68 TO 04/30/71

Quantity of data - 5 REELS OF MICROFILM

This data set, on five reels of experimenter generated 35-mm microfilm, contains plots of the following high-time-resolution plasma parameters as functions of time, 3 h per frame: proton bulk speed, proton temperature, ion density, plasma direction of flow, alpha/proton density ratio, and alpha to proton temperature ratio. These data are also available in microfilmed listings in data set 68-014A-17C and on magnetic tape in data set 68 014A 17D.

OGO 5, VAN DE HULST
MEASUREMENT OF THE ABSOLUTE FLUX AND ENERGY SPECTRUM OF ELECTRONS

Data set name - DAILY AVERAGED COSMIC-RAY ELECTRON AND PROTON COUNT RATES

NSSDC ID 68-014A-12A, 0.5-10 GEV ELCTRN CNT RATE, TAPE

Time period covered 03/05/68 TO 08/31/71

Quantity of data - 1 REEL OF TAPE

This data set consists of time-ordered electron count rates and proton count rates on one 7 track, 556 bpi, BCD magnetic tape, generated on an IBM 7094 computer at NSSDC from data submitted by the experimenter on computer cards. There is one file on the tape, and each 84-character physical record is the image of one card. The first 91 physical records of the tape contain a description of the experiment and also of the data set. The data format includes the year of observation, Julian day of year, month and day of month, and daily count rates for eight electron channels (counts/(100,000 s)) with energy ranges of 0.5 to 0.7, 0.7 to 1.0, 1.0 to 1.4, 1.4 to 2.0, 2.0 to 3.0, 3.0 to 5.0, 5.0 to 7.0, and 7.0 to 10.0 GeV, and one proton channel (counts/(100 s)) for energies greater than 0.4 GeV. The data are also available in tabular form on microfilm in data set 68-014A-12B.

Data set name 0.5 TO 10 GEV COSMIC RAY ELECTRON COUNT RATES ON MICROFILM

NSSDC ID 68-014A 12B, 0.5 10 GEV ELCTRN CNT RATE, MFLM

Time period covered 03/05/68 TO 08/31/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of time ordered tables of electron count rates and proton count rates submitted by the experimenter and stored on 16-mm microfilm by NSSDC. The data format includes a header description of the experiment and data set, followed by tables including the year of observation; Julian day of year, month, and day of month; and daily count rates for eight electron channels (counts/(100,000 s)) with energy ranges of 0.5 to 0.7, 0.7 to 1.0, 1.0 to 1.4, 1.4 to 2.0, 2.0 to 3.0, 3.0 to 5.0, 5.0 to 7.0, and 7.0 to 10.0 GeV, and one proton channel (counts/(100 s)) for energies greater than 0.4 GeV. The data are also available on magnetic tape in data set 68 014A-12A.

OGO 5, WEST, JR.
ELECTRON AND PROTON SPECTROMETER

Data set name - 20-MIN COUNT RATE PLOTS ON MICROFILM

NSSDC ID 68-014A 06A, COUNT RATES VS TIME, 20 MIN PLOTS

Time period covered - 03/04/68 TO 06/13/68

Quantity of data - 30 REELS OF MICROFILM

This experimenter-supplied data set consists of count rate plots on 30 reels of 35-mm microfilm. For each 20-min period this data set contains a separate plot of the count rate and background count rate vs time for each electron, proton, and alpha particle energy channel. The detector look direction relative to the local magnetic field has been determined with the aid of the UCLA Fluxgate Magnetometer data and has also been included on these plots. Limited ephemeris information appears on some but not all frames. Data for the period March 4, 1968, to June 13, 1968, are held at NSSDC.

Data set name - 2-HR COUNT RATE PLOTS ON MICROFILM

NSSDC ID 68-014A 06B, COUNT RATES VS TIME, 2 HR PLOTS

Time period covered - 03/06/68 TO 11/06/71

Quantity of data - 93 REELS OF MICROFILM

This experimenter-supplied data set consists of plots of 4.6-s averaged count rates vs time for all the counting modes of this experiment on 96 reels of 35-mm microfilm. Each frame contains approximately 2 h of data for one mode (principal and background detector count rates). Values of spacecraft radial distance, McIlwain L, magnetic latitude, and solar ecliptic and solar magnetic latitude and longitude of the spacecraft are listed at 12 min intervals on each of the data frames. No effort was made to select particles with specific pitch angles, which leads to some scatter in the data. Plots of detector aperture direction angle vs time are provided in each set of plots covering a given 2-h period. Listings of 10-min-averaged count rates for each of the counting modes are also given for 2-h blocks. These count rates involve averages over all pitch angles encountered during the 10-min averaging interval. The experimenter has supplied data in this format for all of 1968 after launch and for representative portions of 1969, 1970, and 1971. Emphasis is on magnetospheric data, with extramagnetospheric data being given only for interesting periods.

Data set name - PARTICLE COUNT RATE, EPHEMERIS, AND MAGNETIC FIELD DATA ON MAGNETIC TAPES

NSSDC ID 68 014A-06C, CNT RATE,EPHEM&B FIELD DATA, TAPE

Time period covered - 05/23/68 TO 05/01/69

Quantity of data - 35 REELS OF TAPE

This experimenter-supplied electron and proton count data set is on 35 7-track, 800-bpi, CDC 6600, binary magnetic tapes. Each tape contains up to 2000 records of 724 60 bit words each. Several of these computer words contain more than one logical word. There are about 4 days of data on each tape. Each record contains data taken from (1) the attitude orbit tapes supplied by GSFC to the experimenter, (2) the experimenter's particle detector data tapes, and (3) magnetometer data tapes provided to H. West by P. Coleman and C. Russell at UCLA. Attitude orbit data include time, spacecraft radial distance, McIlwain L parameter, B, magnetic latitude, polar and azimuthal angles in GSE and GSM coordinates, right ascension and declination, and Cartesian GEI coordinates. Cartesian GEI coordinates of the sun and Cartesian GEI components of the model magnetic vector are also given. The particle data in a given record consist of individual accumulator readings or their averages, as obtained over 2.5 min (at a telemetry bit rate of 1 kbs) or 1.25 min (at telemetry bit rates of 8 and 64 kbs). There are 32 successive values for each of the main electron and proton modes, over the 2.5 or 1.25-min interval, with smaller numbers for other modes. Dead time corrections have not been made and are seldom needed. The magnetometer data consist of Cartesian magnetic field components (in GSM coordinates) at 128 equally spaced time points within the 2.5 or 1.25 min interval covered by the record. These values are obtained by vector interpolation of 4.608-s-averaged UCLA magnetometer data. Because of uncorrected temperature-related effects (typically of 5 nT), these values should be treated with great caution in regions of low magnetic fields. Information on instrument look direction as a function of time within individual records is also given. This data set covers the time periods from May 23 to June 5, 1968; August 4 to October 2, 1968; and April 10 to May 1, 1969.

Data set name - L-SORTED INNER-ZONE CORRECTED ELECTRON FLUXES, CHANNELS 1 TO 5, ON MAGNETIC TAPE

NSSDC ID 68-014A-06D, L-SORTED ELECT FLUX,CHAN 1-5,TAPE

Time period covered - 03/04/68 TO 01/01/69
(Date supplied by experimenter)

Quantity of data - 1 REEL OF TAPE

This electron flux data set is on one 7-track, 556-bpi, BCD magnetic tape containing card images of punched cards submitted by the experimenter. The data set contains inner-zone (L between 1.3 and 2.4) perpendicular fluxes of electrons in narrow energy windows at 79, 158, 266, 479, and 822 keV, sorted by L value and taken over the interval from March 1968 to January 1969. Each card image contains L value, time, magnetic latitude, B/B0, and directional differential fluxes at the energies indicated above.

********** P 14 **********

P 14, BRIDGE
FARADAY CUP PLASMA PROBE

Data set name - REDUCED PLASMA DATA PLOTS ON MICROFILM

NSSDC ID 61-010A-02A, TELEMETRY RECORDS, F SHIFT CALIB

Time period covered - 03/25/61 TO 03/27/61

Quantity of data - 3 REELS OF MICROFILM

These experimenter-supplied reduced plasma data are available as plots on three reels of 35-mm microfilm. The plasma telemetry signal consisted of a frequency shift with a maximum range of 2000 Hz. The data were analyzed with a 1000-tooth comb filter, the teeth being separated by 2 Hz. The ordinate on each plot is the number of the "tooth" in which the telemetry signal lay. A zero level must be decided upon and the number multiplied by 2 in order to obtain the frequency shift. There are two plots for every 5-s segment of the plasma data. Each plot is 2 s long, and, together, the plots represent the best continuous 4 s of data of the 5-s segment. Beginning transients and noise are omitted where possible. There are about 200 current samples on each 2-s plot. At the bottom of each plot, along with the plot number, is the day of the month, hour, minute, and second of the first point plotted in graph 1 of the set; i.e., graph 2 starts at 2 s after the time printed. A label is also included to indicate which of the six possible modulating voltages was used when the data were taken. The vertical lines on each graph mark the closest approach of the plasma probe cup normal to the vehicle sun line. This approach was determined by using the optical aspect sensor and the satellite spin period. There is a 90% coverage for the 52 h time period from hour 15 of March 25 to hour 19 of March 27, 1961.

********** PROGNOZ 3 **********

PROGNOZ 3, LOGACHEV
ENERGETIC PARTICLE DETECTORS

Data set name - HOURLY AVERAGES OF ENERGETIC PARTICLE FLUXES, MAINLY INTERPLANETARY PROT + ELEC

NSSDC ID 73-009A-01A, HR AVG ENERG PART FLUXES ON FICHE

Time period covered - 02/15/73 TO 02/24/74

Quantity of data - 3 CARDS OF B/W MICROFICHE

This data set lists the hourly averages of charged particle counting rates that were measured by the Prognoz-3 energetic particle detectors in the interplanetary medium and partly in the earth's magnetosphere outside the radiation belts. The data are on microfiche, in tables that have five columns. The GMT of the interval concerned is given in the first column. Hourly averages of counting rates measured by an n-p detector oriented perpendicularly to the spacecraft's rotation axis are given in the second column. This detector recorded protons with energies from 1 to 5 MeV, as well as alpha particles and heavier nuclei. The background counting rate of this detector was about 10e+2 counts/s. The third column lists the hourly averages of counting rates recorded by the silicon semiconductor detector with a sensitive layer of thickness of 1.8 mm. The detector effectively recorded protons in the energy range of about 14 to 30 MeV, as well as alpha particles and heavier nuclei. The counting rates of particles detected by plastic scintillators are given in the fourth column. It was possible to detect protons with energies above 40 MeV and electrons above 2.5 MeV. The fifth column presents the counting rates determined from the two type SBT-9 gas counters of electrons with energies between 40 and 500 keV. Electron fluxes of magnetospheric origin are not included in the counting rates given in the fifth column unless they lasted longer than 30 min. Gaps in the data set, denoted by the symbol "-", indicate that either no recording took place in that time interval or that the spacecraft was inside the radiation belts.

********** PROGNOZ 6 **********

PROGNOZ 6, EROSHENKO
THREE-AXIS FLUXGATE MAGNETOMETER

Data set name - 5-MIN AVER B-FIELD VECTORS

NSSDC ID 77 093A-01A, 5-MIN AVER B-FIELD VECTOR,TAPE

Time period covered - 09/26/77 TO 01/24/78

Quantity of data - 1 REEL OF TAPE

This data set contains 5-min averages of the vector magnetic field, with approximately 4 days of data per file. Each record gives time; 5-min averages of vector magnetic field components in GSE, GSM, and SM coordinates; field magnitude; and direction angles theta and phi in the GSE system. Spacecraft location is not given, but a trained user can readily determine the periods during which it was in the solar wind, magnetosheath, or magnetosphere. The data are believed to be accurate within about +/- 0.5 nT. The original data are written in IBM 32-bit binary on standard-label, 9-track tape.

********** PROGNOZ 7 **********

PROGNOZ 7, DOLGINOV
THREE-AXIS FLUXGATE MAGNETOMETERS

Data set name - 5 MIN AVERAGE B FIELD VECTOR DATA ON MAGNETIC TAPE

NSSDC ID 78-101A-04A, 5 MIN AVERAGED MAG FIELD VECTOR

Time period covered - 11/10/78 TO 06/02/79

Quantity of data - 1 REEL OF TAPE

This data set contains 5-min averages of the magnetic field vector. Each record provides time, spacecraft location (km) in GSM and GSE coordinates, and average magnetic field vector components (nT) in each coordinate system. Also given are the 5-min average of the field magnitude, derived from the averaged components, the average magnitude directly computed from high resolution magnitude values, and the average direction angles theta and phi in the GSE system. The data are written in EBCDIC characters on a 9-track tape at 1600 bpi, in fixed length blocks of 27,000 bytes, with logical records of 180 bytes.

PROGNOZ 7, VAISBERG
SELECTIVE COMBINED PLASMA SPECTROMETER
(SCS)

Data set name - PROTON AND ALPHA FLUX, VELOCITY, TEMPERATURE AND DENSITY DATA ON TAPE

NSSDC ID 78-101A-01A, H+ & HE++ FLUX, V, T, & DEN, TAPE

Time period covered - 11/03/78 TO 06/12/79

Quantity of data - 1 REEL OF TAPE

This data set contains SKS plasma spectrometer data on protons and alpha particles. The data are written in IBM 32-bit binary representation. Each logical record contains Moscow time; proton or alpha particle energy spectrum in 24 steps; proton velocity and temperature, and alpha particle velocity, temperature, and density from the non-mass-selected data; proton and alpha particle velocity and temperature from the mass selected data; and ion density. Orbit data are not included but can be found in the magnetometer data set 78-101A-04A. Estimated accuracy of measurement is 2% for velocity and 20% for temperature, ion density, and ion flux.

PROGNOZ 10

PROGNOZ 10, EROSHENKO
TRIAXIAL FLUXGATE MAGNETOMETER (SG-76)

Data set name - 10-MINUTE AVERAGE INTERPLANETARY MAGNETIC FIELD DATA ON TAPE

NSSDC ID 85-033A-03A, 10-MIN AVER B-FIELD VECTOR

Time period covered - 04/27/85 TO 11/04/85

Quantity of data - 2 REELS OF TAPE

This data set contains 10-min averages of the magnetic field vector. Each record contains time, spacecraft position (km), magnetic field vector components (nT), magnitude, and standard deviations of the field. Rectangular GSE coordinates are used. The data are written in IBM 32 bit format in fixed blocks.

Data set name - HOURLY AVERAGED IMF DATA ON MAGNETIC TAPE

NSSDC ID 85-033A-03B, HR-AVG B & ENERGETIC E-,H+,HE++

Time period covered - 04/26/85 TO 11/05/85

Quantity of data - 1 REEL OF TAPE

This data set contains hourly averages of energetic proton, electron, and alpha particle fluxes, separately from the solar and anti-solar directions. It also contains hourly averages of magnetic field data. Each record contains time, proton fluxes (1/sq cm-s-sr-MeV) in the energy ranges 0.9-3.9, 3.9-5.9, and 5.9-20 MeV, alpha particle fluxes in the ranges 0.6-3.8, 3.8-5.7, and 5.7-19 MeV/u, and integral fluxes of electrons (1/sq cm s sr) of energy >30 keV. Also contained in each record are the hourly averages of the X,Y,Z components (GSE coordinates) of the spacecraft position, and the magnetic field vector components (GSE) and magnitude. The data are written in IBM 32-bit binary format in fixed blocks. This data set is identical to 85-033A-02A.

PROGNOZ 10, LUTSENKO
EXPERIMENT ON ENERGETIC PARTICLES CONNEC
TED WITH SHOCK WAVES (ECHNUV)

Data set name - ENERGETIC E ,H+,H++ SPECTRA PLUS B FIELD DATA ON MAGNETIC TAPE

NSSDC ID 85-033A-02A, HR-AVG ENERGETIC E ,H+,HE++,&B

Time period covered - 04/26/85 TO 11/05/85

Quantity of data 1 REEL OF TAPE

This data set contains hourly averages of energetic proton, electron, and alpha particle fluxes, separately from the solar and anti-solar directions. It also contains hourly averages of magnetic field data. Each record contains time, proton fluxes (1/sq cm-s-sr-MeV) in the energy ranges 0.9 3.9, 3.9 5.9, and 5.9-20 MeV, alpha particle fluxes in the ranges 0.6-3.8, 3.8 5.7, and 5.7-19 MeV/u, and integral fluxes of electrons (1/sq cm s sr) of energy >30 keV. Also contained in each record are the hourly averages of the X,Y,Z components (GSE coordinates) of the spacecraft position, and the magnetic field vector components (GSE) and magnitude. The data are written in IBM 32 bit binary format in fixed blocks. This data set is identical to 85 033A 03B.

S-CUBED A

S-CUBED A, CAHILL, JR.
FLUXGATE MAGNETOMETERS

Data set name COMMON CONDENSED EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-04A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, -01 to -07. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file, followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-04B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7 track, 800-bpi, binary magnetic tapes, created on a Univac 1108 computer. Each tape contains data from all experiments, -01 to 07. Each tape contains raw telemetry data for one orbit. The first file of a tape is a tape header, which is followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36 bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA ON MAGNETIC TAPE

NSSDC ID 71 096A-04C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenters' (-01 to -07) telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS ON MICROFILM

NSSDC ID 71-096A-04D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name - COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-04E, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name COMMON QUICK LOOK LISTINGS
ON MICROFILM

NSSDC ID 71-096A-04F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered 12/09/71 TO 07/20/74

Quantity of data 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

S. CURTIS A. CAHILL, JR.
SEARCH COIL MAGNETOMETER

Data set name COMMON CONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-05A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered 11/15/71 TO 03/05/73

Quantity of data 191 REELS OF TAPE

These condensed experimenter data are on 7 track, 800 bpi, binary magnetic tape created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, 01 to 07. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file, followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-05B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes created on a Univac 1108 computer. Each tape contains raw telemetry data for one orbit, from all experiments, -01 to -07. The first file of a tape is a tape header followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36-bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA
ON MAGNETIC TAPE

NSSDC ID 71-096A-05C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenters' (01 to 07) telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16 byte array header followed by a maximum of 256 16 byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS
ON MICROFILM

NSSDC ID 71-096A-05D, COMMON SUMMARY PLOTS, MFILM

Time period covered 02/10/72 TO 03/07/73

Quantity of data 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-05F, COMMON QUICK LOOK PLOTS, MFILM

Time period covered 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with

no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name - COMMON QUICK LOOK LISTING
ON MICROFILM

NSSDC ID 71-096A-05F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

S-CUBED A, FRITZ
SOLID-STATE PROTON-ALPHA PARTICLE
TELESCOPE

Data set name - COMMON CONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-02A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800-bpi, binary magnetic tape created on an IBM 360 computer, in Univac 1108 format. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification. Tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This header is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-02B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tape created on a Univac 1108 computer. Each tape contains raw telemetry data for one orbit. The first file of a tape is a tape header followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36-bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This header is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA
ON MAGNETIC TAPE

NSSDC ID 71-096A-02C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenter telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag; and data group pointer. A data group consists of a group header containing the addressable or subcom channel number, mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name COMMON SUMMARY PLOTS
ON MICROFILM

NSSDC ID 71-096A-02D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. the first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-02E, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasized particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name - COMMON QUICK LOOK LISTING
ON MICROFILM

NSSDC ID 71-096A-02F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

Data set name - PITCH ANGLE DISTRIBUTIONS AND RADIAL
PROFILE PLOTS 0.5 L VALUES ON MICROFILM

NSSDC ID 71-096A-02H, PITCH ANGLE PLOTS .5 L VAL, MFILM

Time period covered - 11/27/71 TO 11/01/72

Quantity of data - 31 REELS OF MICROFILM

This 16-mm microfilm data set provides the pitch angle distribution of energetic electrons and protons, obtained from the solid state channels and channeltron channels. The flux is provided as the logarithm of the differential particle flux, in units of particles/(sq cm-sr-s-keV). The energy itself is designated by the channel number. For each channel the frames are about 5 min apart, roughly equivalent to L-values spaced 0.1 L apart. The L-value itself is written in each frame. The data set is a composite of data from experiments -01, -02, and -03.

Data set name - 5-MIN PROTON & ELECTRON DIFFERENTIAL FLUX SPECTRA, MICROFILM

NSSDC ID 71-096A-02J, 5-MIN P+ & E- DIFF SPECTRA, MFILM

Time period covered - 12/03/71 TO 08/04/72

Quantity of data - 2 REELS OF MICROFILM

This 16-mm microfilm data set provides the differential energy spectra of protons and electrons, as the logarithm of the flux, in units of particles/(sq cm-sr-s-keV). The proton energy range is from 24 to 300 keV, and the electron energy range is from 10 to 560 keV. The frames are 5 min apart, and the time for each frame is written in. Neither the L-value nor any other coordinate of the spacecraft is provided in the frames. This data set is a composite of data from experiments -01, -02, and -03.

S-CUBED A, GURNETT
AC ELECTRIC FIELD MEASUREMENT

Data set name - COMMON CONDENSED EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-07A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, -01 to -07. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This header is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-07B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes created on a Univac 1108 computer. Each tape contains raw telemetry data for one orbit, from all experiments, -01 to -07. The first file of a tape is a tape header followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36-bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This header is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA ON MAGNETIC TAPE

NSSDC ID 71-096A-07C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenters' (-01 to -07) telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particulr addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS ON MICROFILM

NSSDC ID 71-096A-07D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name - COMMON QUICK LOOK PLOTS ON MICROFILM

NSSDC ID 71-096A-07E, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name - COMMON QUICK LOOK LISTING ON MICROFILM

NSSDC ID 71-096A-07F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one

table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

S-CUBED A, HOFFMAN
CHANNEL ELECTRON MULTIPLIERS WITH
ELECTROSTATIC ANALYZERS

Data set name - COMMON CONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-01A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes, created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, -01 to -07, at high resolution. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identificaton dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-01B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes, created on a Univac 1108 computer. Each tape contains raw telemetry data for one orbit, from each experiment, -01 to -07. The first file of a tape is a tape header followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36-bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA
ON MAGNETIC TAPE

NSSDC ID 71-096A-01C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tapes, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenters' (-01 to -07) telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock; number of groups of data contained in array; orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS
ON MICROFILM

NSSDC ID 71-096A-01D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name - COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-01E, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name - COMMON QUICK LOOK LISTING
ON MICROFILM

NSSDC ID 71-096A-01F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

Data set name - PITCH ANGLE DISTRIBUTION AND RADIAL
PROFILE PLOTS 0.5 L VALUES ON MICROFILM

NSSDC ID 71-096A-01H, PITCH ANGLE PLOTS .5 L VAL, MFILM

Time period covered - 11/27/71 TO 11/01/72

Quantity of data - 31 REELS OF MICROFILM

This 16-mm microfilm data set provides the pitch angle distribution of energetic electrons and protons, obtained from the solid state channels and channeltron channels. The flux is provided as the logarithm of the differential particle flux, in units of particles/(sq cm-sr-s-keV). The energy itself is designated by the channel number. For each channel the frames are about 5 min apart, roughly equivalent to L-values spaced 0.1 L apart. The L-value itself is written in each frame. The data set is a composite of data from experiments -01, -02, and -03.

Data set name - 5-MIN PROTON & ELECTRON DIFFERENTIAL FLUX
SPECTRA, MICROFILM

NSSDC ID 71-096A-01J, 5 MIN P+ & E- DIFF SPECTRA, MFILM

Time period covered - 12/03/71 TO 08/04/72

Quantity of data - 2 REELS OF MICROFILM

This 16-mm microfilm data set provides the differential energy spectra of protons and electrons, as the logarithm of the flux, in units of particles/(sq cm-sr-s-keV). The proton energy range is from 24 to 300 keV, and the electron energy range is from 10 to 560 keV. The frames are 5 min apart, and the time for each frame is written in. Neither the L-value nor any other coordinate of the spacecraft is provided in the frames. This data set is a composite of data from experiments -01, -02, and -03.

S-CUBED A, MAYNARD
DC ELECTRIC FIELD MEASUREMENT

Data set name - COMMON CONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-06A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800 bpi, binary magnetic tapes created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, -01 to -07. Data from five or fewer orbits are contained on each tape. For each orbit of data, here is a header file followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analaog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name COMMON UNCONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-06B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tapes created on a Univac 1108 computer. Each tape contains raw telemetry data for one orbit, from all the experiments, -01 to -07. The first file of a tape is a tape header, which is followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36 bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation data, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This header is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name COMMON SUMMARY PLOT DATA
ON MAGNETIC TAPE

NSSDC ID 71-096A-06C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user-callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenters' (-01 to -07) telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS
ON MICROFILM

NSSDC ID 71 096A-06D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name - COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-06F, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name COMMON QUICK LOOK LISTING
ON MICROFILM

NSSDC ID 71-096A-06F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

S-CUBED A, WILLIAMS
SOLID-STATE DETECTORS

Data set name - COMMON CONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-03A, COMMON CONDENSED EXPERIMNTR TAPES

Time period covered - 11/15/71 TO 03/05/73

Quantity of data - 191 REELS OF TAPE

These condensed experimenter data are on 7-track, 800-bpi, binary magnetic tape created on an IBM 360 computer, in Univac 1108 format. Each tape contains data from all experiments, -01 to -07. Data from five or fewer orbits are contained on each tape. For each orbit of data, there is a header file followed by a data file. The header file consists of 20 Univac 1108 words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. A data block contains multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), frame timing, data flags, and a telemetry frame.

Data set name - COMMON UNCONDENSED
EXPERIMENTER DATA TAPES

NSSDC ID 71-096A-03B, COMMON UNCONDENSED EXPRMNTR TAPES

Time period covered - 03/05/73 TO 09/30/74

Quantity of data - 1879 REELS OF TAPE

These uncondensed experimenter data are on 7-track, 800-bpi, binary magnetic tape created on a univac 1108 computer. Each tape contains raw telemetry data for one orbit, from all experiments, -01 to -07. The first file of a tape is a tape header followed by a variable number of data files, one for each successive onboard flight program executed by the spacecraft. The tape header consists of 20 Univac 1108 36-bit words in BCD format and contains satellite identification, tape processing date, orbit number, start year of orbit, and start and stop day and milliseconds of orbit. Each data file begins with a file header record (20 binary words) containing number of elements in the sampling identification dictionary (SID), SID creation date, number of analog tapes used to create file, start and stop time of file, and SID program number corresponding to specific onboard flight program. This is followed by multiple SID records used to indicate the type, timing, length, and source of data in the raw telemetry stream. Next is a data block containing multiple records of 1460 words. The first three words of the data record contain the number of valid data frames, record number, and roll start and stop time (in milliseconds) for that data record. Following these words are up to 32 contiguous groups of 45 words containing the SID index (used in decommutating the telemetry data), data flags, and a telemetry frame.

Data set name - COMMON SUMMARY PLOT DATA
ON MAGNETIC TAPE

NSSDC ID 71-096A-03C, COMMON SUMMARY PLOT TAPES

Time period covered - 11/17/71 TO 03/07/73

Quantity of data - 246 REELS OF TAPE

These project-supplied, experimenter summary plot data are on 7-track, 556-bpi, binary magnetic tape, created on an IBM 360 computer by using the RADE program (a user callable subroutine designed to operate on the IBM 360). Data were extracted from the experimenter telemetry tapes according to user-specified addressable channels, related factors, spacecraft orbit, and times. The variable length, physical blocks contain a 16-byte array header followed by a maximum of 256 16-byte array data groups. The array header contains the length (in bytes) of entire array, spacecraft or data sync clock, number of groups of data contained in array, orbit number first roll start time (or spacecraft clock), spin period, flight program number, day of year, addressable or subcom channel number, mode flag, and data group pointer. A data group consists of a group header containing the addressable or subcom channel number; mode flag and length of the data group; and all the extracted data, flags, and calculated Greenwich mean times of a particular addressable or subcom channel.

Data set name - COMMON SUMMARY PLOTS
ON MICROFILM

NSSDC ID 71-096A-03D, COMMON SUMMARY PLOTS, MFILM

Time period covered - 02/10/72 TO 03/07/73

Quantity of data - 5 REELS OF MICROFILM

The summary plots contain data selected from all of the experiments on the spacecraft, combined on two different plots to present an overview of the spacecraft results. Each frame covers 3 1/2 h (approximately half an orbit). Magnetic local times, L value, and magnetic latitude are also shown in each plot. The first plot of each pair shows proton and electron energy/flux spectrograms, pitch angle parameters, and energy density. The second plot shows magnetic and electric field frequency/intensity spectrograms, dc electric fields, and magnetic field differences from a reference field (POGO 8/69, Cain and Sweeney, J. Geophys. Res., v. 75, p. 4360, 1970).

Data set name - COMMON QUICK LOOK PLOTS
ON MICROFILM

NSSDC ID 71-096A-03E, COMMON QUICK LOOK PLOTS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 69 REELS OF MICROFILM

The quick-look plots contain data selected from all of the experiments on the spacecraft, combined in four (version A) or six (version B) different plots to present a coordinated display of the spacecraft results. Each plot covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields by displaying a plot of channeltron and solid state electron detector data, two different plots of solid state proton detector data, and a plot of dc electron and magnetic field data.

Data set name - COMMON QUICK LOOK LISTING
ON MICROFILM

NSSDC ID 71-096A-03F, COMMON QUICK LOOK LISTINGS, MFILM

Time period covered - 12/09/71 TO 07/20/74

Quantity of data - 77 REELS OF MICROFILM

The quick-look listings contain tabular data selected from all of the experiments on the spacecraft, presented in five (version A) or two (version B) different tables. Each table covers 3 min of data. Version A has data selected from all experiments, with no emphasis on any particular experiment. Version B emphasizes particle data and dc fields, with one table containing data from the channeltrons and dc electric and magnetic fields, and one table containing data from the solid state proton and electron detectors.

Data set name - PITCH ANGLE DISTRIBUTIONS AND RADIAL
PROFILE PLOTS 0.5 L VALUES ON MICROFILM

NSSDC ID 71-096A-03H, PITCH ANGLE PLOTS .5 L VAL, MFILM

Time period covered - 11/27/71 TO 11/01/72

Quantity of data - 31 REELS OF MICROFILM

This 16-mm microfilm data set provides the pitch angle distribution of energetic electrons and protons, obtained from the solid state channels and channeltron channels. The flux is provided as the logarithm of the differential particle flux, in units of particles/(sq cm-sr-s-kev). The energy itself is designated by the channel number. For each channel the frames are about 5 min apart, roughly equivalent to L-values spaced 0.1 L apart. The L-value itself is written in each frame. The data set is a composite of data from experiments -01, -02, and -03.

Data set name - 5-MIN PROTON & ELECTRON DIFFERENTIAL FLUX
SPECTRA, MICROFILM

NSSDC ID 71-096A-03J, 5-MIN P+ & E- DIFF SPECTRA, MFILM

Time period covered - 12/03/71 TO 08/04/72

Quantity of data - 2 REELS OF MICROFILM

This 16-mm microfilm data set provides the differential energy spectra of protons and electrons, as the logarithm of the flux, in units of particles/(sq cm-sr-s-keV). The proton energy range is from 24 to 300 keV, and the electron energy range is from 10 to 560 keV. The frames are 5 min apart, and the time for each frame is written in. Neither the L-value nor any other coordinate of the spacecraft is provided in the frames. This data set is a composite of data from experiments -01, -02, and -03.

STP P78-2

Data set name - PRINTOUT OF PREDICTED MAGNETIC CONJUNCTIONS ON MICROFILM

NSSDC ID 79-007A-00D, PREDICTED MAG CONJUNCTIONS, MFILM

Time period covered - 03/15/79 TO 02/17/81

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed listings of magnetic conjunctions computed at NSSDC. The target satellite is ISEE 1, and the orbits of ESA-GEOS 2 and STP P78-2 were examined to determine magnetic conjunctions, i.e., times when those satellites were located on (or within a specified distance of) the same magnetic field line that passed through the target satellite. In addition to the time period, the listing provides spacecraft locations, separation distance, distance to the surface of the earth along the field line, and identification of the magnetic field model used.

Data set name - ORBITAL PLOTS FOR PROMIS PERIOD IN GSM COORDINATES, ON MICROFICHE

NSSDC ID 79-007A-00E, ORBITAL PLOTS FOR PROMIS PERIOD

Time period covered 03/29/86 TO 06/16/86

Quantity of data - 1 CARD OF B/W MICROFICHE

This data set, in microfiche, provides orbital plots of the spacecraft for the PROMIS period, March 29-June 16, 1986. Each frame covers a time period of 3 days and contains plots of X, Y, and Z components (GSM), in earth radii, of the radius vector to the spacecraft.

TELSTAR 1

TELSTAR 1, BROWN
PROTON AND ELECTRON RADIATION

Data set name REDUCED ELECTRON AND PROTON DATA ON MAGNETIC TAPE

NSSDC ID 62 029A 01A, PROTN&ELEC COUNT RT&EPHM,BESYS TP

Time period covered 07/10/62 TO 02/21/63

Quantity of data - 5 REELS OF TAPE

This reduced data set from the BTL experiment, generated with the BESYS monitor at Bell Telephone Laboratories, is on 800-bpi, 7-track, IBM 7094, odd-parity magnetic tapes. Each file on these tapes contains a BCD header record. The rest of the tape is binary. The logical record length is 54 (36-bit) words. Each record contains ephemeris and time information, model magnetic field, McIlwain L, and satellite state data such as skin temperature, detector temperature, etc. Also presented are (1) count rates from the electron detector in each bias mode, with interpolated values of B, L, and gammma (where gamma is the angle between the spacecraft spin axis and model field direction), and (2) count rates from the two proton detectors in each bias mode with corresponding values of B, L, and gamma. The data are time ordered.

TELSTAR 2

TELSTAR 2, BROWN
PROTON AND ELECTRON RADIATION

Data set name - REDUCED ELECTRON AND PROTON DATA ON MAGNETIC TAPE

NSSDC ID 63-013A-01A, PROTN&ELEC COUNT RT&EPHM,BESYS TP

Time period covered - 05/07/63 TO 05/07/65

Quantity of data - 8 REELS OF TAPE

This reduced data set from the BTL experiment, generated with the BESYS monitor at Bell Telephone Laboratories, is on 800 bpi, 7-track, IBM 7094, odd-parity magnetic tapes. Each file on these tapes contains a BCD header record. The rest of the tape is binary. The logical record length is 54 (36-bit) words. Each record contains ephemeris and time information, model magnetic field, McIlwain L, and satellite state data such as skin temperature, detector temperature, etc. Also presented are (1) count rates from the electron detector in each bias mode, with interpolated values of B, L, and gammma (where gamma is the angle between the spacecraft spin axis and model field direction), and (2) count rates from the two proton detectors in each bias mode with corresponding values of B, L, and gamma. The data are time ordered.

VELA 3A

VELA 3A, BAME
ELECTROSTATIC ANALYZER AND GM TUBES

Data set name - PUBLISHED PRELIMINARY SOLAR WIND PARAMETERS

NSSDC ID 65-058A-04A, SOLAR GEOPHYS DATA PBLSD SOLAR WD

Time period covered - 01/01/69 TO 05/21/70

Quantity of data - 17 BOOKS OR BOUND VOLUMES

This data set consists of preliminary solar wind parameters presented in the monthly publication "Solar-Geophysical Data" issued by the NOAA Environmental Research Laboratories. These parameters are determined by measurements on the Vela 3, 4, and 5 satellites. The information given consists of date, time, spacecraft identification, bulk velocity, and density. The velocity is accurate to 3 percent, and the density is believed to be accurate to 50 percent. However, relative changes in the density measured over a short time span are accurate to 20 percent. Typically, there are two or three sets of parameters given for a particular instrument per day, and on about 30 percent of the days there are no data.

Data set name - 3-HR AVERAGES OF SOLAR WIND PARAMETERS ON MICROFILM

NSSDC ID 65-058A-04B, 3HR AV-DEN,VEL, DIR, TEMP,ON MFLM

Time period covered - 07/26/65 TO 12/06/67

Quantity of data - 1 REEL OF MICROFILM

These data were supplied by the experimenter as a published document, "A Compilation of Vela 3 Solar Wind Observations 1965 to 1967," Los Alamos Scientific Laboratory, LA-4536, vol. 1, Oct. 1970, by S. J. Bame, H. E. Felthauser, A. J. Hundhausen, I. B. Strong, J. R. Asbridge, H. E. Gilbert, D. M. Smith, and S. J. Sydoriak. The document was microfilmed by NSSDC and is contained on one 35 mm reel. The data consist of 3 h averages of the solar wind proton density, flow speed, flow direction, and proton temperature. These parameters were derived by least squares techniques assuming bi-Maxwellian distribution functions. The data are displayed both as plots and as listings. There is a nearly uniform 25 percent coverage over the time period indicated.

Data set name - 3-HR AVERAGES OF SOLAR WIND PARAMETERS ON TAPE

NSSDC ID 65-058A-04C, 3-HR-AVG DEN,VEL,DIR,+TEMP, TAPE

Time period covered - 07/26/65 TO 12/06/67

Quantity of data - 1 REEL OF TAPE

These data were supplied by Dr. Paul Fougere of the Air Force Cambridge Research Laboratories and consist of a card image magnetic tape version of data set 65-058A-04B. The one-file tape is BCD, has 7 tracks, has a density of 556 bpi, and was made on an IBM 7094. Data for data set 65-058B-04C (Vela 3B) are also on this tape.

VELA 3B

VELA 3B, BAME
ELECTROSTATIC ANALYZER AND GM TUBES

Data set name - 3-HR AVERAGES OF SOLAR WIND PARAMETERS ON MICROFILM

NSSDC ID 65-058B-04A, 3-HR-AVG DEN,VEL,DIR,+TEMP, MFILM

Time period covered - 07/26/65 TO 12/06/67

Quantity of data - 1 REEL OF MICROFILM

These data were supplied by the experimenter as a published document, "A Compilation of Vela 3 Solar Wind Observations 1965 to 1967," Los Alamos Scientific Laboratory, LA-4536, vol. 1, Oct. 1970, by S. J. Bame, H. E. Felthauser, A. J. Hundhausen, I. B. Strong, J. R. Asbridge, H. E. Gilbert, D. M. Smith, and S. J. Sydoriak. The document was microfilmed by NSSDC and is contained on one 35-mm reel. The data consist of 3-h averages of solar wind proton density, flow speed, flow direction, and proton temperature. These parameters were derived by least squares techniques assuming bi-Maxwellian distribution functions. The data are displayed both as plots and as listings. There is a nearly uniform 25 percent coverage over the time period indicated.

Data set name - PUBLISHED PRELIMINARY SOLAR WIND PARAMETERS

NSSDC ID 65-058B-04B, SOLAR GEOPHYS DATA PBLSD SOLAD WD

Time period covered - 01/01/69 TO 05/21/70

Quantity of data - 17 BOOKS OR BOUND VOLUMES

This data set consists of preliminary solar wind parameters presented in the monthly publication "Solar-Geophysical Data" issued by the NOAA Environmental Research Laboratories. These parameters are determined by measurements on the Vela 3A, 3B, 5A, and 5B satellites. The information given consists of date, time, spacecraft identification, bulk velocity, and density. The velocity is accurate to 3 percent, and the density is believed to be accurate to 50 percent. However, relative changes in the density measured over a short time span are accurate to 20 percent. Typically, there are two or three sets of parameters given for a particular instrument per day, and on about 30 percent of the days there are no data. There is a 1-month lag between the time the data were acquired and the time they were published.

Data set name - 3-HR AVERAGES OF SOLAR WIND PARAMETERS ON TAPE

NSSDC ID 65-058B-04C, 3 HR AVG DEN,VEL,DIR,+TEMP, TAPE

Time period covered - 07/26/65 TO 12/06/67

Quantity of data - 1 REEL OF TAPE

These data were supplied by Dr. Paul Fougere of the Air Force Cambridge Research Laboratories and consist of a card image magnetic tape version of data set 65-058B-04A. This tape was made on an IBM 7094. The tape was written in BCD at a density of 556 bpi. The tape has one file on 7 tracks. Data for data set 65-058A-04C (Vela 3A) are also on this tape.

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********** VELA 5A **********
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Data set name - COMPUTER LISTINGS OF SOLAR ECLIPTIC EPHEMERIS (R, THETA, PHI) ON MICROFILM

NSSDC ID 69-046D-00F, LISTINGS OF SOL ECL R,THETA,PHI

Time period covered - 05/23/69 TO 02/28/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed (16-mm) computer listings of the satellite ephemeris generated at NSSDC from listings submitted by the experimenter. Points are given at 4-h intervals (satellite period was about 4 days), and the following information is given for each point: month, day, year, time of day (in seconds), geocentric distance (in earth radii), solar ecliptic latitude (in deg), and solar ecliptic longitude (in deg).

Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 69-046D-00G, PREDICTED ORBIT PLOTS

Time period covered - 01/01/78 TO 12/31/79

Quantity of data - 2 REELS OF MICROFILM

The 16-mm microfilm rolls provide the orbital data for each revolution, in sets of three frames each. The first frame is the GSM, Y-Z plane projection of the orbit. The second frame is a GSE, X-Y plot of the orbit, rotated into that plane; it also contains the plots of the magnetopause and bow shock. The third frame is a plot of the geomagnetic latitude vs geomagnetic local time.

VELA 5A, BAME
SOLAR WIND

Data set name - PUBLISHED PRELIMINARY SOLAR WIND PARAMETERS

NSSDC ID 69-046D-05A, SOLAR GEOPHYS DATA PBLSD SOLAR WD

Time period covered - 09/14/69 TO 04/11/72

Quantity of data - 31 BOOKS OR BOUND VOLUMES

This data set consists of preliminary solar wind parameters presented in the monthly publication "Solar-Geophysical Data" issued by the NOAA Environmental Research Laboratories. These parameters have been determined by measurements on the Vela 3, 4, and 5 satellites. The information given consists of date, time, spacecraft, bulk velocity, and density. The velocity is accurate to 3 percent, and the density is believed to be accurate to 50 percent. However, relative changes in the density measured over a short time span are accurate to 20 percent. Typically, there are two or three sets of parameters given for a particular instrument per day, and on about 30 percent of the days there are no data. There is a 1-month lag between the time the data were acquired and the time they were published.

VELA 5A, CHAMBERS
SOLAR X-RAY DETECTORS, 0.5 TO 3.0 A,
1 TO 8 A, 1 TO 16 A, 44 TO 60 A

Data set name - HARDCOPY PLOTS OF REDUCED SOLAR X-RAY FLUX VS TIME

NSSDC ID 69-046D-02A, 3-CHANNEL SOLAR X-RAY ATLAS

Time period covered - 05/27/69 TO 05/15/70

Quantity of data - 3 BOOKS OR BOUND VOLUMES

This data set, supplied by the experimenter, consists of volumes of incident solar X-ray flux plotted (on a log-linear array) as a function of universal time (hours) in hard copy form and is published as Los Alamos National Laboratory report LA 4454, vols. I, II, and III. One day of equivalent gray body flux (ergs/sq cm-sec) for each of the three X-ray channels on Vela 5A and 5B is plotted per page. The upper curve on each graph is the equivalent flux in the 1-16 A band derived from an ion chamber with aluminum-Mylar window, the middle curve is the equivalent flux in the 1-8 A band derived from an ion chamber with beryllium window, and the lower curve is the equivalent flux in the 0.3-3.0 A band derived from NaI scintillator data. This format, however, does reduce some of the data's inherent time resolution. In addition, because of the computer processing of the data, the collection of plots includes some unreliable anomalous portions. These are the result of (1) significant contributions to or saturation of the detectors by charged particles, (2) asymmetry in the response of a pair of ion chambers generating double sets of points, or (3) bit errors.

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********** VELA 5B **********
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Data set name - COMPUTER LISTINGS OF SOLAR ECLIPTIC EPHEMERIS (R, THETA, PHI) ON MICROFILM

NSSDC ID 69-046E-00F, LISTINGS OF SOL ECL R,THETA,PHI

Time period covered - 05/24/69 TO 02/28/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed (16-mm) computer listings of the satellite ephemeris generated at NSSDC from listings submitted by the experimenter. Points are given at 4-h intervals (satellite period about 4 days), and the following information is given for each point: month, day, year, time of day (in sec), geocentric distance (in earth radii), solar ecliptic latitude (in deg), and solar ecliptic longitude (in deg).

Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 69-046E-00G, PREDICTED ORBIT PLOTS

Time period covered - 01/01/76 TO 12/31/79

Quantity of data - 4 REELS OF MICROFILM

The 16-mm microfilm rolls provide the orbital data for each revolution, in sets of three frames each. The first frame is the GSM, Y-Z plane projection of the orbit. The second frame is a GSE, X-Y plot of the orbit, rotated into that plane; it also contains the plots of the magnetopause and the bow shock. The third frame is a plot of the geomagnetic latitude vs geomagnetic local time.

VELA 5B, BAME
SOLAR WIND

Data set name - PUBLISHED PRELIMINARY SOLAR WIND PARAMETERS

NSSDC ID 69-046E-05A, SOLAR GEOPHYS DATA PBLSD SOLAR WD

Time period covered - 09/14/69 TO 06/12/72

Quantity of data - 33 BOOKS OR BOUND VOLUMES

This data set consists of preliminary solar wind parameters presented in the monthly publication "Solar-Geophysical Data" issued by the NOAA Environmental Research Laboratories. These parameters have been determined by measurements on the Vela 3, 4, and 5 satellites. The information given consists of date, time, spacecraft, bulk velocity, and density. The velocity is accurate to 3 percent, and the density is believed to be accurate to 50 percent. However, relative changes in the density measured over a short time span are accurate to 20 percent. Typically, there are two or three sets of parameters given for a particular instrument per day, and on about 30 percent of the days there are no data. There is a 1-month lag between the time the data were acquired and the time they were published.

VELA 5B, CHAMBERS
SOLAR X-RAY DETECTORS, 0.5 TO 3.0 A, 1 TO 8 A, 1 TO 16 A, 44 TO 60 A

Data set name - HARDCOPY PLOTS OF REDUCED SOLAR X-RAY FLUX VS. TIME

NSSDC ID 69-046E-02A, 3-CHANNEL SOLAR X-RAY ATLAS

Time period covered - 05/27/69 TO 05/15/70

Quantity of data - 5 BOOKS OR BOUND VOLUMES

This data set, supplied by the experimenter, consists of volumes of incident solar X-ray flux plotted (on a log-linear array) as a function of universal time (hours) in hard copy form and is published as Los Alamos National Laboratory report LA 4454, vols. I, II, and III. One day of equivalent gray body flux (ergs/sq cm-sec) for each of the three X-ray channels of Vela 5A and 5B is plotted per page. The upper curve on each graph is the equivalent flux in the 1-16 A band derived from an ion chamber with aluminum-Mylar window, the middle curve is the equivalent flux in the 1-8 A band derived from an ion chamber with beryllium window, and the lower curve is the equivalent flux in the 0.3-3.0 A band derived from NaI scintillator data. This format, however, does reduce some of the data's inherent time resolution. In addition, owing to the computer processing of the data, the collection of plots includes some unreliable anomalous portions. These are the result of (1) significant contributions to or saturation of the detectors by charged particles, (2) asymmetry in the response of a pair of ion chambers generating double sets of points, or (3) bit errors.

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********** VELA 6A **********
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Data set name - COMPUTER LISTINGS OF SOLAR ECLIPTIC EPHEMERIS (R, THETA, PHI) ON MICROFILM

NSSDC ID 70-027A-00F, LISTINGS OF SOL ECL R,THETA,PHI

Time period covered - 04/01/70 TO 02/28/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed computer listings of the satellite ephemeris generated at NSSDC from listings submitted by the experimenter. Points are given at 4-h intervals (satellite period about 4 days), and the following information is given for each point: month, day, year, time of day (in sec), geocentric distance (in earth radii), solar ecliptic latitude (in deg), and solar ecliptic longitude (in deg).

Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 70-027A-00G, PREDICTED ORBIT PLOTS

Time period covered - 01/01/76 TO 12/31/79

Quantity of data - 4 REELS OF MICROFILM

The 16-mm microfilm rolls provide the orbital data for each revolution, in sets of three frames each. The first frame is the GSM, Y-Z plane projection of the orbit. The second frame is a GSE, X-Y plane plot of the orbit, rotated into that plane; it also contains the plots of the magnetopause and the bow shock. The third frame is a plot of the geomagnetic latitude vs the geomagnetic local time.

VELA 6A, CHAMBERS
SOLAR X-RAY DETECTORS, 0.5 TO 3.0 A, 1 TO 8 A, 1 TO 16 A, 44 TO 60 A

Data set name - REDUCED SOLAR X-RAY FLUXES PLOTTED VS. TIME IN HARDCOPY FORM

NSSDC ID 70-027A-02A, 3-CHANNEL SOLAR X-RAY ATLAS

Time period covered - 04/11/70 TO 01/01/71

Quantity of data - 2 BOOKS OR BOUND VOLUMES

This data set, supplied by the experimenter, consists of incident solar X-ray flux plotted (on a log-linear array) as a function of universal time (hours) in hard copy form and is published as Los Alamos National Laboratory report LA 4454, vols. IV and V. One day of equivalent gray body flux (ergs/sq cm-sec) from each of the three x-ray channels on Vela 6A and 6B is plotted per page. The upper curve on each graph is the equivalent flux in the 1-16 A band, derived from an ion chamber with aluminum-Mylar window. The middle curve is the equivalent flux in the 1-8 A band, derived from an ion chamber with beryllium window. The lower curve is the equivalent flux in the 0.3-3.0 A band, derived from the NaI scintillator data. This format, however, does reduce some of the data's inherent time resolution. In addition, owing to the computer processing of the data, the collection of plots includes some unreliable anomalous portions. These are the result of (1) significant contributions to or saturation of the detectors by charged particles, (2) asymmetry in the response of an ion chamber pair giving double sets of points, or (3) bit errors.

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********** VELA 6B **********
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Data set name - COMPUTER LISTINGS OF SOLAR ECLIPTIC EPHEMERIS (R, THETA, PHI) ON MICROFILM

NSSDC ID 70-027B-00F, LISTINGS OF SOL ECL R,THETA,PHI

Time period covered - 04/01/70 TO 02/28/71

Quantity of data - 1 REEL OF MICROFILM

This data set consists of microfilmed computer listings of the satellite ephemeris generated at NSSDC from listings submitted by the experimenter. Points are given at 4-h intervals (satellite period is about 4 days), and the following information is given for each point: month, day, year, time of day (in seconds), geocentric distance in earth radii), solar ecliptic latitude (in deg), and solar ecliptic longitude (in deg).

Data set name - PREDICTED ORBIT PLOTS ON MICROFILM

NSSDC ID 70-027B-00G, PREDICTED ORBIT PLOTS

Time period covered - 01/01/76 TO 12/31/79

Quantity of data - 4 REELS OF MICROFILM

The 16-mm microfilm rolls provide the orbital data for each revolution, in sets of three frames each. The first frame is the GSM, Y-Z plane projection of the orbit. The second frame is a GSE, X-Y plane plot of the orbit, rotated into that plane; it also contains the plots of the magnetopause and the bow shock. The third frame is a plot of the geomagnetic latitude vs geomagnetic local time.

VELA 6B, CHAMBERS

SOLAR X-RAY DETECTORS, 0.5 TO 3.0 A,
1 TO 8 A, 1 TO 16 A, 44 TO 60 A

Data set name - REDUCED SOLAR X-RAY FLUXES PLOTTED VS TIME IN HARDCOPY FORM

NSSDC ID 70-027B-02A, 3-CHANNEL SOLAR X-RAY ATLAS

Time period covered - 04/11/70 TO 01/01/71

Quantity of data - 2 BOOKS OR BOUND VOLUMES

This data set, supplied by the experimenter, consists of incident solar X-ray flux plotted (on a log-linear array) as a function of universal time (hours) in hard copy form and is published as Los Alamos National Laboratory report LA 4454, vols. IV and V. One day of equivalent gray body flux (ergs/(sq cm-sec)) for each of the three X-ray channels on Vela 6A and 6B is plotted per page. The upper curve on each graph is the equivalent flux in the 1-16 A band derived from an ion chamber with aluminum-Mylar window. The middle curve is the equivalent flux in the 1-8 A band derived from an ion chamber with beryllium window. The lower curve is the equivalent flux in the 0.3-3.0 A band derived from NaI scintillator data. This format, however, does reduce some of the data's inherent time resolution. In addition, because of the computer processing of the data, the collection of plots includes some unreliable anomalous portions. These are the result of (1) significant contributions to or saturation of the detectors by charged particles, (2) asymmetry in the response of an ion chamber pair generating double sets of points, or (3) bit errors.

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			5-S AVER MAG.FIELD VECTORS, TAPE	84-088B 02B	03/21/85	11/09/85	13
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			5-S AVER PLASMA PARAMETERS, TAPE	84-088B-03B	03/21/85	11/09/85	13
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		MCILWAIN	EPE-D,ELECTRON PROTON	64-086A-02			
			L-ORDERED PARTICLE CNT RATE TAPES	64-086A-02A	12/21/64	02/28/66	25
			TIME ORDERED PARTICLE COUNT RATES	64-086A-02B	12/21/64	05/21/67	25
ERS 13	07/17/64			64-040C			
		VETTE	ERS-13,CHARGED PARTICLE DETECTORS	64-040C-01			
			ELECTRON+PROTON COUNT RATES, TAPE	64-040C-01A	07/17/64	11/29/64	25
			ELECTRONS ABOVE 700 KEV,L-ORDERED	64-040C-01B	07/18/64	11/29/64	25
ERS 17	07/20/65			65-058C			
			HOUSEKEEPING DATA PLOTTED VS TIME	65-058C-00F	07/20/65	11/04/65	25
		VETTE	ERS-17,CHARGED PARTICLE DETECTORS	65-058C-01			
			MERGED,4.5 SEC AVG,.05 SEC TAPE	65-058C-01A	07/20/65	11/03/65	25
			COUNTING RATES PLOTTED VS TIME	65-058C-01B	07/20/65	11/03/65	25
			L-ORDERED ELEC+PROT CNT RATES,TAP	65-058C-01D	07/20/65	10/31/65	26
		VETTE	ERS-17, X-RAY DETECTORS	65-058C-02			
			MERGED,4.5 SEC AVG, .05 SEC TAPE	65-058C-02A	07/20/65	11/03/65	26
		VETTE	ERS-17,GAMMA RAY DETECTORS	65-058C-03			
			MERGED, 4.5 SEC AVG, .05 SEC TAPE	65-058C-03A	07/20/65	11/03/65	26
ESA GEOS 1	04/20/77			77-029A			
			MAGNETIC CONJUNCTIONS, MFILM	77-029A-00D	05/01/77	01/13/79	26
		GLISS	ESGE01,LOW ENERGY ION COMP.S303	77-029A-03			
			LOW ENERGY ION COMPOSITION PLOTS	77-029A-03A	08/17/77	06/23/78	26
		GENDRIN	ESGE01, EM WAVE FIELDS S300	77-029A-06			
			MAGNETIC WAVE FIELD DATA SUM PLTS	77-029A-06A	08/17/77	06/23/78	27
		HULTQVIST	ESGE01,E+P(2-20KEV)PITCH ANG.	77-029A-04			
			LOW ENERGY ELECTRON+PROT PTCH ANG	77-029A-04A	08/17/77	06/23/78	27
		MARIANI	ESGE01,TRIAX.FLUXG.MAG.,S331	77-029A-09			
			DC MAGNETIC FIELD COMPONENT PLOTS	77-029A-09A	08/17/77	06/23/78	27
		PEDERSEN	ESGE01, DC FIELDS	77-029A-07			
			DC FIELD BY DOUBLE PROBE PLOTS	77-029A-07A	08/17/77	06/23/78	27
		UNGSTRUP	ESGE01,ELEC.WAVE FLDS.S300	77-029A-10			
			ELECTRIC WAVE FIELD PLOTS	77-029A-10A	08/17/77	06/23/78	27
		WILKEN	ESGE01,E(30-200KEV)P(.04-1.4M)	77-029A-01			
			ELECTRON AND PROTON CNTRATE PLOTS	77-029A-01A	08/17/77	06/23/78	27
		WRENN	ESGE01,THERMAL PLASMA,ESA,S302	77-029A-02			
			THERMAL PLASMA FLOW PLOTS	77-029A-02A	08/17/77	06/23/78	27
ESA-GEOS 2	07/14/78			78-071A			
			PREDICTED MAG CONJUNCTIONS, MFILM	78-071A-00D	03/15/79	02/17/81	27
		BEGHIN	ESGE02,WAVE FLD.IMPED.S300	78-071A-11			

SPACECRAFT NAME	LAUNCH DATE	INVESTIGATOR NAME	EXPERIMENT NAME / DATA SET NAME	NSSDC ID	DATA SET INFORMATION: TIME SPAN OF DATA		PAGE
			WAVE FIELD IMPEDANCE PLOTS	78-071A-11A	08/15/78	07/01/82	28
		GENDRIN	ESGE02,EM WAVE FIELDS,S300	78-071A-06			
			MAGNETIC WAVE FIELD SUMMARY PLOTS	78-071A-06A	08/15/78	07/01/82	28
		HULTQVIST	ESGE02,E+P(2-20KEV)PITCH ANG.	78-071A-04			
			LOW-ENERGY ELECTRON PROT PITCH ANG	78-071A-04A	08/15/78	07/01/82	28
		MARIANI	ESGE02,TRIAX.FLUXG.MAG.,S331	78-071A-09			
			DC MAGNETIC FIELD COMPONENT PLOTS	78-071A-09A	08/15/78	07/01/82	28
		PEDERSEN	ESGE02,DC FIELDS,S300	78-071A-07			
			DC FIELD BY DOUBLE PROBE PLOTS	78-071A-07A	08/15/78	07/01/82	28
		UNGSTRUP	ESGE02,ELEC.WAVE FLDS.,S300	78-071A-10			
			ELECTRIC WAVE FIELD PLOTS	78-071A-10A	08/15/78	07/01/82	28
		WILKEN	ESGE02,E(30-200KEV)P(.04-1.4M)	78-071A-01			
			ELECTRON AND PROTON CNTRATE PLOTS	78-071A-01A	08/15/78	07/01/82	28
		WRENN	ESGE02,THERMAL PLASMA ESA S302	78-071A 02			
EXPLORER	6		THERMAL PLASMA FLOW PLOTS	78-071A-02A	08/15/78	07/01/82	28
	08/07/59			59-004A			
			GEOCEN.DIST VS GEOMAG LATITUDE	59-004A-00F	08/07/59	10/07/59	29
		SIMPSON	EXPL 6,TRIPLE COINC PROP COUNTER	59-004A-01			
			PLOTS TRIP.+SINGLE DATA VS TIME	59-004A-01A	08/07/59	10/06/59	29
		SONETT	EXPL 6,SCINTILLATION COUNTER	59-004A-02			
			PLOTS OF COUNT RATE,POSITION, T	59-004A-02A	08/08/59	09/10/59	29
			MULTI-EXPT TELEM, LISTINGS+EPHEM	59-004A-02B	08/07/59	10/02/59	29
			SANBORN OSCILLOGRAMS (FILTERED)	59-004A-02D	08/08/59	09/20/59	29
			L-ORDERED COUNT RATE VS TIME,TAPE	59 004A 02F	08/08/59	09/04/59	29
		SONETT	EXPL 6,SEARCH COIL MAGNETOM	59-004A-04			
			PLOTS OF B (AMP,PHASE) VS T,ORBIT	59-004A-04A	08/08/59	09/10/59	29
		WINCKLER	EXPL 6,ION CH+GM(E/1.55,2.86,P)	59-004A-03			
			COUNTS,PULSES + EPHEM LSTNG,MFILM	59-004A-03A	08/07/59	10/06/59	29
			GM+ION-CHAMB CNT RATES VS T,MFILM	59-004A-03B	08/07/59	10/02/59	29
			ELEC CNT RATE&ION PULSE RATE PLTS	59 004A 03C	08/07/59	10/06/59	30
			MERGED L-ORDERED COUNT RATE TAPES	59 004A-03D	08/07/59	10/06/59	30
HEOS 1				68-109A			
	12/05/68			68-109A-00E	12/05/68	09/06/70	30
			GEI,GSE+GEOG EPHEM LISTINGS,MFILM	68-109A-06			
		BAROUCH	HEOS 1,CR PARTICLE FLUX, S72	68-109A-06A	01/01/69	11/06/71	30
			PROTON FLUX PLOTS, HC	68 109A-06B	01/01/69	12/24/72	30
			PROTON COUNTS ON MAGNETIC TAPE	68-109A-06C	01/04/69	12/19/72	30
			27 DAY PARTICLE FLUX PLOTS,M FILM	68-109A-02			
		ELLIOT	HEOS 1,INTERPLAN.MAG.FIELD, S24A	68 109A-02A	12/11/68	10/27/75	30
			HR-AVGD INTPL B-FIELD VECTS,TAPE	68-109A-02B	12/11/68	10/27/75	31
			HR-AV INPL B-FIELD VECT PLTS,MFLM	68-109A-02C	09/08/75	09/25/75	31
			1-D PLOTS B-VECT,STIP PERIOD,MFLM	68 109A 02D	12/10/68	10/25/75	31
			REFORMTD HR-AV INPL B-FIELD VECTS	68 109A-02E	12/11/68	12/31/75	31
			SINGLE POINT MAG FIELD DATA, TP	72-005A			
HEOS 2				72-005A-01			
	01/31/72			72-005A-01A	01/31/72	08/01/74	31
		ELLIOT	HEOS 2,FLUXGATE MAGNETOMETER,S201	72 005A-01B	01/31/72	10/27/75	31
			HR-AVGD INTPL B FIELD VECTS, TAPE	72-005A-01C	01/31/72	10/25/75	31
			HR AVGD INTPL B-FIELD VECTS,MFILM	72-005A-01D	02/05/72	08/02/74	31
			REFORMTD HR-AV INPL B-FIELD VECTS	72-005A-01E	02/05/72	08/02/74	32
			SINGLE POINT MAG FIELD DATA	72-005A-06			
			REFORMATTED SINGLE POINT MAG FLD	72-005A-06A	02/06/72	08/11/74	32
		ROSENBAUER	HEOS 2,ELCSTAT.AN.SOLAR WIND,S210	63-046A			
			1 HR AVGS SOLAR WIND PROTON DATA	63-046A-00G	12/21/63	12/30/64	32
IMP-A				63-046A-05			
	11/27/63			63-046A-05B	11/28/63	03/26/65	32
			MULT-COORD SYS EPHEM&B-MODEL TAPE	63-046A-05C	11/27/63	12/28/64	32
		ANDERSON	IMP-A,ENERGETIC PARTICLE EXP	63-046A-05D	11/27/63	02/28/64	32
			TIME-SORTED GM&ION.CHAM CNTS,TAPE	63-046A-05F	11/27/63	05/27/64	32
			GRAPHS OF GM+ION.CHAMBER DATA	63-046A-07			
			GM&ION.CHAMB. 4-H RATE PLOTS,MFLM	63-046A-07A	11/27/63	12/16/64	32
			L-ORDERED ELECTRON CNT RATE TAPE	63-046A-07B	11/27/63	12/16/64	33
		BRIDGE	IMP-A,FARADAY CUP	63-046A-07C	11/27/63	12/28/64	33
			3-HR AVGS. OF PLASMA PARAMS.,TAPE	63-046A-07D	11/27/63	01/13/65	33
			PLASMA PARAMETERS,IRREG. INTERVAL	63-046A-04			
			PLASMA CURRENT VS LOOK DIR. PLOTS	63-046A-04A	11/27/63	05/26/64	33
		MCDONALD	CHGD PART. FLUXES VS E &TIME,TAPE	63-046A-04B	11/27/63	03/18/64	33
			IMP-A,COSMIC RAYS (E VS DE/DX	63-046A-04C	11/27/63	03/18/64	33
			1-H AVG C.R. ION&ELECT RATES,TAPE	63-046A-04D	11/27/63	03/14/64	33
			HRLY C.R. ION&ELEC RATE LIST,MFLM	63-046A-02			
			5MIN C.R. ION&ELEC RATE LIST,MFLM	63-046A-02B	11/27/63	05/30/64	33
			C.R. SCINT DE/DX-E MATRICES,MFILM	63-046A-02D	11/27/63	02/15/64	33
		NESS	IMP-A,FLUXGATE MAGNETOMETER	63-046A-02F	02/28/64	05/26/64	34
			MERGED MAGNETOMETER + EPHEMERIS	63-046A-01			
			INTPLAN B-FIELD HOURLY AVGD TAPE	63-046A-01A	11/27/63	11/27/63	34
			MSPHERIC B-FIELD HOURLY AVGD,TAPE	63-046A-03			
		SERBU	IMP-A,RETARD POTEN ANAL,E+P	63-046A-03B	11/27/63	05/30/64	34
			PLOTS OF I VS VOLT(11/27/63 ONLY)	63-046A-03C	11/27/63	06/06/64	34
		SIMPSON	IMP-A,C.R.PROTONS(R VS DE/DX	63-046A-03D	11/27/63	06/07/64	34
			C.R. COUNT RATE PLOTS,4 E INTVALS	63-046A-03E	11/27/63	05/31/64	34
			REDUCD C.R. COUNT ACCUMLATNS,TAPE	63-046A-06			
			C.R. P.H.ANAL. EVENT SUMMARY,TAPE	63-046A-06A	11/27/63	04/03/64	34
			5-MIN AVG C.R.CNT RATE SUMRY TAPE	64-060A			
		WOLFE	IMP-A,ELECTROSTATIC ANALYZ	64-060A-00G	10/05/64	09/30/65	34
			PLOTS OF ION FLUX VS TIME,R,CYCLE	64-060A-05			
IMP-B				64-060A-05B	10/05/64	04/05/65	35
	10/04/64			64-060A-05C	10/04/64	09/23/65	35
			MULT-COORD SYS EPHEM&B-MODEL TAPE	64-060A-07			
		ANDERSON	IMP-B,TOTAL IONIZATION EXP	64-060A-07A	10/04/64	09/24/65	35
			TIME-SORTED GM&ION.CHAM CNTS,TAPE	64-060A-02			
			GRAPHS OF GM+ION. CHAMBER DATA	64-060A-02D	10/04/64	04/05/65	35
		BRIDGE	IMP-B,FARADAY CUP	64-060A-01			
			CHGD PART. FLUXES VS E &TIME,TAPE	64-060A-01A	10/04/64	04/05/65	35
		NESS	IMP-B,FLUXGATE MAGNETOMETER	64-060A-03			
			MERGED MAGNETOMETER + EPHEMERIS	64-060A-03C	10/04/64	04/07/65	35
		SERBU	IMP-B,RETARD POTEN ANA,E+P	64-060A-03D	10/04/64	04/02/65	35
			ELECTRON I,N,V,PLUS ORBIT				
		SIMPSON	IMP-B,C.R.PROTONS(R VS DE/DX				
			C.R. COUNT RATE PLOTS,4 E INTVALS				
			REDUCD C.R. COUNT ACCUMLATNS,TAPE				

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			C.R. P.H.ANAL. EVENT SUMMARY,TAPE	64-060A-03E	10/04/64	03/27/65	35
			5-MIN AVG C.R.CNT RATE SUMRY TAPE	64-060A-03F	10/05/64	04/02/65	36
				64-060A-06			
		WOLFE	IMP-B,ELECTROSTATIC ANALYZ				
			POS ION I VS TIME&R,MFILM PLOTS	64-060A-06A	10/05/64	12/23/64	36
IMP-C	05/29/65			65-042A			
			S.ECLPTIC AND MSPHERIC EPHMS TAPE	65-042A-00G	05/29/65	05/11/67	36
			HOURLY SOLAR ECLIPTIC EPH, LISTNG	65-042A-00H	05/29/65	05/11/67	36
				65-042A-05			
		ANDERSON	IMP-C,TOTAL IONIZATION EXP				
			ORIG. GM&ION. CHAMBER COUNTS,TAPE	65-042A-05A	05/29/65	01/03/67	36
			GRAPHS OF GM+ION.CHAMBER DATA	65-042A-05B	05/29/65	01/01/66	36
			REORDERED GM&ION.CHAM COUNTS,TAPE	65-042A-05C	05/29/65	01/03/67	36
				65-042A-02			
		NESS	IMP-C,MAGNETOMETERS				
			5.46 MIN AVG VECTOR MAG FIELD	65-042A-02A	05/29/65	05/11/67	36
			MERGED MAGNETOMETER + EPHEMERIS	65-042A-02C	05/29/65	05/11/67	37
			FLUXGATE MAGNETOMETER,PACKED	65-042A-02D	05/29/65	05/11/67	37
			INTERPLANETARY B FIELD,HRLY.AVGS	65-042A-02E	06/01/65	01/29/67	37
			MICROFILM OF 65-042A-02E	65-042A-02F	06/01/65	01/29/67	37
			MAGNETOSPHERIC B FIELD,HRLY AVGS	65-042A-02G	05/29/65	05/10/67	37
			MICROFILM OF 65-042A-02G	65-042A-02H	05/29/65	05/10/67	37
			MULTI-S/C HR AVG INPL B VRS, TAPE	65-042A-02I	06/01/65	05/06/67	37
				65-042A-01			
		SERBU	IMP-C,RETARD POTEN ANAL,E+P				
			ELECTRON I,N,V, PLUS ORBIT	65-042A-01A	05/29/65	05/05/67	37
				65-042A-03			
		SIMPSON	IMP-C,C.R.PROTONS(R VS DE/DX)				
			RATES + P.H. REDUC DATA,MAG. TAPE	65-042A-03A	05/29/65	04/29/67	37
			COUNT RATE PLOTS ON MICROFILM	65-042A-03B	05/29/65	05/02/67	38
			REDUCED PHA (PHAEST) DATA, TAPE	65-042A-03C	05/29/65	04/28/67	38
			COSMIC RAY COUNT DATA, TAPE	65-042A-03D	05/29/65	04/28/67	38
			RATE SUMRYS (5 MIN AVE)	65-042A-03E	05/29/65	04/29/67	38
IMP-D	07/01/66			66-058A			
			SOL ECLPT,SOL MAGSPHRC EPHM PLOTS	66-058A-00D	07/01/66	10/29/71	38
			SOLAR ECLIPTIC EPHEM PLOTS MFICHE	66-058A-00E	07/01/66	02/28/70	38
			MULTI-COORD SYS EPHEMERIS TAPES	66-058A-00F	07/01/66	03/01/70	38
			12-HR SOLAR ECLIPTIC EPH, LISTING	66-058A-00G	07/01/66	02/28/70	38
			COMPACT VERSION OF DATA SET -00F	66-058A-00H	07/01/66	12/31/70	39
				66-058A-04			
		ANDERSON	IMP-D,ION CHAMBER+CIEGR CNTR				
			ORIG GM&ION.CHAMBER COUNTS, TAPE	66-058A-04A	07/01/66	06/09/67	39
		BRIDGE	IMP-D,FARADAY CUP	66-058A-06			
			HR AVG INT PLASMA PARAM-BLOCK BCD	66-058A-06A	07/01/66	09/30/69	39
			3-MIN INT PLASMA PARAM-BLOCK BCD	66-058A-06B	07/06/66	10/14/71	39
			HR.AVG.PLASMA PARAM. FICHE PLOTS	66-058A-06C	07/06/66	04/20/71	39
			1-HR IP PLASMA DATA W/O O'S,TAPE	66-058A-06D	07/06/66	09/23/69	39
			HR AVG INT PLASMA PARAM-LIST-FILM	66-058A-06F	07/06/66	09/23/69	39
				66-058A-01			
		NESS	IMP-D,MAGNETOMETER	66-058A-01A	07/01/66	10/05/68	39
			5.12 SEC VECTOR MAG FIELD DATA	66-058A-01C	07/01/66	10/05/68	40
			82 SEC VR MAG FLD DATA ON TAPE	66-058A-01D	07/01/66	10/05/68	40
			MULTI S/C HR AVG INPL B VRS, TAPE	66-058A-01E	07/01/66	10/28/68	40
			82 SEC MAG VCTR PLOTS ON MFILM	66-058A-01F	07/01/66	08/03/68	40
			MERGED NESS/SONETT 82 SEC AVG	66-058A-03			
		SONETT	IMP-D,3 AXIS FLUXGATE MAG	66-058A-03A	07/01/66	09/13/70	40
			PLOT OF B,1 SIGMA B,LAT,LONG	66-058A-03B	01/01/67	12/31/69	40
			HOUR AVG B FIELD VECTORS ON TAPE	66-058A-03C	07/01/66	09/14/70	40
			82 SEC AVGD VECTORS, DSC TAPES	66-058A-03D	07/01/66	09/14/70	41
			5.12 SEC MAG VECTORS ON MAG TAPE	66-058A-03E	07/01/66	08/03/68	41
			MERGED NESS/SONETT 82 SEC AVG	66-058A-03F	07/01/66	09/14/70	41
			82 SEC AVG VECTORS,(REBLOCKED)	66-058A-05			
		VAN ALLEN	IMP-D,GM CNTR+SLD STATE DETR	66-058A-05A	07/02/66	09/26/68	41
			SOLAR SOFT X-RAY PLOTS	66-058A-05B	07/02/66	09/26/68	41
			SOLAR SOFT X-RAY, MAG TAPES	66-058A-05C	07/02/66	09/26/68	41
			MICROFILM OF 66-058A-05B	66-058A-05D	07/03/66	07/25/67	41
			SOFT X-RAY BURST LISTING, ON TAPE	66-058A-05E	07/03/66	07/25/67	41
			SOFT X-RAY BURST LISTING-M/FILM	66-058A-05F	07/02/66	07/26/67	41
			SOFT X-RAY COVERAGE PLOTS, MFILM	66-058A-05G	07/01/66	12/31/68	41
			PLOTS OF ALL SUI DETECTORS	66-058A-05H	06/30/66	11/02/71	42
			HALF HOUR SUMMED DATA ON MAG TAPE	67-070A			
IMP-E	07/19/67			67-070A-00D	07/19/67	12/31/72	42
			SOLAR ECLIPTIC EPHEM PLOTS,MFICHE	67-070A-00E	12/01/68	08/31/70	42
			MULTI-COORD SYS EPHEMERIS TAPES	67-070A-00F	11/30/68	09/01/70	42
			COMPACT VERSION OF DATA SET -00E	67-070A-02			
		ANDERSON	IMP-E,ENERGETIC PART.FLUX	67-070A-02A	07/19/67	07/24/68	42
			ORIG GM&ION.CHAMBER COUNTS, TAPE	67-070A-06			
		BRIDGE	IMP-E,FARADAY CUP	67-070A-06A	07/14/67	07/25/68	42
			HR AVG INT PLASMA PARAM-BLOCK BCD	67-070A-06B	07/25/67	07/03/68	42
			3-MIN INT PLASMA PARAM-BLOCK BCD	67-070A-06C	07/25/67	07/03/68	43
			HR AVG PLASMA PARAM MFICHE PLOTS	67-070A-06D	07/25/67	07/03/68	43
			1-HR IP PLASMA DATA W/O O'S, TAPE	67-070A-06F	07/25/67	07/03/68	43
			HR AVG INT PLASMA PARAM LIST FILM	67-070A-04			
		NESS	IMP-E,MAGNETOMETER	67-070A-04A	07/19/67	02/23/72	43
			5.12 SEC VR MAG FLD DATA ON TAPE	67-070A-04B	07/19/67	02/23/72	43
			82 SEC VR MAG FLD DATA ON TAPE	67-070A-04C	07/19/67	12/27/68	43
			MULTI-S/C HR AVG INPL B VRS, TAPE	67-070A-04D	07/19/67	02/23/72	43
			5.12 S VECTOR B-FIELD PLOTS,MFILM	67-070A-04E	07/19/67	02/23/72	43
			82 SEC MAG VCTR PLOTS ON MFILM	67-070A-04F	07/19/67	02/23/72	44
			5 SEC AND 82 SEC LISTINGS, M/FILM	67-070A-04G	10/01/67	04/30/70	44
			MERGED NESS/SONETT 82 SEC DATA,TP	67-070A-03			
		SONETT	IMP E,3AXIS FLUXGATE MAG.	67-070A-03A	07/19/67	12/30/71	44
			PLOT OF B,1 SIGMA B,LAT,LONG,ORB	67-070A-03B	07/23/67	12/31/69	44
			HOUR AVRG B FIELD VECTORS ON TAPE	67-070A-03C	07/19/67	12/30/71	44
			82 SEC AVGD VECTORS, DCS TAPES	67-070A-03D	07/19/67	12/30/71	44
			5.12 SEC MAG VECTORS ON MAG TAPE	67-070A-03E	10/01/67	04/30/70	44
			MERGED NESS/SONETT 82 SEC DATA,TP	67-070A-03F	07/19/67	12/30/71	45
			82 SEC AVERAGED VECTORS REBLOCK	67-070A-01			
		VAN ALLEN	IMP-E,GM CNTR+SOLD.STATE DET.	67-070A-01A	07/26/67	05/27/70	45
			SOLAR SOFT X-RAY PLOTS	67-070A-01B	07/26/67	05/28/70	45
			SOLAR SOFT X-RAY,MAG TAPES	67-070A-01C	07/26/67	05/28/70	45
			MICROFILM OF 67-070A-01B	67-070A-01D	07/26/67	08/13/69	45
			SOFT X-RAY BURST LISTING				

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			SOFT X-RAY BURST-LISTING-M/FILM	67-070A 01E	07/26/67	08/13/69	45
			SOFT X-RAY COVERAGE PLOTS, MFILM	67-070A 01F	07/26/67	09/18/68	45
			PLOTS OF ALL SUI DETECTORS	67-070A 01G	07/19/67	12/31/68	45
			HALF HOUR SUMMED DATA ON MAG TAPE	67-070A-01H	07/18/67	06/23/73	45
IMP-F	05/24/67			67-051A			
			SOL ECL + SOL MAGNSPH ORBIT PLOTS	67-051A 00D	05/24/67	05/03/69	46
			SOLAR ECLIPTIC EPHEM PLOTS MFICHE	67-051A 00E	05/24/67	03/00/69	46
			CHICAGO MULTI-COORD EPHEM TAPES	67-051A-00F	05/24/67	05/03/69	46
			INTERPLAN. TIMES BY + & - SECTORS	67-051A-00G	05/25/67	12/24/67	46
			INTERPLAN TIMES,T-ORDERD,W/SECTOR	67-051A-00H	05/25/67	12/24/67	46
		ANDERSON	IMP-F,ION CHAMBER	67-051A 02			
			ION CHAM.+GM TUBE COUNT RATES,MFM	67-051A-02A	05/24/67	09/15/67	46
		BOSTROM	IMP-F,SOLAR PROTON MONITOR	67-051A 07			
			DAILY AVERAGED PROTON COUNT RATES	67-051A 07A	05/24/67	05/02/69	46
			SGD PBLSHD HRLY AVGD PROTON FLUXS	67-051A 07B	05/24/67	05/02/69	46
			COUNT RATES ON ENCYCLOPEDIA TAPES	67-051A 07C	05/24/67	05/03/69	47
			HOURLY AVERAGED COUNT RATES, TAPE	67-051A 07D	05/24/67	05/03/69	47
		BROWN	IMP-F,LOW ENERGY TELESCOPE	67-051A 01			
			REDUCED COUNT RATES ON TAPE	67-051A-01A	05/24/67	05/03/69	47
			COUNT RATE PLOTS ON MICROFILM	67-051A 01C	05/24/67	05/03/69	47
			DATA SET -01A IN IBM 7094 FORMAT	67-051A 01D	05/24/67	05/03/69	47
		MCCRACKEN	IMP-F,COSMIC RAY ANISOTROPY	67-051A-05			
			HOURLY AVGD COUNT RATES ON TAPE	67-051A 05A	05/24/67	05/02/69	47
		MCDONALD	IMP-F,LOW ENER.PROTON+ALPHA DET	67-051A 09			
			SOLAR C.R. EVENT CATALOG, MFILM	67-051A 09A	05/25/67	05/02/69	47
			2.73-MIN COUNT RATES ON TAPE	67-051A-09B	05/24/67	05/03/69	48
			6-HR AVGD PROTON FLUXES, MFILM	67-051A 09C	05/24/67	04/30/69	48
		MCDONALD	IMP F,COSMIC RAYS(E VS DE/DX)	67-051A 10			
			SOLAR C.R. EVENT CATALOG, MFILM	67-051A-10A	05/25/67	05/02/69	48
			2.73-MIN COUNT RATES ON TAPE	67-051A 10B	05/24/67	05/03/69	48
			6-HR AVGD PROTON FLUXES, MFILM	67-051A-10C	05/24/67	04/30/69	48
		NESS	IMP-F,MAGNETIC FIELD EXPER.	67-051A-11			
			20-SEC MAG FLD VECTORS, MAG TAPES	67-051A-11A	05/24/67	12/06/68	48
			20-SEC MAG FLD VECTORS, MFILM	67-051A-11B	05/24/67	03/07/69	48
			MULTI-S/C HR AVG IMF VECTORS,TAPE	67-051A-11C	05/24/67	12/27/68	48
			2.5 SEC MAG FLD VECTRS, MAG TAPES	67-051A 11D	05/24/67	02/10/69	49
		OGILVIE	IMP-F,ELECT ANALYZ+V SELECT	67-051A-08			
			ENERGY SPECTRA + PLASMA PARAMS	67-051A-08A	05/27/67	01/30/68	49
			3 MIN PLASMA PARAMETERS, MAG TAPE	67-051A 08B	05/24/67	02/08/68	49
			HOURLY AVERAGED PLASMA DATA	67-051A-08C	06/03/67	12/02/67	49
		SIMPSON	IMP-F,C.R.PROTON(R VS DE/DX	67-051A 03			
			RATES FOR ALL NONOVERLAP SEQ.	67-051A-03A	05/24/67	05/02/69	49
			PHA EVENT SUMMARIES (NONOVERLAP)	67-051A-03C	05/24/67	05/02/69	49
			5 MIN AVE COUNT RATES(NONOVERLAP)	67-051A-03D	05/24/67	05/02/69	49
			CNT RATE PLTS,SOLAR ROTATION,MFLM	67-051A 03E	05/24/67	04/25/69	50
			DATASET-03A IN IBM 7094 FORMAT	67-051A-03F	05/24/67	05/02/69	50
			DATA SET-03C IN IBM 7094 FORMAT	67 051A-03G	05/24/67	05/02/69	50
		VAN ALLEN	IMP F,LEPEDA,LOW ENERGY PARTICLES	67-051A-04			
			LEPEDIA FLUX VS EN. MOVIE FILM	67-051A-04A	06/30/67	07/04/67	50
			LEPEDIA COUNT RATES ON MAG TAPE	67-051A-04B	05/26/67	06/17/68	50
IMP-G	06/21/69			69-053A			
			SOL ECL + SOL MAGNSPH ORBIT PLOTS	69-053A 00D	06/21/69	08/25/70	50
			CHICAGO MULTI COORD EPHEM TAPES	69-053A 00I	06/21/69	12/23/72	50
			SOLAR ECLIPTIC EPHEM PLOTS MFICHE	69-053A 00G	06/21/69	12/23/72	50
		ANDERSON	IMP-G,ION CHAMBER	69-053A 02			
			ION CHAMBER + GM COUNTS, MAG.TAPE	69-053A-02A	06/21/69	02/18/72	51
			40 S AVG COUNT RATES ON MICROFILM	69-053A 02B	06/21/69	08/31/72	51
		BOSTROM	IMP G,SOLAR PROTON MONITOR	69-053A 07			
			SGD PBLSHD HRLY AVGD PROTON FLUXS	69-053A 07A	06/21/69	12/23/72	51
			COUNT RATES ON ENCYCLOPEDIA TAPES	69-053A-07B	06/21/69	12/23/72	51
			HOURLY AVERAGED COUNT RATES, TAPE	69-053A-07C	06/21/69	12/23/72	51
		BROWN	IMP-G,LOW ENERGY TELESCOPE	69-053A-01			
			REDUCED COUNT RATES ON TAPE	69-053A-01A	06/21/69	03/23/72	51
			DATA SET -01A IN IBM 7094 FORMAT	69-053A-01C	06/21/69	08/15/70	51
		MCDONALD	IMP-G,LOW ENGY PROT+ALPHA DET	69-053A 09			
			SOLAR C.R. EVENT CATALOG, MFILM	69-053A 09A	09/09/69	11/29/72	52
			2.73 MIN COUNT RATES ON TAPE	69-053A 09B	06/21/69	11/29/72	52
		MCDONALD	IMP-G,COSMIC RAYS(E VS DE/DX)	69-053A 10			
			SOLAR C.R. EVENT CATALOG, MFILM	69-053A 10A	09/09/69	11/29/72	52
			2.73 MIN COUNT RATES ON TAPE	69-053A 10B	06/21/69	11/29/72	52
		NESS	IMP-G,MAGNETIC FIELD EXPER.	69-053A-11			
			20 SEC MAG FLD VECTORS, MFILM	69-053A-11A	06/21/69	12/23/72	52
			2.5 SEC MAG FLD VECTRS, MAG TAPES	69-053A-11B	06/21/69	12/23/72	52
		SIMPSON	IMP G,C.R.PROTS(R VS DE/DX)	69-053A 03			
			RATES FOR ALL NONOVERLAP SEQUENCE	69-053A-03A	06/21/69	10/14/72	52
			PHA EVENT SUMMARIES (NONOVERLAP)	69-053A-03B	06/21/69	12/23/72	52
			5 MIN AVE COUNT RATES(NONOVERLAP)	69-053A-03C	06/21/69	12/23/72	53
			CNT RATE PLTS,SOLAR ROTATION,MFLM	69-053A-03D	06/21/69	12/23/72	53
		VAN ALLEN	IMP-G,LEPEDA,LO ENR PROT+ELECT	69-053A-04			
			LEPEDEA COUNT RATES ON MAG TAPE	69-053A-04A	06/28/69	08/19/70	53
IMP-H	09/23/72			72-073A			
			SOLAR ECLIPTIC EPHEM PLOTS MFICHE	72-073A 00D	09/26/72	04/06/73	53
			SOLAR ORIENTATION ERRORS, MFILM	72-073A-00E	09/28/72	11/04/74	53
			SOLAR ORIENTATION ERRORS- TAPE	72-073A-00F	09/28/72	11/04/74	53
			PREDICTED ORBIT PLOTS	72-073A-00G	09/25/72	12/31/78	53
		BAME	IMP-H,PLASMA ELECTRO. ANALYZ	72-073A 10			
			MERGED IMP I,H,J 3 HR PLASMA PARM	72-073A-10A	09/23/72	12/31/74	54
			H,J MERGED HRLY SOLAR WIND PLASMA	72-073A-10B	01/01/75	12/31/78	54
		BRIDGE	IMP-H,SOLAR PLASMA,FARA.CUP	72-073A 02			
			H,J HOURLY AVGD SOLAR PLASMA,TAPE	72-073A-02A	01/03/76	01/24/77	54
			SGD PBLSHD HRLY AVGD PLASMA PARAM	72-073A-02B	08/03/76	10/31/78	54
			SOLAR PLASMA-HIGH RESOLUTION	72-073A-02C	07/16/77	09/08/77	54
		FRANK	IMP-H, LEPEDEA 25EV-50KEV	72-073A-04			
			COLOR E-T SPECTROGRAMS, SLIDES	72-073A-04A	10/13/72	09/17/78	54
			PLASMA DATA ON TAPE	72-073A-04B	07/28/77	12/12/77	54
			164 SEC RESOLUTION PLASMA TP	72-073A 04C	12/01/77	12/12/77	54

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		GLOECKLER	IMP-H,SOLR IONS+ELEC,100KEV	72-073A-03			
			10 MIN,120 KEV PROT CT RTES,MFILM	72-073A-03A	09/27/72	11/01/74	54
			ALL COUNT RATES ON ENCYCLO. TAPES	72-073A-03B	09/25/72	05/09/74	55
			SUMMARY DATA ON MAG TAPE	72-073A-03C	09/25/72	06/06/78	55
		KRIMIGIS	IMP-H,PART.TELE.+GM TUBES	72-073A-08			
			ARCHIVE TAPES OF ALL DETECTORS	72-073A-08A	09/28/72	08/20/75	55
			MASTER SCIENCE TAPES,5.5 MIN AVE.	72-073A-08B	09/26/72	10/19/72	55
			X-RAY DATA(10-MIN 24-HR AVG)MFILM	72-073A-08C	06/12/73	01/22/75	55
			10-MIN TO 24-H AVG X-RAY DATA, TP	72-073A-08D	09/28/72	01/25/75	55
			24-HOUR SURVEY PLOTS,ALL DET-FILM	72-073A-08G	09/26/72	03/11/76	55
			2-HOUR SURVEY PLOTS,ALL DET.,FILM	72-073A-08H	09/26/72	02/13/73	55
			12-DAY PLOTS ON MICROFILM	72-073A-08I	09/26/72	12/31/73	56
			HR AVG 1-2,14-25 MEV PROT FLX,TPE	72-073A-08J	08/01/75	05/07/78	56
			MGD HR AVG 1-2,14-25 MEV FLX PLT	72-073A-08K	08/01/75	08/31/78	56
			DAILY AVGD PRO FLX GT 10,30,60 MV	72-073A-08L	09/26/72	05/02/82	56
		NESS	IMP-H,TRI-AXIS MAGNETOMETER	72-073A-01			
			15 SEC AVGD MAGNETIC VECTORS,TAPE	72-073A-01A	09/26/72	04/03/73	56
			1.3 SEC AVGD MAG FLD PLOTS, MFILM	72-073A-01B	09/25/72	04/02/73	56
			15 SEC AVGD MAG FLD PLOTS, MFILM	72-073A-01C	09/25/72	04/02/73	56
		SCARF	IMP-H,PLASMA WAVE EXP.	72-073A-11			
			B-SPECTRAL DENS ABOUT 10 HZ	72-073A-11A	10/26/72	08/03/77	56
			PLASMA WAVE LOW B ENVELOPE DATA	72-073A-11B	N/A		57
			LOW B WAVE AMPLITUDES(LISTINGS)	72-073A-11C	01/01/76	04/15/76	57
		SIMPSON	IMP-H,COS.RAY NCLR COMP.	72-073A-07			
			SOL. ROT. COUNT-RATE PLOTS, MFILM	72-073A-07A	09/26/72	09/25/78	57
			5.46-MIN AVG COUNT RATES ON TAPE	72-073A-07B	09/27/72	09/25/78	57
			SECTORED RATE AND PHA TAPES(HOST)	72-073A-07C	09/25/72	09/25/78	57
		STONE	IMP-H,ELEC.+H+HE SLD	72-073A-06			
			HALF HR RES CNT RTE PLOTS, MFILM	72-073A-06A	09/29/72	06/24/75	57
			HOURLY AVERAGE COUNT RATES, TAPE	72-073A-06B	09/28/72	07/31/78	57
		WILLIAMS	IMP-H,ELEC.+PROT TELE GR.50KEV	72-073A-05			
			30-MIN AVERAGED COUNT RATES, TAPE	72-073A-05A	09/27/72	09/25/78	57
			5.46 MIN. AVG. DATA ON TAPE.	72-073A-05B	10/01/73	11/30/77	58
			3-DIMENSIONAL CONTOUR LIST,MFILM	72-073A-05C	12/23/75	07/06/76	58
			HISTOGRAM PLOTS,MFILM	72-073A-05D	09/26/72	06/07/77	58
IMP-I	03/13/71			71-019A			
			SOLAR ECLIPTIC EPHEM PLOTS MFICHE	71-019A-00D	03/13/71	12/31/72	58
		AGGSON	IMP-I,DC ELECTRIC FIELDS	71-019A-02			
			DC ELECTRIC FIELD ON TAPE	71-019A-02A	03/14/71	11/25/72	58
		ANDERSON	IMP-I,GM DET.PROT.+ELECT	71-019A-06			
			ELECTRON&PROTON COUNT RATES,MFILM	71-019A-06B	03/18/71	10/02/74	58
		BAME	IMP-I,PLASMA	71-019A-11			
			HR. AVG. ION PLASMA PARAM.-FILM	71-019A-11A	03/18/71	07/26/73	58
			HR. AVG. ION PLASMA PARAM.-TAPE	71-019A-11B	03/18/71	07/27/73	59
			MERGED IMP I,H,J 3 HR PLASMA PARM	71-019A-11C	03/18/71	12/31/74	59
		BOSTROM	IMP-I,SOLAR PROTON MONITOR	71-019A-07			
			COUNT RATES ON ARCHIVE TAPES	71-019A-07A	03/14/71	06/11/72	59
			SGD PBLSHD HRLY AVGD PROTON FLUXS	71-019A-07B	11/01/71	05/31/73	59
		ERICKSON	IMP-I,UMD/GSFC RADIO ASTRONOMY	71-019A-15			
			SUMMARY SPECTRA ON MICROFILM	71-019A-15A	04/20/71	09/26/72	59
			SUMMARY SPECTRA ON MAGTAPE	71-019A-15C	04/20/71	09/26/72	59
		GURNETT	IMP-I,IOWA AC ELECT+MAG FLDS	71-019A-03			
			E + B SUMMARY PLOTS ON FILM	71-019A-03A	03/13/71	10/01/74	59
			E + B SONOGRAMS ON 70-MM FILM	71-019A-03B	02/03/72	05/31/73	59
			HIGH TIME RES PLOTS ON FILM	71-019A-03C	03/17/71	07/23/74	59
			E AND B SPIN PLANE FIELD DIST.FLM	71-019A-03D	03/29/71	03/16/74	59
			POWER SPECTROGRAMS, SPECIAL TIMES	71-019A-03E	03/17/71	06/20/72	60
		HADDOCK	IMP-I,MICH.RADIO ASTRONOMY	71-019A-13			
			MULTIFREQ. INT. VS TIME,PLOTS,FLM	71-019A-13A	03/14/71	06/30/74	60
		KELLOGG	IMP-I,MINN AC ELEC+MAG FIELDS	71-019A-12			
			30 SEC AVG ELEC+MAG FLD PLOTS,FLM	71-019A-12A	03/13/71	09/28/74	60
		NESS	IMP-I,THREE AXIS MAGNETOMETR	71-019A-01			
			15 SEC MAG FLD VECTORS, MFILM	71-019A-01A	03/13/71	09/28/74	60
			15 SEC B VECTORS ON TAPE	71-019A-01B	03/13/71	08/30/74	60
			1.28 SEC MAG FLD VECTORS, MFILM	71-019A-01C	03/13/71	10/01/74	60
			DETAIL DATA (80 MS) 1.28 AVG VECT	71-019A-01D	02/08/73	10/02/74	60
		SIMPSON	IMP-I,COSMIC RAYS NUCLEAR COMP	71-019A-09			
			COUNT RATES + PHA (SST), MAG.TAPE	71-019A-09A	03/13/71	10/02/74	61
			5-MIN AVG COUNT RATES, MAG. TAPE	71-019A-09B	03/13/71	10/02/74	61
			SOL. ROT. COUNT-RATE PLOTS, MFILM	71-019A-09C	03/14/71	10/02/74	61
IMP-J	10/26/73			73-078A			
			PREDICTED ORBIT PLOTS	73-078A-00D	10/29/73	12/31/79	61
			TRAJECTORY PLOTS, MFICHE	73-078A-00E	10/30/73	01/11/88	61
			ORBITAL PLOTS FOR PROMIS PERIOD	73-078A-00F	03/29/86	06/16/86	61
		AGGSON	IMP J,DC ELECTRIC FIELDS	73-078A-11			
			DC E-FIELD AND RMS ELF NOISE-FILM	73-078A-11A	12/18/73	10/25/74	61
			HIGH TIME RES. E-FIELD EVENTS-FLM	73-078A-11B	12/18/73	10/20/74	61
		BAME	IMP-J,PLASMA,ELECTRO.ANALYZER	73-078A-10			
			MERGED IMP I,H,J 3 HR PLASMA PARM	73-078A-10A	10/26/73	12/31/74	62
			MERGED HOURLY SOLAR WIND PLASMA	73-078A-10B	01/01/75	12/31/78	62
			5 MIN MTAIL PARAM PLOT+LIST,MFILM	73-078A-10C	11/01/73	08/11/80	62
			HR AVG SW DEN, V, PROT TEMP, TAPE	73-078A-10D	01/12/79	12/31/85	62
			HIGH RESOLUTION PLASMA,PROMIS PRD	73-078A-10E	03/15/86	06/17/86	62
		FRANK	IMP-J,ELEC+PROT,25EV-50KEV	73-078A-04			
			PLASMA DATA ON TAPE	73-078A-04A	07/28/77	12/12/77	62
			164 SEC RESOLUTION PLASMA	73-078A-04B	12/01/77	12/12/77	62
			COLOR E-T SPECTROGRAMS, SLIDES	73-078A-04C	11/15/73	01/28/84	62
		GURNETT	IMP J,AC ELECTRIC,MAG.FIELDS	73-078A-12			
			24-HR ELEC+MAG SURVEY PLOTS,MFILM	73-078A-12A	10/31/73	12/08/81	63
		IPAVICH	IMP-J,SOL IONS+ELECT,100KEV	73-078A-03			
			10 MIN,220 KEV PROT CT RTES,MFILM	73-078A-03A	10/31/73	05/01/74	63
			ALL COUNT RATES ON ENCYCLO. TAPES	73-078A-03B	10/30/73	05/02/74	63
			SUMMARY DATA ON MAG TAPE	73-078A-03C	10/30/73	09/07/87	63
			LOW ENERGY PROTONS (.16-.22 MEV)	73-078A-03D	02/01/76	04/30/85	63
		KRIMIGIS	IMP-J,PART.TELE.+GM TUBES	73-078A-08			
			ARCHIVE TAPES OF ALL DETECTORS	73-078A-08A	10/30/73	04/19/74	63

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			HR AVG 1-2,14-25 MEV PROT FLX,TPE	73-078A-08B	08/01/75	07/31/85	63
			SURVEY PLOTS OF ALL DETECTORS	73-078A-08C	10/30/73	03/15/76	64
			MGD HR AVG 1-2,14-25 MEV FLX PLT	73-078A-08D	08/01/75	08/31/78	64
			DAILY AVG PRO FLX GT 10,30,60 MEV	73-078A-08E	09/26/72	05/02/82	64
		LAZARUS	IMP-J,SOLAR PLASMA,FARA.CUP	73-078A-02			
			INTERPLANETARY HOURLY AVERAGES	73-078A-02A	01/01/76	08/07/87	64
			SGD PBLSHD HRLY AVGD PLASMA PARAM	73-078A-02B	08/01/75	06/29/84	64
			SOLAR PLASMA-HIGH RESOLUTION	73-078A-02C	07/05/77	09/04/77	64
			5 MIN RESOLUTION PLASMA PARAMETER	73-078A-02D	10/31/73	08/08/80	64
			5-MIN AVG IMF & PLASMA, ON TAPE	73-078A-02E	04/11/77	05/23/80	64
			5-MIN AVG IMF & PLASMA, ON FICHE	73-078A-02F	04/12/77	12/31/79	65
			1-2 MINUTE RESOLUTION PLASMA PARA	73-078A-02G	10/31/73	11/14/86	65
		LEPPING	IMP-J,TRI-AXIS MAGNETOMETER	73-078A-01			
			15 SEC AVGD MAGNETIC VECTORS,TAPE	73-078A-01A	10/30/73	05/27/86	65
			HR AVG MAG VECTORS ON TAPE	73-078A-01B	01/02/74	05/20/75	65
			15 SEC AVGD MAG FLD PLOTS, MFILM	73-078A-01C	10/30/73	12/13/86	65
			15 SEC PLOTS,IMS SPECL PERS,MFILM	73-078A-01D	01/01/76	03/22/76	65
			24-HR MAG FLD SUMMARY PLOTS,FICHE	73-078A-01E	10/22/77	04/22/83	65
			5-MIN AVG IMF & PLASMA, ON TAPE	73-078A-01F	04/11/77	05/23/80	65
			5-MIN AVG IMF + PLASMA, ON FICHE	73-078A-01G	04/12/77	12/31/79	66
			.32 SEC GSE MAGNETIC FIELD DATA	73-078A-01H	03/22/79	03/22/79	66
		MCGUIRE	IMP-J,COSMIC RAYS(E VS DE/DX)	73-078A-09			
			1-HR AVGD,20-40 MEV PROTON FLUX	73-078A-09A	08/01/75	12/31/84	66
			1 HR AVGD,40-80 MEV PROTON FLUX	73-078A-09B	09/01/75	12/31/84	66
		SIMPSON	IMP-J,COSMIC RAY NUCLEAR COMP	73-078A-07			
			RATE AND PHA DATA TAPES	73-078A-07A	10/30/73	09/11/85	66
			5.46-MIN AVG COUNT RATES ON TAPE	73-078A-07B	10/30/73	09/29/85	66
			SOL. ROT. COUNT-RATE PLOTS, MFILM	73-078A-07C	10/30/73	08/22/85	67
			HOURLY AVGD ALPHA PART(11-90 MEV)	73-078A-07D	08/01/75	08/31/85	67
		STONE	IMP-J,ELEC+H+HE SOLID ST.TELE	73-078A-06			
			HALF HR RES CNT RTE PLOTS, MFILM	73-078A-06A	10/31/73	02/02/75	67
			HOURLY AVERAGE COUNT RATES, TAPE	73-078A-06B	10/28/73	12/31/80	67
			HOURLY AVERAGED ELECTRON 1-5 MEV	73-078A-06C	08/01/75	12/31/80	67
			HOURLY AVGD PROTONS 4-12.5 MEV	73-078A-06D	08/01/75	12/31/80	67
		WILLIAMS	IMP-J,ELEC+PROT,TELE.GR	73-078A-05			
			30-MIN AVG COUNT RATES, ALL MODES	73-078A-05A	10/30/73	03/11/80	67
			3-DIMENSIONAL CONTOUR LIST,MFILM	73-078A-05B	01/03/76	07/13/76	67
			HISTOGRAM PLOTS,MFILM	73-078A-05C	10/30/73	06/25/77	68
			5.46 MIN. AVG. DATA ON MAG TAPE	73-078A-05D	12/01/77	12/12/77	68
ISEE 1	10/22/77			77-102A			
			PREDICTED TRAJ PLOTS,MFILM	77-102A-00D	10/15/77	12/31/78	68
			MULTI-COORD PLOTS, MFICHE	77-102A-00E	10/22/77	10/21/86	68
			PREDICTED MAG CONJUNCTIONS, MFILM	77-102A-00F	03/15/79	02/17/81	68
			ATTITUDE ORBIT LISTINGS, MFICHE	77-102A-00G	10/22/77	12/20/86	68
			EPHEMERIS, DATA POOL TAPE	77-102A-00H	10/22/77	01/07/87	68
			GND MAG FLD LINE INTERCEPT PLOTS	77-102A-00I	10/24/77	09/14/87	69
			ORBITAL PLOTS FOR PROMIS PERIOD	77-102A-00J	03/29/86	06/16/86	69
		ANDERSON	ISEE 1,ELECTRONS AND PROTONS	77-102A-10			
			ELECTRON+PROTON DPOOL PLOTS,MFILM	77-102A-10A	10/22/77	09/26/87	69
			8-200KEV ELEC+PROT FLUX POOL DATA	77-102A-10C	10/22/77	11/12/86	69
			32-SEC AVGD SURVEY PLOTS, MFILM	77-102A-10D	10/23/77	07/31/78	69
			24-HR SURVEY PLOTS, MFILM	77-102A-10E	10/23/77	06/30/78	69
			32 SEC AVG SURVEY PLOTS ON MFICHE	77-102A-10F	01/02/79	06/30/80	69
		BAME	ISEE 1,FAST PLASMA + SOL WIND ION	77-102A-01			
			FAST PLASMA+SOLAR WIND DPOOL,MFLM	77-102A-01C	10/22/77	09/26/87	70
			PLASMA VEL.,DEN.&TEMP. DPOOL,TAPE	77-102A-01D	10/22/77	01/07/87	70
			PROTON FLUID PARAM 6RE-BOW SHOCK	77-102A-01I	10/29/77	01/19/79	70
			5-MIN AVGD SOLAR WIND ION DATA	77-102A-01K	10/30/77	01/08/78	70
			HR-AVG SW DEN, V, PROT TEMP, TAPE	77-102A-01L	10/30/77	12/31/79	70
			HR-AVG SW N, V, T PLT&LIST, FICHE	77-102A-01M	10/30/77	12/31/79	70
		FRANK	ISEE 1,HOT PLASMA	77-102A-03			
			ION & ELECTRON DENSITY DPOOL,TAPE	77-102A-03B	10/22/77	01/07/87	70
			E-T SPECTGMS CHAN. 4P & 4E,SLIDES	77-102A-03C	11/01/77	12/30/81	71
			E-T SPECTGMS,CHAN 1P,1E&6P,SLIDES	77-102A-03D	01/01/82	09/26/87	71
			HOT PLASMA DATA POOL PLOTS, MFILM	77-102A-03E	10/22/77	09/26/87	71
		GURNETT	ISEE 1,PLASMA WAVES	77-102A-07			
			562 HZ WAVE E + B FIELD POOL DATA	77-102A-07C	10/22/77	01/07/87	71
			24-HR ELEC SPEC ANALYZER PLTS,FLM	77-102A-07D	10/22/77	12/31/84	71
			24-HR MAG SPEC ANALYZER PLOTS,FLM	77-102A-07I	10/22/77	12/31/84	71
			PLASMA WAVE DATA POOL PLOTS,MFILM	77-102A-07J	10/22/77	09/26/87	72
		HARVEY	ISEE 1,PLASMA DENSITY	77-102A-08			
			PLASMA DEN PROPAGATN ON-OFF,DPOOL	77-102A-08C	10/22/77	01/07/87	72
			SUMMARY SPECTROGRAMS, MFICHE	77-102A-08F	10/22/77	12/31/82	72
			PLASMA DEN.ON-OFF DPOOL PLTS,MFLM	77-102A-08G	10/22/77	09/26/87	72
		HELLIWELL	ISEE 1,VLF WAVE PROPAGATION	77-102A-13			
			SELECTED SPECTROGRAMS, PAPER	77-102A-13A	08/20/79	08/20/79	72
			SELECTED SPECTROGRAMS, 35MM FILM	77-102A-13B	07/12/83	07/31/83	72
		HEPPNER	ISEE 1,DC ELECTRIC FIELDS-GSFC	77-102A-11			
			3-S AVGD PLASMASPHERIC ELEC.FIELD	77-102A-11D	12/02/77	11/30/78	72
		HOVESTADT	ISEE 1,LO ENERGY COSMIC RAYS	77-102A-05			
			LO-E COSMIC RAY CNT.RTE.DATA POOL	77-102A-05B	10/22/77	01/07/87	73
			LO-E COSMIC RAY DPOOL PLOTS,MFILM	77-102A-05C	10/22/77	09/26/87	73
		MOZER	ISEE 1,QUASI-STATIC ELECTRIC FILD	77-102A-06			
			E-FIELD ELECTRON GUN ON-OFF,DPOOL	77-102A-06B	10/22/77	01/07/87	73
			SPIN-PERIOD AVERAGED DATA	77-102A-06C	10/25/77	05/05/84	73
			ELECTRN GUN ON-OFF DPOOL PLT,MFLM	77-102A-06D	10/22/77	09/26/87	73
		OGILVIE	ISEE 1,FAST ELECTRONS	77-102A-02			
			5 MIN AVG ELECTRON PARAMETERS	77-102A-02C	10/30/77	10/08/78	74
		RUSSELL	ISEE 1,FLUXGATE MAGNETOMETER	77-102A-04			
			MAGNETIC FIELD DPOOL PLOTS,MFILM	77-102A-04B	10/22/77	09/26/87	74
			3-COMP. MAGNETIC FIELD DATA POOL	77-102A-04C	10/22/77	01/07/87	74
			64 SEC MAG FLD DPOOL PLOTS,MFICHE	77-102A-04F	10/22/77	02/02/84	74
			24-HR MAG FLD SUMMARY PLOTS,FICHE	77-102A-04G	10/22/77	12/27/85	74
			MAGNETOPAUSE XING, B VS T, MFICHE	77-102A-04H	10/24/77	12/29/78	74
			BOW SHOCK CROSSING,B VS TIME,FICH	77-102A-04K	07/03/78	01/05/80	74
			4-SEC MAGNETIC FIELD PLOTS,MFICHE	77-102A-04N	10/22/77	12/31/79	75

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			ONE-MINUTE AVERAGED MAGNETIC FLD	77-102A-04Q	01/13/80	07/26/83	75
			24-HR DETRENDED SUMMARY PLOTS,FCH	77-102A-04R	01/12/80	01/16/83	75
		SHARP	ISEE 1,ION COMPOSITION	77-102A-12			
			PLASMA DATA POOL PLOTS,MFILM	77-102A-12A	10/22/77	09/26/87	75
			ELECTRON DENSITY DATA POOL TAPE	77-102A-12B	10/22/77	01/07/87	75
			SOL.WIND ENERGY&MASS SPECTRA,FICH	77-102A-12C	11/11/77	11/22/78	75
			THERMAL ION MEASUREMENTS DATA	77-102A-12D	11/29/77	12/25/79	76
			THERMAL ION DATA PLOTS, MFICHE	77-102A-12E	11/29/77	11/30/77	76
			SUMMARY: R-FILES (FORMAT4)	77-102A-12F	12/3/77	12/3/79	76
		WILLIAMS	ISEE 1,ENRTC ELEC AND PRTNS	77-102A-09			
			ENERG ELECT+PROT DPOOL PLOTS,MFLM	77-102A-09B	10/22/77	08/15/79	76
			ELECTRON + PROTON DATA POOL TAPE	77-102A-09C	10/22/77	08/15/79	76
ISEE 2	10/22/77		PARTICLE DATA SURVEY PLOTS, MFILM	77-102A-09E	11/01/77	01/19/79	76
			MULTI-COORD PLOTS, MFICHE	77-102B			
			ATTITUDE-ORBIT LISTINGS, MFICHE	77-102B-00D	10/22/77	06/10/86	77
			GND MAG FLD LINE INTERCEPT PLOTS	77-102B-00E	10/22/77	12/20/86	77
			ORBITAL PLOTS FOR PROMIS PERIOD	77-102B-00G	10/24/77	09/14/87	77
		ANDERSON	ISEE 2,ELECTRONS AND PROTONS	77-102B-00H	03/29/86	06/16/86	77
			PARTICLE FLUX&CNT. RATE DATA,TAPE	77-102B-08			
			32 SEC AVGD SURVEY PLOTS, MFILM	77-102B-08A	11/03/77	04/01/79	77
			24-HR SURVEY PLOTS, MFILM	77-102B-08B	10/23/77	07/31/78	77
			32 SEC AVG SURVEY PLOTS ON MFICHE	77-102B-08C	10/23/77	06/30/78	78
		FRANK	ISEE 2,HOT PLASMA	77-102B-08D	01/02/79	12/31/80	78
			128- &512 S RES. PLASMA DATA,TAPE	77-102B-03			
			COLOR E-T SPECTROGRAMS, SLIDES	77-102B-03A	12/01/77	12/12/77	78
		GURNETT	ISEE 2,PLASMA WAVES	77-102B-03B	11/01/77	01/10/78	78
			24-HR SPEC ANALYZER PLOTS, MFILM	77-102B-05			
		PASCHMANN	ISEE 2,FAST PLASMA	77-102B-05D	10/22/77	12/31/84	78
			FAST PLASMA EXPERIMENT	77-102B-01			
			SPECTROGRAMS ON MFILM	77-102B-01A	12/01/77	12/12/77	78
			PROTON FLUID PARAM & RE-BOW SHOCK	77-102B-01E	10/26/77	09/20/78	79
		RUSSELL	ISEE 2,FLUXGATE MAGNETOMETER	77-102B-01F	10/27/77	01/19/79	79
			24-HR MAG FLD SUMMARY PLOTS,FICHE	77-102B-04			
			MAGNETOPAUSE XING, B VS T, MFICHE	77-102B-04D	10/22/77	12/27/85	79
			BOW SHOCK CROSSING,B VS TIME,FICH	77-102B-04E	11/17/77	11/11/78	79
			4 SEC AVGD MAG FIELD PLOTS,MFICHE	77-102B-04F	10/25/77	12/31/81	79
			1-MIN AVGD MAG. FLD.(INCLD PROMIS	77-102B-04K	10/22/77	06/29/86	79
			24 HR DETRENDED SUMMARY PLOTS,FCH	77-102B-04M	10/22/77	07/06/86	79
		WILLIAMS	ISEE 2,ENRGTC ELECTRONS AND PRTNS	77-102B-04N	10/22/77	01/13/80	80
			SURVEY PLOTS ON MFILM	77-102B-07			
ISEE 3	08/12/78			77-102B-07C	11/01/77	01/19/79	80
			EPHEMERIS, DATA POOL TAPE	78-079A			
			JPL TRAJ COMET G-Z ENCOUNTER	78-079A-00D	08/12/78	01/10/87	80
		ANDERSON	ISEE 3,INTPLAN + SOLAR ELECTRONS	78-079A-00E	09/10/85	09/12/85	80
			8-HR ELECTRON SUMMARY PLOTS,MFILM	78-079A-09			
			I.P & SOLAR ELECTRONS DPOOL TAPES	78-079A-09A	08/18/78	11/22/79	80
			I.P.&SOLAR ELECT DPOOL PLOTS,MFLM	78-079A-09B	08/12/78	10/03/86	81
		ANDERSON	ISEE 3, X AND GAMMA-RAY BURSTS	78-079A-09C	08/12/78	02/07/87	81
			32 SEC AVGD WEEKLY PLOTS,MFICHE	78-079A-14			
			32-SEC AVGD WEEKLY LISTING,MFICHE	78-079A-14A	08/12/78	02/07/87	81
			X & GAMMA RAY BURST DPOOL TAPES	78-079A-14B	08/12/78	02/07/87	81
			X- & GAMMA-RAY DPOOL PLOTS, MFILM	78-079A-14C	08/12/78	10/25/86	81
		BAME	ISEE 3,SOLAR WIND PLASMA	78-079A-14D	08/12/78	02/07/87	81
			PLASMA+SOLAR WIND DPOOL PLOTS,FLM	78-079A-01			
			5-MIN PLASMA+SOLAR WIND,DATA POOL	78-079A-01A	08/12/78	02/07/87	81
			SOLAR WIND DATA, 5 MIN, MAG TAPE	78-079A-01B	08/12/78	01/10/87	82
			SOLAR WIND DPOOL PLOTS, MFICHE	78-079A-01D	08/16/78	02/19/80	82
			PLASMA PARAMETER DPOOL PLOTS,FICH	78-079A-01F	08/12/78	04/30/85	82
			SOLAR WIND PARAMETER LISTING,FICH	78-079A-01G	08/12/78	03/02/84	82
			DIST GMTAIL ELECTRONS, COLOR SPEC	78-079A-01H	08/16/78	02/19/80	82
			HRLY S.W. PARMS BASED ON ELECTNS	78-079A-01J	10/17/82	04/20/83	82
		HOVESTADT	ISEE 3,LOW-ENERGY COSMIC RAYS	78-079A-01K	08/16/78	10/16/82	82
			LOW ENERGY C.R. DPOOL PLOTS,MFILM	78-079A-03			
			15-MIN LOW ENERGY C.R.,DATA POOL	78-079A-03A	08/12/78	02/07/87	83
			512 S RATES H, HE, AND Z>2, TAPE	78-079A-03B	08/12/78	01/10/87	83
		HYNDS	ISEE 3,ENERGETIC PROTONS	78-079A-03C	01/01/80	12/31/81	83
			3-CH PROTN FLUX,256 S OMNI&SECTOR	78-079A-08			
			ENERGETIC PROTON DATA POOL TAPES	78-079A-08A	08/15/78	12/31/78	83
			ENERGETIC PROTON DPOOL PLOTS,MFLM	78-079A-08B	08/12/78	10/03/86	83
		MEYER	ISEE 3,CSMC RAY ELTRNS,NUCLEI	78-079A-08D	08/12/78	02/07/87	83
			C.R.ELECT&NUCLEI DPOOL PLOTS,MFLM	78-079A-06			
			C.R.ELECT+NUCLEI DATA POOL TAPE	78-079A-06A	08/12/78	02/07/87	84
			C.R.ELECT&PROTN CNT RTE PLTS,MFLM	78-079A-06B	08/12/78	01/10/87	84
		SCARF	ISEE 3,PLASMA WAVES	78-079A-06C	08/15/78	12/21/85	84
			24-H PLASMA WAVE SUMRY PLTS,FICH	78-079A-07			
			PLASMA WAVES, DATA POOL TAPE	78-079A-07A	08/12/78	12/31/86	84
			PLASMA WAVE DATA POOL PLOTS,MFILM	78-079A-07B	08/12/78	01/10/87	84
		SMITH	ISEE 3,MAGNETIC FIELDS	78-079A-07C	08/12/78	02/07/87	84
			MAGNETIC FIELD,DPOOL PLOTS,MFILM	78-079A-02			
			64-S AVG B-FIELD, DATA POOL TAPES	78-079A-02A	08/12/78	02/07/87	85
			64 SEC MAG FLD DPOOL PLOTS,MFICHE	78-079A-02B	08/12/78	01/10/87	85
			1-MIN,1-H &1-D AVGD MAGNETOM DATA	78-079A-02C	08/12/78	04/30/85	85
			HI-RES. REDUCED B-FIELD DATA(RDR)	78-079A-02D	08/13/78	12/31/85	85
			64 SEC GSM MAG FLD D.P. PLOT,FICH	78-079A-02E	01/01/81	01/04/81	85
			ANGLES + E-FIELD DPOOL PLOTS,FICH	78-079A-02G	08/12/78	03/02/84	85
			1 MIN. AVERAGED FIELD WITH SPEED	78-079A-02H	08/12/78	03/02/84	85
			1-H &1-D B FIELD AVGS (FROM -02D)	78-079A-02J	08/13/78	06/28/79	86
			5 MIN AVG S.WIND MAG. FIELD, TAPE	78-079A-02K	08/13/78	12/31/83	86
		STEINBERG	ISEE 3,RADIO MAPPING	78-079A-02L	06/29/79	12/31/83	86
			RADIO MAPPING DPOOL PLOTS,MFILM	78-079A-10			
			RADIO MAPPING, DATA POOL TAPE	78-079A-10A	08/12/78	02/07/87	86
			90-MIN + 24-HR SURVEY PLOTS,FICHE	78-079A-10B	08/12/78	10/25/86	86
		STONE	ISEE 3,HIGH ENERGY COSMIC RAYS	78-079A-10C	08/13/78	02/07/87	86
			15-MIN AVG FLUX: H, HE & Z>2;TAPE	78-079A-12			
			1 HR AVG FLUX: H, HE & Z>2; TAPE	78-079A-12A	08/13/78	12/01/78	87
				78-079A-12B	12/01/78	01/04/81	87

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		TEEGARDEN	ISEE 3, GAMMA-RAY BURSTS	78-079A-15			
			GAMMA-RAY BURST SPECTROMETER DATA	78-079A-15A	11/04/78	12/05/80	87
		VON ROSENVINGE	ISEE 3,MED ENERGY COSMIC RAYS	78-079A-04			
			MED-ENERGY C.R. DPOOL PLOTS,MFILM	78-079A-04A	08/12/78	02/07/87	87
			MEDIUM-ENERGY C.R. DATA POOL,TAPE	78-079A-04B	08/12/78	01/10/87	87
OGO 1	09/05/64			64-054A			
			CONDENSED ORBIT TAPE FOR EXPER.16	64-054A-00C	09/07/64	12/02/64	88
			MULTICOORDINATE SYSTM ORBIT PLTS	64-054A-00H	09/07/64	06/03/67	88
		ANDERSON	OGO 1, SOLAR COSMIC RAYS	64-054A-12			
			SOLAR COSMIC RAY COUNTS, TAPE	64-054A-12A	09/30/65	05/03/66	88
		HARGREAVES	OGO 1, RADIO PROPAGATION	64-054A-05			
			IONOSP + EXOSPH ELEC CONT, FICHE	64-054A-05A	12/12/64	05/20/67	88
		HELLIWELL	OGO 1, VLF RECEIVER	64-054A-08			
			LO-RES VLF SPECTROGRMS,35MM PAPER	64-054A-08A	11/10/64	12/15/65	88
			SELECTED HI-RES VLF SPECTGMS,MFLM	64-054A-08B	03/21/65	11/24/65	88
			VLF SIGNAL STRENGTH VS FREQ(CINE)	64-054A-08C	09/07/64	12/29/65	89
		KONRADI	OGO 1,0.1-10MEV PROT+ELEC SCINT.	64-054A-16			
			PROT&ELEC RTES,ALL TM EQUIV 1 KBS	64-054A 16A	09/07/64	11/16/65	89
			PROT+ELEC,HI-RATE DATA ONLY,TAPES	64-054A-16B	09/07/64	12/02/64	89
		SIMPSON	OGO 1, C.R. SPECTRA AND FLUXES	64-054A-18			
			REDUCED COUNT RATES ON MAG. TAPE	64-054A-18A	09/06/64	11/25/67	89
			SELECTED 30-M AVG RATE PLOTS,MFLM	64-054A-18B	09/07/64	11/25/67	89
			PROTON-ALPHA TELESCOPE PHA DATA	64-054A-18C	09/04/66	11/25/67	89
		SMITH	OGO 1,TRIAX SEARCH COIL MAGNTMTR	64-054A-01			
			37-S SEARCH COIL MAG. DATA, TAPE	64-054A-01A	09/23/64	11/17/67	89
			SEARCH COIL DATA NOT TIME ORDERED	64-054A-01B	09/23/64	06/05/67	90
			PHASE-AMPLITUDE B-FIELD PLTS,MFLM	64-054A-01C	09/05/64	09/29/66	90
		WINCKLER	OGO 1, ION CHAMBER	64-054A-20			
			1-MIN AVG RATE VS T(1/3 ORB)PLOTS	64-054A-20A	09/12/64	06/05/67	90
			REDUCED PULSE RATE,CONDEN. TAPES	64-054A-20B	09/05/64	12/06/67	90
			10-50KEV SOLAR FLARE X-RAYS	64-054A-20C	05/02/65	05/28/67	90
			ION CHAMBER RATES VS L, MFILM	64-054A-20D	09/07/64	06/04/67	90
			HOURLY AVGD RATES (PRINTOUT) MFLM	64-054A-20E	09/05/64	12/06/67	90
			1-MIN AVGD RATES (PRINTOUT) MFLM	64-054A-20F	09/05/64	12/06/67	90
			2-MIN AVGD RATE VS R (PLOTS) MFLM	64-054A-20G	09/07/64	06/04/67	91
			2-MIN AVG RATE VS T(1/2 ORB)PLOTS	64-054A-20H	09/10/64	06/05/67	91
			1-MIN AVGD RATE VS T(PLOT)PERIGEE	64-054A-20J	09/15/64	05/27/66	91
		WINCKLER	OGO 1, ELECTRON SPECTROMETER	64-054A-21			
			2-MIN AVGD RATE VS T (PLOTS) MFLM	64-054A-21A	09/15/64	05/27/66	91
			15-MIN AVGD RATE VS R (PLOTS)MFLM	64-054A-21B	09/07/64	06/04/67	91
			REDUCED COUNT DATA, CONDEN TAPES	64-054A-21C	09/07/64	12/06/67	91
			5-MIN AVGD RATE (PRINTOUT) MFILM	64-054A-21D	09/07/64	06/05/67	91
			2&5 MIN AVGD RATE VS L PLOTS,MFLM	64-054A-21E	09/07/64	06/04/67	91
			DISCRETE L VALUE RATE LISTS,MFILM	64-054A-21F	09/15/64	12/05/65	92
			5MIN AV ELECT RTE VS T PLT,PERIGE	64-054A-21G	09/07/64	06/05/67	92
			RATE VS DAY,INNER ZONE (PLOT)MFLM	64-054A-21H	09/21/64	12/05/65	92
			L INTERPOLATED COUNT RATES	64 054A-21I	09/15/64	07/07/67	92
OGO 3	06/07/66			66-049A			
			CONDENSED ORBIT TAPE FOR EXP.10	66-049A-00C	06/07/66	01/29/67	92
			MULTICOORDINATE SYSTM ORBIT PLTS	66-049A-00H	06/07/66	04/02/68	92
		ANDERSON	OGO 3,SOLAR COSMIC RAYS	66-049A-01			
			SOLAR COSMIC RAY COUNTS, TAPE	66-049A 01A	06/24/66	02/27/67	92
		FRANK	OGO 3,LOW ENERGY ELECTRON+PROTON	66-049A-08			
			LOW-E PROT&ELECT FLUX VS E, MOVIE	66-049A-08A	07/14/66	07/16/66	93
		HADDOCK	OGO 3,4-2 MHZ SOLAR BURSTS	66-049A-18			
			4-2 MHZ SOLAR BURST TABLES, MFILM	66-049A-18A	06/13/66	09/29/67	93
			4 2 MHZ RADIO NOISE,MICROFILM	66-049A-18B	06/09/66	08/16/68	93
			DATA SET CATALOG FOR 66-049A-18B	66-049A-18C	06/09/66	10/03/67	93
		HEPPNER	OGO 3,RUBIDIUM + FLUXGATE MAGNET.	66-049A-11			
			M'FLM PLTS SCALAR B FIELD VS TIME	66-049A-11A	06/09/66	08/14/68	93
			30-S AV TRIAX. FLUXGATE MAG.,MFLM	66-049A-11B	06/09/66	07/21/66	93
		KONRADI	OGO 3,0.1-10MEV PROT+ELECT SCINT.	66-049A-10			
			PROT&ELEC RTES,ALL TM EQUIV 1 KBS	66-049A-10A	06/09/66	01/26/67	93
			PROT+ELEC,HI-RATE DATA ONLY,TAPES	66-049A-10B	06/09/66	01/16/67	93
		SIMPSON	OGO 3, C.R. SPECTRA AND FLUXES	66-049A-03			
			REDUCED C.R. COUNT RATES, TAPE	66-049A-03A	06/09/66	12/01/69	94
			1/2-HR AVG COUNT RATE PLOTS, MFLM	66-049A-03B	06/09/66	12/01/69	94
			PROTON-ALPHA TELESCOPE PHA DATA	66-049A-03C	06/09/66	08/16/68	94
		SMITH	OGO 3, TRIAX SEARCH COIL MAGNET	66-049A-12			
			SEARCH COIL MAG. BCD DATA TAPES	66-049A-12A	06/09/66	04/27/68	94
			SEARCH COIL DATA NOT TIME ORDERED	66-049A-12B	06/09/66	02/12/68	94
		TAYLOR, JR.	OGO 3,ATM MASS SPECT	66-049A-15			
			ION CONCENTRATIONS VS L-5X8 FILM	66-049A-15A	07/24/66	10/17/67	94
		WINCKLER	OGO 3,ELEC SPEC 5 CHANNEL.05-4MEV	66-049A-22			
			2-MIN AVGD RAD BELT RATES (PLOTS)	66-049A 22A	06/11/66	04/27/68	94
			15MIN AV SPECTROM RATE VS R PLOTS	66-049A-22B	06/09/66	04/02/68	95
			ELECT SPECTRMTR CNTS,CONDEN TAPES	66-049A-22C	06/09/66	05/03/68	95
			5-MIN AV SPECTROM RATE LISTS,MFLM	66-049A-22D	06/09/66	05/01/68	95
			2&5-MIN AVGD RATE VS L PLOTS,MFLM	66-049A-22E	06/11/66	04/02/68	95
			SPECTR RTE LIST,DISCRETE L'S,MFLM	66-049A-22F	06/11/66	12/27/67	95
			5-MIN AVGD RATE VS T PLOTS, MFILM	66-049A-22G	06/09/66	04/30/68	95
			RATE VS PITCH ANGLE (INNER ZONE)	66-049A-22H	01/00/67	12/00/67	95
			DLY AVGD RATE VS T (DISCRETE L)	66-049A-22I	12/00/66	06/00/67	95
			AVG RATE VS DAY (INNER ZONE),MFLM	66-049A-22J	06/00/66	02/00/68	96
			L INTERPOLATED COUNT RATES	66-049A-22K	06/11/66	12/27/67	96
		WINCKLER	OGO 3,ION CHAMBER(E=0.7,P=12MEV)	66-049A-23			
			1 MIN AVGD RATES VS T, MFILM	66-049A-23A	06/08/66	08/11/68	96
			ION CHAMBER CONDEN.PULSE RTE,TAPE	66-049A-23B	06/09/66	08/12/68	96
			1-MIN ION CHAMBER RATES VS L,MFLM	66-049A-23C	06/11/66	04/02/68	96
			10-50KEV SOLAR FLARE X-RAYS,MFILM	66-049A-23D	06/25/66	12/29/67	96
			2-MIN ION CHAMBER RATES VS R,MFLM	66-049A-23E	06/09/66	04/02/68	96
			1-H AV ION CHAMBER RATE LIST,MFLM	66-049A-23F	06/09/66	08/10/68	96
			2-MIN AVG RATE VS T(1/2 ORB)PLOTS	66-049A-23G	06/09/66	08/10/68	97
			1-MIN AVG ION CHAM RATE LIST,MFLM	66-049A-23H	06/09/66	08/10/68	97
			1 MIN AVGD PERIGEE RATE VS T MFLM	66-049A-23J	06/11/66	08/10/68	97
			2 MIN AVGD RATE VS T MICROFILM	66-049A 23K	06/09/66	08/10/68	97

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OGO 5	03/04/68			68-014A			
			EPHMRS PLOTS,MULTICOORD SYSTEMS	68-014A-00D	03/04/68	10/04/71	97
			LAWRNCE RAD LAB EPHEMERIS LISTNG	68-014A-00E	03/04/68	04/26/70	97
		ANDERSON	OGO 5,XRAY+PART.DET,SOLAR FLARE	68-014A-04			
			147S AV ELECT&X-RAY CNT RTES,TAPE	68-014A-04A	05/31/68	10/04/69	97
			40 SEC AVG X-RAY COUNT RATE, TAPE	68-014A-04B	03/08/68	10/04/69	97
			PROTON+ALPHA COUNT RATS,MAG.TAPES	68-014A-04C	03/08/68	11/17/69	97
		BARTH	OGO 5,UV AIRGLOW,1304A AND 1216A	68-014A-21			
			AIRGLOW INTENSITIES (1304A,1216A)	68-014A-21A	03/04/68	06/28/72	98
			UV AIRGLOW PLOTS(1216A&1304A)MFLM	68-014A-21B	03/27/68	05/20/69	98
		BLAMONT	OGO 5,GEOCORONAL LYMAN ALPHA	68-014A-22			
			LYMAN ALPHA GEOCORONA DATA, MTAPE	68-014A-22A	03/05/68	12/31/69	98
		COLEMAN, JR.	OGO 5,ELECTRON PITCH ANGLE DIST	68-014A-13			
			ELECTRON FLUX (6DIR) .05-1.2 MEV	68-014A-13A	03/05/68	04/20/70	98
			PLAYBACK ELECTRON FLUX .05-1.2MEV	68-014A-13B	03/30/68	02/14/71	98
		COLEMAN, JR.	OGO 5,TRIAX.FLUXGATE MAGNETOMETER	68-014A-14			
			1-MIN B-FIELD ROADMAP PLOTS,MFILM	68-014A-14A	03/05/68	11/18/69	98
			1-MIN AVG B-FIELD,S/C COORDS,TAPE	68-014A-14B	03/05/68	09/01/68	99
			4.6-S AVG B-FIELD,S/C COORDS,TAPE	68-014A-14C	03/05/68	01/10/69	99
			4.6-S AV B-FLD PLT,S/C COORD,MFLM	68-014A-14D	03/05/68	08/06/69	99
			1-MIN AVG B-FIELD,GSE COORD.,TAPE	68-014A-14E	03/05/68	09/01/68	99
			1-MIN AVG B-FIELD,GSM COORD.,TAPE	68-014A-14F	03/05/68	05/05/70	99
			MAGNETOSPHERIC-B,MODEL-B,L,DIPOLE	68-014A-14H	03/06/68	08/30/71	99
			8&64KBS B-FLD FOR SPECTRUM ANALYS	68-014A-14I	03/07/68	03/21/68	99
		CROOK	OGO 5, PLASMA WAVES,ELEC+MAG ANT	68-014A-24			
			0-30 KHZ E-FIELD SONOGRAMS, MFILM	68-014A-24A	03/11/68	01/03/71	100
			3-MIN AVG E+B DIGITAL CHAN, MFILM	68-014A-24C	03/11/68	01/11/71	100
			3-MIN AVG E+B DIGITAL CHAN, TAPE	68-014A-24D	01/00/69	03/00/70	100
			MSPH-PLASPH BNDRY SONOGRAMS,MFILM	68-014A-24E	03/14/68	05/12/69	100
		HADDOCK	OGO 5, RADIO ASTRO, 50KHZ-3.5MHZ	68-014A-20			
			PLOTS OF RADIO FLUX VS TIME,MFILM	68-014A-20A	03/05/68	09/30/71	100
		HEPPNER	OGO 5, TRIAX.FLUXG+RUBID V. MAG	68-014A-15			
			SCALAR B-FIELD VS TIME PLOTS,MFLM	68-014A-15A	03/05/68	05/13/70	100
			36.9-S AVG B-FIELD VECTORS, MFILM	68-014A-15B	03/15/68	03/08/70	100
		KREPLIN	OGO 5, SOLAR XRAY,2TO20KEV,PRO.CT	68-014A-23			
			SOLAR X-RAY VARIATION ON MFILM	68-014A-23A	03/08/68	12/27/69	101
		MEYER	OGO 5, PART.TELE., CR ELECTRONS	68-014A-09			
			PROTON + ELECTRON FLUX PLOTS,MFLM	68-014A-09A	03/05/68	07/13/72	101
			1MIN CHARGED PART ACCUMS+PHA,TAPE	68-014A-09B	03/05/68	07/14/72	101
		SHARP	OGO 5, MAG.ION MASS SPECTROMETER	68-014A-18			
			O, HE, + H ION CONCS + EPHEM,TAPE	68-014A-18A	03/07/68	05/31/69	101
		SIMPSON	OGO 5,HI-Z,LO-E PART.,SS TELE.	68-014A-27			
			HI Z,LO-E,C-R COUNT RTES&PHA DATA	68-014A-27A	03/05/68	07/14/72	101
			HI-Z,LO-E,C-R CNT RATE PLOTS,MFLM	68-014A-27B	03/05/68	07/13/72	101
		SMITH	OGO 5,TRIAX.SRCH.COIL MAGNETOMTR	68-014A-16			
			SEARCH COIL PLOTS .03-1000HZ,MFLM	68-014A-16A	03/07/68	03/07/71	102
			SEARCH COIL DATA .03-1000 HZ TAPE	68-014A-16B	03/07/68	01/01/71	102
			0-1KHZ SEARCH COIL SONOGRAMS,MFLM	68-014A-16D	03/06/68	10/27/68	102
			INDEX TO 68-014A-16D	68-014A-16E	03/06/68	04/25/68	102
		SNYDER	OGO 5, 3EV TO 16KEV PLASMA ANALYZ	68-014A-17			
			1-HR AVG PLASMA PARAMETERS,MFICHE	68-014A-17A	03/05/68	04/30/71	102
			HR. AVG PLASMA PARAM ON TAPE	68-014A-17B	03/05/68	04/30/71	102
			PLASMA PARAM LISTING ON MICROFILM	68-014A-17C	05/08/68	04/30/71	102
			HI-RES PLASMA SPECTRA+PARAM, TAPE	68-014A-17D	03/05/68	04/30/71	102
			FINE TIME PLASMA PARAM PLOTS,MFLM	68-014A-17E	03/05/68	04/30/71	103
		VAN DE HULST	OGO 5,CNTR.TELE.,CR ELECTRONS	68-014A-12			
			0.5-10 GEV ELCTRN CNT RATE, TAPE	68-014A-12A	03/05/68	08/31/71	103
			0.5-10 GEV ELCTRN CNT RATE, MFILM	68-014A-12B	03/05/68	08/31/71	103
		WEST, JR.	OGO 5,ELECTRON SPECT+PROTON TELE	68-014A-06			
			COUNT RATES VS TIME, 20 MIN PLOTS	68-014A-06A	03/04/68	06/13/68	103
			COUNT RATES VS TIME, 2 HR PLOTS	68-014A-06B	03/06/68	11/06/71	103
			CNT RATE,EPHEM&B-FIELD DATA, TAPE	68-014A-06C	05/23/68	05/01/69	103
			L-SORTED ELECT FLUX,CHAN 1-5,TAPE	68-014A-06D	03/04/68	01/01/69	104
P 14	03/25/61			61-010A			
		BRIDGE	P 14, FARADAY CUP PLASMA PROBE	61-010A-02			
			TELEMETRY RECORDS, F SHIFT CALIB	61-010A-02A	03/25/61	03/27/61	104
PROGNOZ 3	02/15/73			73-009A			
		LOGACHEV	PROGNOZ 3,ENERGETIC PART.DETECTOR	73-009A-01			
			HR AVG ENERG PART FLUXES ON FICHE	73-009A-01A	02/15/73	02/24/74	104
PROGNOZ 6	09/22/77			77-093A			
		EROSHENKO	PROGNOZ 6,3-AXIS FLUX MAGNETOMETR	77-093A-01			
			5-MIN AVER B-FIELD VECTOR,TAPE	77-093A-01A	09/26/77	01/24/78	104
PROGNOZ 7	10/30/78			78-101A			
		DOLGINOV	PROGNOZ 7,THREE-AXIS FLUX MAG	78-101A-04			
			5-MIN AVERAGED MAG FIELD VECTOR	78-101A-04A	11/10/78	06/02/79	104
		VAISBERG	PROGNOZ 7, PLASMA SPECTROMETER	78-101A-01			
			H+ & HE++ FLUX, V, T, & DEN, TAPE	78-101A-01A	[illegible]		104
PROGNOZ 10	04/26/85			85-033A			
		EROSHENKO	PR10,TRIAXIAL FLUXGATE MAG, SC-76	85-033A-03			
			10 MIN AVER B FIELD VECTOR	85-033A-03A	04/27/85	11/04/85	105
			HR AVG B & ENERGETIC E-,H+,HE++	85-033A-03B	04/26/85	11/05/85	105
		LUTSENKO	PR10,ENERG PARTCLS/SHOCKS, ECHNUV	85-033A-02			
			HR AVG ENERGETIC E-,H+,HE++,&B	85-033A-02A	04/26/85	11/05/85	105
S-CUBED A	11/15/71			71-096A			
		CAHILL, JR.	S-CUBED A,FLUXGATE MAGNETOMTRS	71-096A-04			
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-04A	11/15/71	03/05/73	105
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-04B	03/05/73	09/30/74	105
			COMMON SUMMARY PLOT TAPES	71-096A-04C	11/17/71	03/07/73	105
			COMMON SUMMARY PLOTS, MFILM	71-096A-04D	02/10/72	03/07/73	106
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-04E	12/09/71	07/20/74	106
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-04F	12/09/71	07/20/74	106
		CAHILL, JR.	S-CUBED A,SRCH COIL MAGTOMTRS	71-096A-05			
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-05A	11/15/71	03/05/73	106
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-05B	03/05/73	09/30/74	106
			COMMON SUMMARY PLOT TAPES	71-096A-05C	11/17/71	03/07/73	106
			COMMON SUMMARY PLOTS, MFILM	71-096A-05D	02/10/72	03/07/73	106

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			COMMON QUICK LOOK PLOTS, MFILM	71-096A-05E	12/09/71	07/20/74	106
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-05F	12/09/71	07/20/74	107
				71-096A-02			
		FRITZ	S-CUBED A,25 872KEVPROT+ALPDET	71-096A-02A	11/15/71	03/05/73	107
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-02B	03/05/73	09/30/74	107
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-02C	11/17/71	03/07/73	107
			COMMON SUMMARY PLOT TAPES	71-096A-02D	02/10/72	03/07/73	107
			COMMON SUMMARY PLOTS, MFILM	71-096A-02E	12/09/71	07/20/74	107
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-02F	12/09/71	07/20/74	107
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-02H	11/27/71	11/01/72	108
			PITCH ANGLE PLOTS .5 L VAL, MFILM	71-096A-02J	12/03/71	08/04/72	108
				71-096A-07			
		GURNETT	S-CUBED A,AC ELCT.FLD. MSRE	71-096A-07A	11/15/71	03/05/73	108
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-07B	03/05/73	09/30/74	108
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-07C	11/17/71	03/07/73	108
			COMMON SUMMARY PLOT TAPES	71-096A-07D	02/10/72	03/07/73	108
			COMMON SUMMARY PLOTS, MFILM	71-096A-07E	12/09/71	07/20/74	108
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-07F	12/09/71	07/20/74	108
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-01			
		HOFFMAN	S CUBED A,0.8 25KEV ELE-PRTANA	71-096A-01A	11/15/71	03/05/73	109
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-01B	03/05/73	09/30/74	109
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-01C	11/17/71	03/07/73	109
			COMMON SUMMARY PLOT TAPES	71-096A-01D	02/10/72	03/07/73	109
			COMMON SUMMARY PLOTS, MFILM	71-096A-01E	12/09/71	07/20/74	109
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-01F	12/09/71	07/20/74	109
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-01H	11/27/71	11/01/72	109
				71-096A-01J	12/03/71	08/04/72	110
				71-096A-06			
		MAYNARD	S CUBED A,DC ELCT.FLD. MSRE	71-096A-06A	11/15/71	03/05/73	110
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-06B	03/05/73	09/30/74	110
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-06C	11/17/71	03/07/73	110
			COMMON SUMMARY PLOT TAPES	71-096A-06D	02/10/72	03/07/73	110
			COMMON SUMMARY PLOTS, MFILM	71-096A-06E	12/09/71	07/20/74	110
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-06F	12/09/71	07/20/74	110
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-03			
		WILLIAMS	S-CUBED A,35-400KEVELCT-SS DET	71-096A-03A	11/15/71	03/05/73	111
			COMMON CONDENSED EXPERIMNTR TAPES	71-096A-03B	03/05/73	09/30/74	111
			COMMON UNCONDENSED EXPRMNTR TAPES	71-096A-03C	11/17/71	03/07/73	111
			COMMON SUMMARY PLOT TAPES	71-096A-03D	02/10/72	03/07/73	111
			COMMON SUMMARY PLOTS, MFILM	71-096A-03E	12/09/71	07/20/74	111
			COMMON QUICK LOOK PLOTS, MFILM	71-096A-03F	12/09/71	07/20/74	111
			COMMON QUICK LOOK LISTINGS, MFILM	71-096A-03H	11/27/71	11/01/72	111
			PITCH ANGLE PLOTS .5 L VAL, MFILM	71-096A-03J	12/03/71	08/04/72	111
STP P78-2	01/30/79			79-007A			
			PREDICTED MAG CONJUNCTIONS, MFILM	79-007A-00D	03/15/79	02/17/81	112
			ORBITAL PLOTS FOR PROMIS PERIOD	79-007A-00E	03/29/86	06/16/86	112
TELSTAR 1	07/10/62			62-029A			
		BROWN	TELSTAR 1,CHARGED PARTICLES	62-029A-01			
			PROTN&ELEC COUNT RT&EPHM,BESYS TP	62-029A-01A	07/10/62	02/21/63	112
TELSTAR 2	05/07/63			63-013A			
		BROWN	TELSTAR 2,CHARGED PART	63-013A-01			
			PROTN&ELEC COUNT RT&EPHM,BESYS TP	63-013A-01A	05/07/63	05/07/65	112
VELA 3A	07/20/65			65-058A			
		BAME	VELA 3A,ELECT'ST ANALY + GM TUBES	65-058A-04			
			SOLAR GEOPHYS DATA PBLSD SOLAR WD	65-058A-04A	01/01/69	05/21/70	112
			3HR AV-DEN,VEL, DIR, TEMP,ON MFLM	65-058A-04B	07/26/65	12/06/67	112
			3 HR AVG DEN,VEL,DIR,+TEMP, TAPE	65-058A-04C	07/26/65	12/06/67	112
VELA 3B	07/20/65			65-058B			
		BAME	VELA 3B,ELECT'ST ANALY + GM TUBES	65-058B-04			
			3-HR AVG DEN,VEL,DIR,+TEMP, MFILM	65-058B-04A	07/26/65	12/06/67	113
			SOLAR GEOPHYS DATA PBLSD SOLAD WD	65-058B-04B	01/01/69	05/21/70	113
			3 HR AVG DEN,VEL,DIR,+TEMP, TAPE	65-058B-04C	07/26/65	12/06/67	113
VELA 5A	05/23/69			69-046D			
			LISTINGS OF SOL ECL R,THETA,PHI	69-046D-00F	05/23/69	02/28/71	113
			PREDICTED ORBIT PLOTS	69-046D-00G	01/01/78	12/31/79	113
		BAME	VELA 5A,ELECTROSTATIC ANALYZER	69-046D-05			
			SOLAR GEOPHYS DATA PBLSD SOLAR WD	69-046D-05A	09/14/69	04/11/72	113
		CHAMBERS	VELA 5A,SOL X RAYS,4 BANDS .5 60A	69-046D-02			
			3 CHANNEL SOLAR X RAY ATLAS	69-046D-02A	05/27/69	05/15/70	113
VELA 5B	05/23/69			69-046E			
			LISTINGS OF SOL ECL R,THETA,PHI	69-046E-00F	05/24/69	02/28/71	113
			PREDICTED ORBIT PLOTS	69-046E-00G	01/01/76	12/31/79	114
		BAME	VELA 5B,ELECTROSTATIC ANALYZER	69-046E-05			
			SOLAR GEOPHYS DATA PBLSD SOLAR WD	69-046E-05A	09/14/69	06/12/72	114
		CHAMBERS	VELA 5B,SOL X RAYS,4 BANDS .5-60A	69-046E-02			
			3 CHANNEL SOLAR X RAY ATLAS	69-046E-02A	05/27/69	05/15/70	114
VELA 6A	04/08/70			70-027A			
			LISTINGS OF SOL ECL R,THETA,PHI	70-027A-00F	04/01/70	02/28/71	114
			PREDICTED ORBIT PLOTS	70-027A-00G	01/01/76	12/31/79	114
		CHAMBERS	VELA 6A,SOL X RAYS,4 BANDS .5 60A	70-027A-02			
			3 CHANNEL SOLAR X-RAY ATLAS	70-027A-02A	04/11/70	01/01/71	114
VELA 6B	04/08/70			70-027B			
			LISTINGS OF SOL ECL R,THETA,PHI	70-027B-00F	04/01/70	02/28/71	114
			PREDICTED ORBIT PLOTS	70-027B-00G	01/01/76	12/31/79	114
		CHAMBERS	VELA 6B,SOL X-RAYS,4 BANDS .5 60A	70-027B-02			
			3 CHANNEL SOLAR X RAY ATLAS	70-027B-02A	04/11/70	01/01/71	115

APPENDICES

APPENDIX A
STANDARD EPHEMERIS DATA SETS

In many of the NSSDC data sets, the spacecraft position data (altitude, latitude, and longitude vs. time) and various position-related geophysical parameters are merged with the data from the investigations. In such cases, the investigation data sets usually provide all the information needed for the analysis of the data. In some cases, the spacecraft ephemeris data are available separately as non-standard data sets. In other cases, however, the spacecraft ephemeris data must be obtained from separate standard microfilm data sets, called "world maps," and identified by the spacecraft ID followed by the designation 00A, 00B, or 00C. Thus, the NSSDC IDs 69-009A-00A, 69-009A-00B, and 69-009A-00C represent ephemeris data for the ISIS 1 spacecraft (69-009A). Typically, the 00A data sets contain predicted spacecraft positions (based on earlier tracking information), the 00B data sets provide more accurate spacecraft ephemeris data (based on tracking data obtained during the corresponding orbits), and the 00C data sets provide 00B ephemeris data merged with corresponding geophysical parameters. Although the 00A, 00B, and 00C data sets are not completely uniform in their respective contents and formats, the following brief descriptions provide the main features of each type of data set.

00A PREDICTED WORLD MAPS LISTED ON MICROFILM

Each 00A data set contains a list of predicted positions and is usually produced on reels of 16-mm microfilm at GSFC. The positions, which are listed at 1-min intervals, are based on predicted orbital elements. Each line of data contains the Greenwich mean time (to 1 s) and the geodetic altitude, latitude, and longitude. An asterisk identifies each position at which the satellite was in sunlight.

00B REFINED WORLD MAPS OR INTERIM DEFINITIVE WORLD MAPS LISTED ON MICROFILM

Each 00B data set contains a list of spacecraft positions based on actual tracking data and is usually produced on reels of 16-mm microfilm at GSFC. Each 00B data set is either a Refined World Map or an Interim Definitive World Map. Each type lists spacecraft positions at 1-min intervals and contains the date, Greenwich mean time (to 1 min), and geodetic altitude, latitude, and longitude. The Refined World Maps also list six special spacecraft position points in each orbit: the sunlight entrance and exit points, the northbound and southbound equatorial crossing points, and the northernmost and southernmost points. The Refined World Maps include a flag on each point at which the spacecraft was in sunlight. The Interim Definitive World Maps use the word "TWILIGHT" to flag the points for which the upper limb of the sun was between 0 and 6 deg below the visual horizon. The Interim Definitive World Maps also include lines of tracking station data that contain the station name, Greenwich mean time (to 0.001 s), zenith angle of spacecraft, distance from station to spacecraft, and direction of travel of the spacecraft. There is usually a line of tracking station data for each station's acquisition and loss of the spacecraft signal, inserted chronologically between the spacecraft position data lines. In the early 1960s the Interim Definitive World Maps were phased out and superseded by the Refined World Maps.

00C MASTER ORBIT OR EXTENDED WORLD MAPS LISTED ON MICROFILM

Each 00C data set contains a list of spacecraft positions and other parameters based on actual tracking station data and is produced on reels of 16- or 35-mm microfilm at GSFC. Each 00C data set is either a Master Orbit World Map or an Extended World Map. Each type lists spacecraft positions at 1-min intervals. The Extended World Maps also list six special spacecraft position points in each orbit: the sunlight entrance and exit points, the northbound and southbound equatorial crossing points, and the northernmost and southernmost points. Each Master Orbit World Map contains the following: (1) the date and Greenwich mean time (to 1 min); (2) the geocentric longitude, latitude, and distance; (3) the spacecraft right ascension; (4) the right ascension, declination, and magnitude of the spacecraft velocity; (5) the geomagnetic latitude and equatorial radius; (6) the geomagnetic field strength and its ratio to the field strength at the equator of the line of force; (7) the McIllwain L-shell value; and (8) the right ascension and declination of the geomagnetic field vector. Each Extended World Map contains the following: (1) the date, orbit number, Greenwich mean time (to 1 s), and local mean time (to 1 s); (2) the geodetic altitude, latitude, and longitude; (3) the spacecraft right ascension; (4) the geomagnetic latitude and longitude (in a geocentric coordinate system with its North Pole at the geodetic coordinates of 78.6 deg N. and 289.5 deg E.); (5) the geomagnetic dip angle and latitude; (6) the electron gyrofrequency; (7) the geomagnetic field strength and McIllwain's L-shell value; (8) the invariant latitude and radius; (9) the solar zenith angle; and (10) an identifier for the six special spacecraft position points mentioned above. The position data on some Extended World Maps include an identifier for the closest ionospheric sounding station and the distance from the station to the subsatellite point.

TABLE OF AVAILABLE 00A, 00B, AND 00C EPHEMERIS DATA SETS

This table covers all the spacecraft included in this volume. The headings "A," B," and "C" represent data types 00A, 00B, and 00C, respectively. A "Y" indicates that the data set is available while an "N" indicates that it is not available.

Spacecraft Name	A	B	C	Spacecraft Name	A	B	C
AMPTE/CCE	N	N	N	IMP-G	N	Y	N
AMPTE/IRM	N	N	N	IMP-H	Y	N	N
Apollo 15 Subsatellite	N	N	N	IMP-I	N	Y	N
Apollo 16 Subsatellite	N	N	N	IMP-J	Y	N	N
ATS 1	Y	N	N	ISEE 1	Y	N	N
ATS 2	Y	N	N	ISEE 2	Y	N	N
ATS 5	Y	N	N	ISEE 3	Y	N	N
ATS 6	Y	N	N	OGO 1	Y	Y	Y
EPE-A	Y	N	N	OGO 3	Y	Y	Y
EPE-B	Y	N	N	OGO 5	Y	N	Y
EPE-C	Y	N	N	P 14	N	N	N
EPE-D	N	N	Y	Prognoz 3	N	N	N
ERS 13	Y	Y	Y	Prognoz 6	N	N	N
ERS 17	Y	N	Y	Prognoz 7	N	N	N
ESA-GEOS 1	Y	N	N	Prognoz 10	N	N	N
ESA-GEOS 2	N	N	N	S-Cubed A	Y	Y	N
Explorer 6	N	Y	Y	STP P78-2	N	N	N
HEOS 1	Y	N	N	Telstar 1	Y	Y	N
HEOS 2	N	N	N	Telstar 2	Y	Y	N
IMP-A	Y	Y	N	VELA 3A	N	N	N
IMP-B	Y	Y	N	VELA 3B	N	N	N
IMP-C	N	Y	N	VELA 5A	N	N	N
IMP-D	Y	N	N	VELA 5B	N	N	N
IMP-E	Y	N	N	VELA 6A	N	N	N
IMP-F	Y	Y	Y	VELA 6B	N	N	N

APPENDIX B
SUPPLEMENT TO VOLUME 2A

This appendix contains descriptions of the few spacecraft and investigations that were not included in Volume 2A, plus one spacecraft description (ISEE 3/ICE) to which significant information has been added since the publication of Volume 2A. The format is the same as in Volume 2A.

****
********** AMPTE/CCE **********
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SPACECRAFT COMMON NAME- AMPTE/CCE
ALTERNATE NAMES- AMPTE/CHARGE COMP EXPL, CHARGE COMPOSITION EXPL CCE, 15199

NSSDC ID- 84-088A

SPONSORING COUNTRY/AGENCY
U.S./NASA-OSSA

LAUNCH DATE- 08/16/84

ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC
ORBIT PERIOD- 930. MIN
PERIAPSIS- 550. KM ALT
EPOCH DATE- 08/16/84
INCLINATION- 5.0 DEG
APOAPSIS- 49400. KM ALT

PERSONNEL

MG - M.B.	WEINREB	NASA HEADQUARTERS
SC - J.T.	LYNCH	NASA HEADQUARTERS
PM - G.W.	OUSLEY	NASA-GSFC
PS M.H.	ACUNA	NASA-GSFC

BRIEF DESCRIPTION
The AMPTE (Active Magnetospheric Particle Tracer Explorers) mission was designed to study the access of solar wind ions to the magnetosphere, the convective-diffusive transport and energization of magnetospheric particles, and the interactions of plasmas in space. The mission consisted of three spacecraft: the CCE; the IRM, which provided multiple ion releases in the solar wind, the magnetosheath, and the magnetotail, with in situ diagnostics of each; and the UKS, which uses thrusters to keep station near the IRM to provide two-point local measurements. The CCE (Charge Composition Explorer) spacecraft was instrumented to detect those lithium and barium tracer ions from the IRM releases that were transported into the magnetosphere within the CCE orbit. The spacecraft was spin-stabilized at 10 rpm, with its spin axis in the equatorial plane, and offset from the earth-sun line by about 20 deg. It could adjust attitude with both magnetic torqueing and cold gas thrusters. The CCE used a 2.E8-bit tape recorder and redundant 2.5-W S-band transponders. The spacecraft battery was charged by a 140-W solar array. Each instrument was provided by a lead investigator (LI). The PI for the U.S. AMPTE Program and for the CCE was S. M. Krimigis. The PI for the European AMPTE Program, the IRM, was G. Haerendel. for more details, see J. Dassoulas et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 182, 1985.

--------AMPTE/CCE, GLOECKLER----------

INVESTIGATION NAME- CHARGE-ENERGY-MASS SPECTROMETER(CHEM)

NSSDC ID- 84-088A-03

PERSONNEL

OI - F.M.	IPAVICH	U OF MARYLAND
OI D.	HAMILTON	U OF MARYLAND
OI W.	STUDEMANN	MPI-AERONOMY
OI - B.	WILKEN	MPI-AERONOMY
OI - G.	KREMSER	MPI-AERONOMY
OI - D.K.	HOVESTADT	MPI-EXTRATERR PHYS
LI - G.	GLOECKLER	U OF MARYLAND

BRIEF DESCRIPTION
The instrument consisted of an entrance collimator and electrostatic analyzer section followed by a time-of-flight and total-energy measurement section floating at a 30 kV acceleration potential. The energy range covered was from 1 to 300 keV/Q, with a geometric factor of 2.E-3 sq cm-sr and 32 sector angular resolution. Energy resolution was 5 to 18%, and all charge states and isotopes of H and He, the charge states of Li, and the major elements and charge states up to and including Fe were resolved. For more details, see G. Gloeckler et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 234, 1985.

--------AMPTE/CCE, MCENTIRE----------

INVESTIGATION NAME- MEDIUM ENERGY PARTICLE ANALYZER (MEPA)

NSSDC ID- 84-088A-02

PERSONNEL

OI - S.M.	KRIMIGIS	APPLIED PHYSICS LAB
OI - A.T.Y.	LUI	APPLIED PHYSICS LAB
OI E.P.	KEATH	APPLIED PHYSICS LAB
LI - R.W.	MCENTIRE	APPLIED PHYSICS LAB

BRIEF DESCRIPTION
The instrument consisted of a collimator and an electron sweeping magnet followed by a 10-cm time-of-flight (TOF) telescope with thin foils at the front and midpoint and a solid-state detector at the rear. Incident ion TOF was measured from the front foil to the back detector and from the center foil to the back detector, and energy was measured in the back detector. The dual TOF measurement and very fast energy channel processing gave high immunity to accidental events, and allowed the instrument to measure the composition and spectra of both common species and tracer ions over a species-dependent energy range of >10 keV/nucleon to 6 MeV/nucleon, with a geometric factor of 1.E-2 sq cm-sr and 32-sector angular resolution. For more details, see R. W. McEntire et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 230, 1985.

--------AMPTE/CCE, POTEMRA----------

INVESTIGATION NAME- CCE MAGNETOMETER (MAG)

NSSDC ID- 84-088A-05

PERSONNEL

OI - M.H.	ACUNA	NASA-GSFC
LI - T.A.	POTEMRA	APPLIED PHYSICS LAB

BRIEF DESCRIPTION
The instrument was a triaxial fluxgate magnetometer mounted on a 2.4-m boom. It had seven automatically switchable ranges (from plus and minus 16 nT to plus and minus 65,536 nT) with resolution commensurate with a 13-bit A/D converter, and was read out at 8.6 vector samples/s. The signals from two sensors (one parallel to the spin axis and one orthogonal) were also fed into 5-50 Hz bandpass channels that were read out every 5 s. For more details, see T. A. Potemra et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 246, 1985.

--------AMPTE/CCE, SCARF----------

INVESTIGATION NAME- PLASMA WAVE EXPERIMENT (PWE)

NSSDC ID- 84-088A-04

PERSONNEL

LI - F.L.	SCARF	TRW SYSTEMS GROUP

BRIEF DESCRIPTION
The instrument consisted of a balanced electric dipole with an effective length of 70 cm and six bandpass channels covering the range from 5 Hz to 178 kHz. The highest five channels were sampled every 0.6 s and the lowest (5-50 Hz) channel was sampled every 20 s. The instrument was the flight spare of the Pioneer Venus Electric Field Detector, with two additional filters added. For more details, see F. L. Scarf, IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 250, 1985.

--------AMPTE/CCE, SHELLEY----------

INVESTIGATION NAME- HOT PLASMA COMPOSITION EXPERIMENT (HPCE)

NSSDC ID- 84-088A-01

PERSONNEL

OI - R.D.	SHARP	LOCKHEED PALO ALTO
OI - R.G.	JOHNSON	OF. OF SCI&TECH POLICY
OI - W.K.	PETERSON	LOCKHEED PALO ALTO
OI - G.	HAERENDEL	MPI-EXTRATERR PHYS
OI - H.R.	ROSENBAUER	MPI-AERONOMY
OI P.X.	EBERHARDT	U OF BERNE
OI - H.	BALSIGER	U OF BERNE
OI - J.	GEISS	U OF BERNE
OI - A.G.	GHIELMETTI	U OF BERNE
OI - D.T.	YOUNG	LOS ALAMOS NAT LAB
OI D.M.	KLUMPAR	U OF TEXAS, DALLAS
LI E.G.	SHELLEY	LOCKHEED PALO ALTO

BRIEF DESCRIPTION
This instrument consisted of an entrance collimator and retarding potential analyzer, a curved-plate electrostatic energy analyzer, and a combined electrostatic magnetic mass analyzer in series. The energy range covered was approximately 0 to 17 keV/Q, with a geometric factor ranging from 0.01 to 0.05 sq cm-sr, an energy resolution from 6 to 60%, and an M/Q resolution of 10%. This instrument cleanly separated Li+ and Ba+ tracer ions from the background. It was nearly identical to one flown on DE 1 by the same group of investigators. An additional set of eight spectrometers containing permanent bending magnets and channeltrons measured electrons in eight channels from 50 eV to 25 keV. For more details, see E.G. Shelley et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 241, 1985.

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********** AMPTE/IRM **********
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SPACECRAFT COMMON NAME- AMPTE/IRM
ALTERNATE NAMES- ION RELEASE MODULE, AMPTE/ION RELEASE MODULE IRM, 15200

NSSDC ID- 84-088B

SPONSORING COUNTRY/AGENCY
FRG/BMFT

LAUNCH DATE- 08/16/84

ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC
ORBIT PERIOD- 2630. MIN
PERIAPSIS- 550. KM ALT
EPOCH DATE- 08/18/84
INCLINATION- 28.7 DEG
APOAPSIS- 112800. KM ALT

PERSONNEL

MG - M.	OTTERBEIN	BMFT
PM - U.	JONELEIT	DFVLR
PM - B.	HAUSLER	MPI-EXTRATERR PHYS
PS - G.	PASCHMANN	MPI-EXTRATERR PHYS

BRIEF DESCRIPTION
The AMPTE (Active Magnetospheric Particle Tracer Explorers) mission was designed to study the access of solar-wind ions to the magnetosphere, the convective-diffusive transport and energization of magnetospheric particles, and the interactions of plasmas in space. The program consisted of three spacecraft: the CCE, which measured in the magnetosphere the ions released by the IRM; the IRM; and the UKS, which used thrusters to keep station near the IRM to provide two-point local measurements. The IRM provided multiple ion releases in the solar wind, the magnetosheath, and the magnetotail, with in situ diagnostics of each. The IRM spacecraft was spin-stabilized at 15 rpm. Its spin axis was initially in the ecliptic plane, but later it was adjusted with magnetic torqueing to be at right angles to the ecliptic. The power system was a 60-W solar array with redundant batteries. There was a redundant S-band telemetry and telecommand system. Telemetry rates could be chosen between 1 and 8 kbps. For injection into the final orbit, the IRM carried its own kick stage. The PI for the German AMPTE Program was G. Haerendel. The release experiment and the diagnostic instruments were each provided by a lead investigator (LI). For more details, see B. Hausler et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 192, 1985.

--------AMPTE/IRM, VALENZUELA----------

INVESTIGATION NAME- ION RELEASE EXPERIMENT

NSSDC ID- 84-088B-01

PERSONNEL

OI - G.	HAERENDEL	MPI-EXTRATERR PHYS
OI - H.	FOEPPL	MPI-EXTRATERR PHYS
OI - E.	RIEGER	MPI-EXTRATERR PHYS
OI - D.	BAUER	MPI-EXTRATERR PHYS
LI - A.	VALENZUELA	MPI EXTRATERR PHYS

BRIEF DESCRIPTION
The experiment consisted of eight lithium and eight barium canisters, which were injected from the IRM in pairs by ground command and ignited 10 min after separation from the spacecraft. Each of these was either totally lithium or totally barium. A pair of Li/Ba canisters produced a total of 2.E25/7.E24 Li/Ba atoms, respectively, which were subsequently ionized by solar radiation. Li releases in the solar wind, which were carried out in August/September 1984, were to be followed by an artificial comet release of Ba ions in the dawnside magnetosheath and a number of Ba and Li releases in the geomagnetic tail. In situ diagnostics by IRM and UKS and optical observations of the clouds from the ground were followed by tracing of the ions in the inner magnetosphere by CCE. For more details, see G. Haerendel et al., IEEE Transactions on Geoscience and Remote Sensing, v. GE-23, p. 253, 1985.

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********** ISEE 3 **********
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SPACECRAFT COMMON NAME- ISEE 3
ALTERNATE NAMES- STP PROBE, IME H
HELIOCENTRIC, INTNL SUN EARTH EXPL C
ISEE-C, ICE

NSSDC ID- 78-079A

SPONSORING COUNTRY/AGENCY
U.S./NASA OSSA

LAUNCH DATE- 08/12/78

ORBIT PARAMETERS
ORBIT TYPE- SOLAR WIND/GEOTAIL/COM
ORBIT PERIOD- 365. MIN
PERIAPSIS- 0.99 KM ALT
EPOCH DATE- 11/25/78
INCLINATION- 0. DEG
APOAPSIS- 0.99 KM ALT

PERSONNEL

MG - M.A.	CALABRESE	NASA HEADQUARTERS
SC - M.J.	WISKERCHEN	NASA HEADQUARTERS
PM - J.P.	CORRIGAN	NASA-GSFC
PS - T.T.	VON ROSENVINGE	NASA-GSFC
MO - R.O.	WALES	NASA-GSFC

BRIEF DESCRIPTION
The Explorer-class heliocentric spacecraft, ISEE 3, was part of the mother/daughter/heliocentric mission (ISEE 1, 2, and 3). The purposes of the mission were (1) to investigate solar-terrestrial relationships at the outermost boundaries of the earth's magnetosphere, (2) to examine in detail the structure of the solar wind near the earth and the shock wave that forms the interface between the solar wind and earth, and (3) to continue the investigation of cosmic rays and solar flares in the interplanetary region near 1 AU. The mission thus extended the investigations of previous IMP spacecraft. The launch of three coordinated spacecraft in this mission permitted the separation of spatial and temporal effects. This heliocentric spacecraft had a spin axis normal to the ecliptic plane and a spin rate of about 20 rpm. It was placed into an elliptical halo orbit about the libration point (L1) 235 earth radii on the sun side of the earth, where it continuously monitored changes in the near-earth interplanetary medium. Because both the mother and daughter spacecraft had eccentric geocentric orbits, it was hoped that this mission would measure the cause/effect relationships between the incident solar plasma and the magnetosphere. Finally, the heliocentric spacecraft also provided a near-earth base for making cosmic-ray and other planetary measurements for comparison with coincident measurements from deep-space probes. For instrument descriptions written by the investigators, see IEEE Trans. on Geosci. Electron., v. GE-16, n. 3, July 1978. In 1982 the spacecraft began a magnetotail and comet encounter mission. An orbit change maneuver was conducted on August 10, 1982, to remove the spacecraft from the halo orbit around the L1 point and place it in a transfer orbit to a series of orbits between earth and the L2 (magnetotail) libration point. After several orbits through the earth's magnetotail, with gravity assists from lunar flybys in September and October of 1983, a critical lunar flyby December 22, 1983, threw the spacecraft out of the earth-moon system and into an orbit that leads the earth. At this time, the spacecraft was given a new name, ICE (International Cometary Explorer). The spacecraft encountered the tail of Comet Giacobini-Zinner on September 11, 1985, and was between the sun and Comet Halley in late March 1986, when other spacecraft (Giotto, Planet-A, MS-T5, VEGA) were nearer to Comet Halley on comet rendezvous missions. Tracking and telemetry support have been provided by the DSN (Deep Space Network) since January 1984.

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********** P 14 **********
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SPACECRAFT COMMON NAME- P 14
ALTERNATE NAMES- EXPLORER 10, 1961 KAPPA 1
00098

NSSDC ID- 61-010A

SPONSORING COUNTRY/AGENCY
U.S./NASA GSFC

LAUNCH DATE- 03/25/61

ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC
ORBIT PERIOD- 5013. MIN
PERIAPSIS- KM ALT
EPOCH DATE- 03/25/61
INCLINATION- 31. DEG
APOAPSIS- 290622. KM ALT

PERSONNEL

PM - J.P.	HEPPNER	NASA-GSFC

BRIEF DESCRIPTION
Explorer 10 was a cylindrical, battery-powered spacecraft instrumented with two fluxgate magnetometers and one rubidium vapor magnetometer extending from the main spacecraft body, and a Faraday cup plasma probe. The mission objective was to investigate the magnetic fields and plasma as the spacecraft passed through the earth's magnetosphere and into cislunar space. The satellite was launched into a highly elliptical orbit. It was spin stabilized with a spin period of 0.548 s. The direction of its spin vector was 71 deg right ascension and minus 15 deg declination. Because of the limited lifetime of the spacecraft batteries, the only useful data were transmitted in real time for 52 h on the ascending portion of the first orbit. The distance from the earth when the last bit of useful information was transmitted was 42.3 earth radii, and the local time at this point was 2200 h. All transmission ceased several hours later.

--P 14, BRIDGE----------

INVESTIGATION NAME- FARADAY CUP PLASMA PROBE

NSSDC ID- 61-010A-02

PERSONNEL

PI - H.S.	BRIDGE	MASS INST OF TECH
OI - F.	SCHERB	U OF WISCONSIN
OI - B.	ROSSI	MASS INST OF TECH

BRIEF DESCRIPTION

This experiment consisted of a Faraday cup with four grids and a collector designed to provide data on the density of the solar plasma and the magnitude and direction of its bulk motion. Protons were measured in the following energy ranges: 0 to 5, 0 to 20, 0 to 80, 0 to 250, 0 to 800, and 0 to 2300 eV. The experiment was mounted on the spacecraft so that the symmetry axis of the plasma probe was perpendicular to the spacecraft spin axis. The Faraday cup had its maximum response to particles incident at 0 deg to its symmetr axis. The response fell off rapidly until the instrument had a zero response to particles coming in at 63 deg and greater to its normal. The effective area of collection for normal incidence was 28 sq cm. The instrument had two outputs: a dc component related to photoelectric effects and the plasma flux, and an ac component related only to the plasma flux. The shift in the frequency of the ac output component was encoded to be proportional to the plasma flux. A calibration curve to convert from frequency shift to current input to the amplifier is available in Data User's Note: Explorer 10 (1961 Kappa 1) Plasma Probe Experiment, January, 1967 (NSSDC 67-05). The upper energy limit of the plasma particles generating the ac component was determined by the value of a positive retarding voltage applied to one of the grids. This "modulating voltage" had six possible values, from 5 to 2300 eV, and it could also be set to 0. During each 148-s telemetry sequence, 5 s were used by the plasma probe. These 5-s intervals, subcommutated by an interval program, were used to transmit sequentially a marker signal, the dc output of the instrument, and the ac output of the experiment at one of the six modulating voltages. Thus, a complete plasma probe sequence, consisting of eight telemetering cycles, lasted 19 min and 44 s. No inflight calibration was provided, and no onboard processing was done. Because of the limited lifetime of the spacecraft battery, only 52 h of data were acquired. A more detailed description may be found in A. Bonetti et al., "Explorer 10 plasma measurements," J. Geophys. Res., v. 68, pp. 4017-4064, 1963.

PROGNOZ 6

SPACECRAFT COMMON NAME- PROGNOZ 6
ALTERNATE NAMES- 10370

NSSDC ID- 77-093A — SPONSORING COUNTRY/AGENCY: U.S.S.R./IKI

LAUNCH DATE- 09/22/77

ORBIT PARAMETERS
- ORBIT TYPE- GEOCENTRIC — EPOCH DATE- 09/23/77
- ORBIT PERIOD- 5684. MIN — INCLINATION- 65. DEG
- PERIAPSIS- 498. KM ALT — APOAPSIS- 197900. KM ALT

PERSONNEL
- PS - A.A. GALEEV — IKI

BRIEF DESCRIPTION

This spacecraft was a member of a continuing series measuring charged particles, plasma, magnetic fields, and solar electromagnetic radiation. This mission was part of the socialist countries' contribution to the International Magnetospheric Study. The specific scientific goals of this mission were: (1) to study acceleration processes in the solar corona and flare acceleration of charged particles; (2) to monitor propagation of accelerated particles from the solar corona to interplanetary space; (3) to observe particle acceleration from interplanetary shock fronts; (4) to measure chemical and charge composition of the solar wind and solar energetic particles; (5) to study instability processes in interplanetary plasma and wave environments; (6) to study propagation and penetration into the magnetosphere of solar plasma and energetic particles; (7) to monitor magnetotail plasma dynamics during substorms; (8) to search for discrete gamma ray lines of solar and galactic origin; and (9) to study UV emission in the upper atmosphere and the interplanetary medium. Data were obtained from a 5-megabit memory during each perigee so that continuous data acquisition over the whole orbit was achieved.

PROGNOZ 6, EROSHENKO

INVESTIGATION NAME- THREE-AXIS FLUXGATE MAGNETOMETER

NSSDC ID- 77-093A-01

PERSONNEL
- PI - YE.G. EROSHENKO — IZMIRAN

BRIEF DESCRIPTION

A three-axis fluxgate magnetometer was used to measure vector magnetic fields from 1 to 60 nT with an intensity resolution of 0.5 nT. Both interplanetary and geomagnetic tail fields could be measured.

PROGNOZ 7

SPACECRAFT COMMON NAME- PROGNOZ 7
ALTERNATE NAMES- 11088

NSSDC ID- 78-101A — SPONSORING COUNTRY/AGENCY: U.S.S.R./IKI

LAUNCH DATE- 10/30/78

ORBIT PARAMETERS
- ORBIT TYPE- GEOCENTRIC — EPOCH DATE- 10/31/78
- ORBIT PERIOD- 5889. MIN — INCLINATION- 65. DEG
- PERIAPSIS- 483. KM ALT — APOAPSIS- 202965. KM ALT

PERSONNEL
- PS - A.A. GALEEV — IKI

BRIEF DESCRIPTION

This spacecraft was a member of a continuing series measuring charged particles, plasma, magnetic fields, and solar electromagnetic radiation. This mission was part of the socialist countries' contribution to the International Magnetospheric Study. The specific scientific goals of this mission were: (1) to study solar UV, X-ray, and gamma-ray emissions; (2) to monitor electrons and protons in interplanetary space and the magnetosphere; (3) to investigate the nuclear composition of solar and galactic cosmic rays; (4) to measure magnetic fields; (5) to search for discrete gamma-ray lines from the sun and space; (6) to analyze UV radiation for possible excess in the galactic plane; and (7) to analyze heavy high energy ions in the magnetosphere. The spacecraft was spin-stabilized, with the spin axis along the spacecraft Z axis and pointed toward the sun (to within 10 deg). The spin period was approximately 120 s. The spacecraft orbit inclination was approximately 80 deg, the apogee was 203,000 km, and the period was approximately 98 h.

PROGNOZ 7, DOLGINOV

INVESTIGATION NAME- THREE-AXIS FLUXGATE MAGNETOMETERS

NSSDC ID- 78-101A-04

PERSONNEL
- PI - SH.SH.DOLGINOV — IZMIRAN

BRIEF DESCRIPTION

Two three-axis fluxgate magnetometers were used to measure vector magnetic fields from 1 to 1,200 nT with an intensity resolution of 0.5 nT. Both interplanetary and geomagnetic tail fields could be measured.

PROGNOZ 10

SPACECRAFT COMMON NAME- PROGNOZ 10
ALTERNATE NAMES- PROGNOZ X, 15661
INTERSHOCK

NSSDC ID- 85-033A — SPONSORING COUNTRY/AGENCY: U.S.S.R./IKI

LAUNCH DATE- 04/26/85

ORBIT PARAMETERS
- ORBIT TYPE — EPOCH DATE- 04/26/85
- ORBIT PERIOD- 5786. MIN — INCLINATION- 64.99 DEG
- PERIAPSIS- 421. KM ALT — APOAPSIS- 200520. KM ALT

PERSONNEL
- PM A. GALEEV — IKI
- PS O. VAISBERG — IKI

BRIEF DESCRIPTION

This spacecraft, prepared by the Intershock project, was designed to study the earth's bow shock and interplanetary shocks. More specifically, it carried out research in the structure of the quasi-parallel shock wave front, consisting of both the extended region of acceleration and the much more narrow region of the magnetic field jump. Topics of interest included the number density and temperature of the plasma from which a particle is injected into the acceleration region. The equipment also made it possible to study other thin boundaries in the magnetosphere, magnetopause jumps of the electric field, and plasma parameters in the auroral magnetosphere. The spacecraft carried instruments for studying the plasma, the magnetic field, electric and magnetic components of waves, solar flare X-ray bursts, and kilometer radiation. Normal operation provided for sampling each parameter every 10.24 s in storage mode. High-speed sampling rates for selected shock data ranged up to 16 samples per second in shock mode. These special high-bit-rate sessions were triggered at the moment of encounter with the shock wave, as determined by onboard computer analysis of the plasma and magnetic field behavior. The incoming high rate data were recorded in a 120-kb loop memory that covered the previous 8 min. This loop memory was frozen when the shock wave high-rate mode was triggered and its

data were transmitted. The onboard system could be reprogrammed in flight, enabling major changes in the logic and mode of operation of the whole spacecraft. The spin axis was parallel to the spacecraft X axis, and pointed toward the sun. A description of the spacecraft and the instruments is given in "Intershock Project," Pub. No. 60 of the Astron. Inst., Czech. Academy of Sciences, 1985 (B36875-000A in the NSSDC Technical Reference File).

--------PROGNOZ 10, EROSHENKO----------

INVESTIGATION NAME- TRIAXIAL FLUXGATE MAGNETOMETER (SG-76)

NSSDC ID- 85-033A-03

PERSONNEL

PI - E.	EROSHENKO	IZMIRAN

BRIEF DESCRIPTION

This instrument employed three orthogonal fluxgate sensors, aligned along the spacecraft X, Y, and Z axes. The X axis was parallel to the spacecraft spin axis (pointing toward the sun). Each magnetic field component could be measured in the range -60 to +60 nT, with a resolution of 0.5 nT. Frequencies from 0 to 10 Hz were measured. Sampling intervals were 0.25 s in fast mode and 10.24 s in slow mode.

--------PROGNOZ 10, LUTSENKO----------

INVESTIGATION NAME- EXPERIMENT ON ENERGETIC PARTICLES CONNECTED WITH SHOCK WAVES (ECHNUV)

NSSDC ID- 85-033A-02

PERSONNEL

PI - V.	LUTSENKO	IKI
OI - S.	FISCHER	CZECH ACAD OF SCI
OI - K.	KUDELA	CZECH ACAD OF SCI

BRIEF DESCRIPTION

This investigation utilized a complex of four particle-sensing instruments: AKME, DOK-1, DOR, and TP-3. These instruments enabled the measurement of particle fluxes and energy spectra within the range from several keV to tens of MeV, the angular distribution of electrons and protons, and the chemical and isotopic composition of the particles. For data going into the main telemetry system, sampling intervals were 10.24 s in the storage mode and 0.02 s during direct transmission. The data were also fed into the onboard computing system, which employed data compression procedures and also could vary the time resolution of output data from 8 to 520 s in the guarding mode (onboard compouter analyzing data to look for evidence of a shock). In the shock mode, the resolution was changed to 2 s during the period from 64 s before the trigger until 256 s afterward. These time intervals could be prolonged two, four, or eight times by command. AKME was a cylindrical electrostatic analyzer with channeltrons as detectors. It measured electrons and protons with nominal energies of 1, 4.5, or 15 keV, with a 9 by 5 deg field of view at angles of 45, 90, and 135 deg with respect to the X (spin) axis. DOR, consisting of GM tubes with scattering geometry, detected electrons with energies above 30 keV. The entrance apertures were 150 deg FWHM, with one detector looking sunward and one antisunward. DOK-1 utilized passively cooled silicon detectors with and without magnetic filters. There were three pairs of detectors, with 20 deg FWHM fields of view, at 50, 90, and 180 deg with respect to the spin axis. One of each pair detected electrons and protons, while the other was sensitive only to protons. The signals fed into a five-channel analyzer, with threshold levels at 10, 20, 30, 180, and 1000 keV. TP-3 was a telescope of four silicon detectors and a scintillation detector of active shielding, covering a 20 deg FWHM field of view at 90 deg to the spin axis. It was designed to study fluxes of ions with atomic numbers 1-28, ranging in energy from one to several tens of MeV per nucleon. 1H, 2H, 3H, and 4He ions were reliably resolved.

APPENDIX C
CHRONOLOGICAL LISTING OF SPACECRAFT AND ORBIT PARAMETERS

This appendix lists, by NSSDC ID, the spacecraft for which data sets are described in this catalog and their typical orbit parameters. The epoch date was chosen to be roughly halfway between the launch date and the most recent end date of all the spacecraft's data sets so that these parameters are typical of the spacecraft's orbit during the time periods of the data sets described. The parameters are from the GSFC Satellite Situation Reports. Parameters at other times may be found in the Satellite Situation Reports, the spacecraft ephemeris data sets (see Appendix A), and, often, in the investigation data sets themselves. (If parameters at the desired times were not available, other times or sources were used.) Since the NSSDC ID corresponds to the COSPAR international designation, this appendix shows the temporal ordering of the spacecraft launch dates (e.g., 59-004A is the designation for the fourth satellite launched in 1959).

NSSDC ID	Spacecraft Name	Period (min)	Apogee Alt. (km)	Perigee Alt. (km)	Inclin. (deg)	Epoch (mm/yy)	Page No.
59-004A	Explorer 6	754	41900	237	47.0	12/59	28
61-010A	P 14	5012	112500	110	33.0	04/61	104
61-020A	EPE-A	1587	76620	790	33.4	02/62	22
62-029A	Telstar 1	157.7	5643	949	44.8	10/62	112
62-051A	EPE-B	2185	98533	231	32.95	12/62	23
62-059A	EPE-C	314.7	17608	306	18.0	10/62	24
63-013A	Telstar 2	225.2	10812	967	42.8	10/63	112
63-046A	IMP-A	5583	195572	194	33.3	12/63	32
64-040C	ERS 13	2366.2	104665	217	36.7	10/64	25
64-054A	OGO 1	3842.1	137681	12082	49.0	10/66	88
64-060A	IMP-B	2080.3	94427	777	33.7	01/65	34
64-086A	EPE-D	456.3	26199	310	20.1	01/65	24
65-042A	IMP-C	8558.8	264247	196	33.9	06/65	36
65-058A	VELA 3A	6707.8	118586	104294	34.1	02/67	112
65-058B	VELA 3B	6703.7	124681	98104	33.7	02/67	112
65-058C	ERS 17	2610.6	112694	153	34.4	09/65	25
66-049A	OGO 3	2912.6	115768	6593	64.5	02/69	92
66-058A	IMP-D	22614	476233	40800	7.5	10/66	38
66-110A	ATS 1	13436	35194	35779	0.9	12/68	16
67-031A	ATS 2	218.9	10721	187	28.45	05/67	18
67-051A	IMP-F	6208.7	189172	3031	71.5	05/68	45
67-070A	IMP-E*	692.3*	7744*	746*	146.3*	67	42
68-014A	OGO 5	3745.7	140980	6043	43.8	04/69	97
68-109A	HEOS 1	6704.6	201687	2119	61.7	05/72	30
69-046D	VELA 5A	6701.7	111910	110829	34.9	01/74	113

NSSDC ID	Spacecraft Name	Period (min)	Apogee Alt. (km)	Perigee Alt. (km)	Inclin. (deg)	Epoch (mm/yy)	Page No.
69-046E	VELA 5B	6695.1	111945	110639	34.9	01/74	113
69-053A	IMP-G	4831.6	88369	88218	7.6	08/69	50
69-069A	ATS 5	1436.1	35850	35725	1.2	03/71	18
70-027A	VELA 6A	6701.0	111587	111135	33.4	01/73	114
70-027B	VELA 6B	6698.1	111587	111068	33.3	01/73	114
71-019A	IMP-I	5962	195136	9939	37.8	02/72	58
71-063D	Apollo 15 Subsat.*	119.8*	135.9*	103.5*	151.3*	08/71	13
71-096A	S-Cubed A	449.6	25919	203	3.5	12/72	105
72-005A	HEOS 2	7477	240164	405	89.9	02/72	31
72-031D	Apollo 16 Subsat.*	119*	130.8*	91.0*	169.3*	05/72	14
72-073A	IMP-H	17223	246542	182534	7.4	04/74	53
73-009A	Prognoz 3	5783	200000	590	65.0	02/73	104
73-078A	IMP-J	17403	240845	191302	51.4	12/79	61
74-039A	ATS 6	1436.3	35802	35778	0.6	10/75	20
77-029A	ESA-GEOS 1	718.2	38330	2046	26.5	08/77	26
77-093A	Prognoz 6	5684	197900	498	65.0	09/77	104
77-102A	ISEE 1	3441.5	137105	1156	38.9	02/82	68
77-102B	ISEE 2	3443.9	137174	1155	38.9	02/82	77
78-071A	ESA-GEOS 2	1436	35789	35784	0.5	12/78	27
78-079A	ISEE 3	†365†	0.99†	0.99†	0†	12/78	80
78-101A	Prognoz 7	5889	202965	483	65.0	10/88	104
79-007A	STP P78-2	1416.8	43270	27545	5.1	08/82	112
84-088A	AMPTE/CCE	939.5	49685	1108	4.9	09/84	11
84-088B	AMPTE/IRM	2959.0	113694	704	26.5	06/85	12
85-033A	Prognoz 10	5784.8	200315	420	65.0	09/85	105

* These spacecraft have selenocentric orbits, the altitudes are with respect to the surface of the moon, and the inclination is with respect to the equatorial plane of the moon.

† The ISEE 3 parameters are given in days, astronomical units, and degrees, and are for the libration point "halo" orbit part of its mission, from August 12, 1978, to August 10, 1982. The inclination angle given is with respect to the ecliptic. See Appendix B for a description of subsequent geotail and comet rendezvous orbits.

APPENDIX D
DEFINITIONS

B	Geomagnetic field strength at the spacecraft location.
Bo	Geomagnetic field strength at the equator of the line of force.
LI	Lead Investigator.
NSSDC ID	An identification code used in the NSSDC information system. This system contains related identification codes for each spacecraft and its experiments and data sets. Each successfully launched spacecraft and experiment is assigned a code based on the launch sequence of the spacecraft. This code (e.g., 77-102A for the spacecraft ISEE 1) corresponds to the COSPAR international designation. The experiment codes are based on the spacecraft code. For example, the experiments carried aboard the spacecraft 77-102A are numbered 77-102A-01, 77-102A-02, etc. Similarly, data sets corresponding to experiment 77-102A-01 are coded 77-102A-01A, -01B, etc. Each prelaunch spacecraft and experiment is also assigned an NSSDC ID code based on the name of the spacecraft prior to launch. For example, NASA's approved Dynamics Explorer A launch was coded DE-A. The experiments carried aboard this spacecraft were coded DE-A-01, DE-A-02, etc. Once it was launched, its prelaunch designation was changed to a postlaunch one: 81-070A.
OI	Other Investigator.
PI	Principal Investigator.
PM	Project Manager. If a spacecraft has had several project managers, the initial and the latest project managers are both indicated in the spacecraft personnel section. The current or more recent PM is listed first. For international programs there is usually a project manager in each of the two principal participating nations.
PS	Project Scientist. The above comment for project managers also applies to project scientists.
TL	Team Leader.
TM	Team Member.
TRF	Technical Reference File. A computerized space-investigation-oriented bibliographic reference list maintained by NSSDC. Journal publications and other documents are cited and can be retrieved by author name, title, or NSSDC ID of relevant investigation. Used to keep track of descriptive and documentation material, as well as to produce bibliographies of certain spacecraft. The TRF accession number begins with the letter B and contains five digits; for example, B10851.

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ORGANIZATION	
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NSSDC DATA SET ID NUMBER	Spacecraft, Experiment, and Data Set Names	Form of Data* (e.g., 16mm microfilm) or Size of Reproduction (e.g., contact, 8x10, etc.)	Data Take No., FDS/DAS Times, Mission Frame No., Timespan Needed, Film Frame Numbers, etc.

Additional Specifications (Negatives, Positives, Paper Prints, etc.)

*If requesting data on magnetic tape, please supply the necessary information below.

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☐ 1600 bpi	☐ BCD	☐ ASCII	☐ 9	
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☐ 6250 bpi		Maximum block size	_____	_____

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