



Overviews of the Apollo Program and Its Management

A Special Bibliography From the
NASA Scientific and Technical Information Program

Includes items individually selected by scientific and technical information professionals that provide an overview of the history, events, and results of the Apollo missions. Planning, scheduling, and management are also included.

January 2004

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JANUARY 2004

20030004255 NASA, Washington, DC USA

Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium

Garber, Stephen J., Editor; Launius, Roger, Technical Monitor; May 08, 2001; In English, 8 May 2001, Washington, DC, USA
Report No.(s): NASA/SP-2002-4107; NAS 1.21:4107; LC-2002014550; No Copyright; Avail: CASI; [A11](#), Hardcopy

This symposium reflects on forty years of U.S. Human Spaceflight, its role over the next four decades and beyond. The topics include: 1) Perspectives on the Past Forty Years of Human Spaceflight; 2) The Experience of Spaceflight; 3) Perspectives on the Next Forty Years of Human Spaceflight; and 4) The International Space Station and the Future of Human Spaceflight.

CASI

Manned Space Flight; Conferences; NASA Space Programs; Histories

20010008244 NASA, Washington, DC USA

Apollo by the Numbers: A Statistical Reference

Orloff, Richard; Garber, Stephen, Technical Monitor; 2000; In English

Report No.(s): NASA/SP-2000-4029; NAS 1.21:4029; LC-00-061677; No Copyright; Avail: CASI; [A15](#), Hardcopy

The purpose of this work is to provide researchers, students, and space enthusiasts with a comprehensive reference for facts about Project Apollo, America's effort to put humans in the Moon. Research for this work started in 1988, when the author discovered that, despite the number of excellent books that focused on the drama of events that highlighted Apollo, there were none that focused on the drama of the numbers. This book is separated into two parts. The first part contains narratives for the Apollo 1 fire and the 11 flown Apollo missions. Included after each narrative is a series of data tables, followed by a comprehensive timeline of events from just before liftoff to just after crew and spacecraft recovery. The second part contains more than 50 tables. These tables organize much of the data from the narratives in one place so they can be compared among all missions. The tables offer additional data as well. The reader can select a specific mission narrative or specific data table by consulting the Table of Contents.

Author

Tables (Data); Histories; Apollo Flights; Apollo Spacecraft; Apollo Project

20000088626 NASA, Washington, DC USA

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974

Siddiqi, Asif A.; 2000; In English

Report No.(s): NASA/SP-2000-4408; NAS 1.21:4408; LC-00-038684; No Copyright; Avail: CASI; [A99](#), Hardcopy

This book is, in essence, sixteen years in the making. First attempted to compile a history of the Soviet space program in 1982 author put together a rough chronology of the main events. A decade later, while living on a couch in a college friend's apartment, he began writing what would be a short history of the Soviet lunar landing program. The first draft was sixty-nine pages long. Late the following year, he decided to expand the topic to handle all early Soviet piloted exploration programs. That work eventually grew into what you are holding in your hand now.

Derived from text

Documents; U.S.S.R. Space Program; Lunar Landing; Chronology; Apollo Soyuz Test Project

20000027506 NASA, Washington, DC USA

'Before This Decade Is Out...': Personal Reflections on the Apollo Program

Swanson, Glen E., Editor; 1999; In English

Report No.(s): NASA/SP-1999-4223; NAS 1.21:4223; LC-99-23780; No Copyright; Avail: CASI; [A19](#), Hardcopy

This handbook presents 'Before This Decade Is Out...' Personal Reflections on the Appolo Program. The accounts included in this book are a small sampling of the large number of oral histories that have been conducted under the auspices of the NASA history program, since near the beginning of the Agency. They also represent the many personal contributions made during Project Apollo, the single largest peacetime endeavor in American history. These recollections span the origins, management, and completion of that enormous effort and measurably enhance our appreciation of its difficulty. The comments of some of the key individuals involved in Project Apollo are being preserved by NASA and made available through this book. The people who are quoted in this book were among the top leaders of NASA. All of them played a prominent part in the conduct and accomplishments of Appolo.

Derived from text

Handbooks; Apollo Project; Histories; NASA Space Programs

19970009949 NASA, Washington, DC USA

Stages to Saturn

Bilstein, Roger E.; 1996; In English

Report No.(s): NASA-SP-4206; NAS 1.21:4206; LC-79-607154; No Copyright; Avail: CASI; [A23](#), Hardcopy

Part one of this report is intended to bring back into focus some of the facts, circumstances, and background of space exploration. A recapitulation of the flight of Apollo 11, the first lunar landing missions, provides an opportunity to introduce some of the hardware and nomenclature of the Apollo-Saturn program. An historical overview of rocketry, including the main threads of Saturn's origins, provides a background for the scope and boldness of Apollo 11 and the Saturn adventure. The management structure developed by NASA to implement the Apollo-Saturn missions is described in some detail.

Derived from text

Lunar Landing; Apollo 11 Flight; Saturn Launch Vehicles; Apollo Spacecraft; Project Management; Management Planning; Multidisciplinary Research; Resources Management

19960051849 Science Applications International Corp., New York, NY USA

Risk management in US manned spacecraft: From Apollo to Alpha and beyond

Fragola, J. R.; May 1996; In English; No Copyright; Avail: CASI; [A02](#), Hardcopy; ESA Publications Div., ESTEC, Postbus 299, 2200 AG Noordwijk, Netherlands

The past approach taken by NASA towards risk management is reviewed. Insights are provided into the possible reasons that led NASA to choose a qualitative approach during the Apollo and early Shuttle programs. The pressure on NASA following the Challenger accident to provide quantitative risk estimates is discussed as well as the change in risk technology which permitted a detailed Shuttle quantitative risk assessment. Examples are provided in order to indicate how the quantitative results of the Space Shuttle risk assessment were used to support programmatic decision making on the Shuttle program, as well as how they might be used to provide risk control of future privately managed Shuttle operations. The future challenges of the Space Station Alpha and other human missions are discussed together with the role of quantitative assessment in these programs.

Author (ESA)

NASA Space Programs; Risk; Manned Spacecraft; Space Transportation System Flights; Quality Control

19930074634 NASA, Washington, DC, USA

Apollo terminology

Aug 1, 1963; In English

Report No.(s): NASA-SP-6001; NAS 1.21:6001; No Copyright; Avail: CASI; [A06](#), Hardcopy

The Apollo terminology definitions are presented. They were originally intended to provide Apollo Program participants with an updated collection of terminology used on the Apollo Program. Acronyms used in the program are also defined.

Derived from text

Apollo Project; Definition; Dictionaries; Terminology; Terms

19920019101 NASA, Washington, DC, USA

NASA engineers and the age of Apollo

Fries, Sylvia Doughty; JAN 1, 1992; In English

Report No.(s): NASA-SP-4104; NAS 1.21:4104; LC-90-39761; No Copyright; Avail: CASI; [A11](#), Hardcopy

A historical account of NASA's Apollo era engineers is presented. This book is based on interviews that were conducted with fifty-one 'typical' engineers.

CASI

Apollo Project; Engineering Management; Histories; Personnel; Scientists

19910073415 NASA, Washington, DC, USA

The Apollo Program: Was it worth it

Lowman, Paul D., Jr.; JAN 1, 1975; In English

Report No.(s): NASA-TM-104936; NAS 1.15:104936; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Cost Analysis; Progress; Research and Development

19900066801 Syracuse Univ., NY, USA

The NASA scheduling system: The techniques of scheduling in the Apollo Program, part 3

Hopeman, Richard J.; May 1, 1970; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-112397; NAS 1.26:112397; WORKING-PAPER-12-PT-3; REPT-6223-WP-12-PT-3; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Project Management; Scheduling

19900066799 Syracuse Univ., NY, USA

The NASA scheduling system: Scheduling in the Apollo program, part 1

Hopeman, Richard J.; Jul 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-109158; NAS 1.26:109158; WORKING-PAPER-10-PT-1; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Project Management; Scheduling

19900066798 Syracuse Univ., NY, USA

NASA and the Apollo program

Pooler, William; Sallett, Alphonse; Jul 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-109156; NAS 1.26:109156; WORKING-PAPER-8; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Documentation; Manned Space Flight; NASA Programs; Project Management; Research Projects

19890016575 NASA, Washington, DC, USA

Where no man has gone before: A history of Apollo lunar exploration missions

Compton, William David; JAN 1, 1988; In English

Report No.(s): NASA-SP-4214; NAS 1.21:4214; No Copyright; Avail: CASI; [A18](#), Hardcopy; Original contains color illustrations

This book is a narrative account of the development of the science program for the Apollo lunar landing missions. It focuses on the interaction between scientific interests and operational considerations in such matters as landing site selection and training of crews, quarantine and back contamination control, and presentation of results from scientific investigations. Scientific exploration of the moon on later flights, Apollo 12 through Apollo 17 is emphasized.

CASI

Apollo Flights; Apollo Project; Apollo Spacecraft; Histories; Lunar Exploration; Manned Space Flight

19800011953 NASA, Washington, DC, USA

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974

Ertel, I. D.; Newkirk, R. W.; Brooks, C. G.; JAN 1, 1978; In English

Report No.(s): NASA-SP-4009-VOL-4; LC-69-60008; No Copyright; Avail: CASI; [A21](#), Hardcopy

This final volume of the chronology is divided into three parts: (1) preparation for flight, the accident, and investigation; (2) recovery, spacecraft redefinition, and the first manned flight; and (3) man circles the moon, the Eagle lands, and manned space exploration. Congressional documents, official correspondence, government and contractor reports, memoranda,

working papers, and minutes of meetings were used as primary sources. A relatively few entries are based on press releases and newspaper and magazine articles.

A.R.H.

Apollo Project; Apollo Spacecraft; Histories; Lunar Exploration; Manned Space Flight; Space Missions; Spacecraft Cabin Atmospheres

19790077218 North American Aviation, Inc., Downey, CA, USA

Apollo program schedule data

Jul 2, 1962; In English

Contract(s)/Grant(s): NAS9-150

Report No.(s): NASA-CR-117698; SID-62-916; No Copyright; Avail: CASI; [A07](#), Hardcopy

Apollo Project; Management Planning; Project Management

19790077211 North American Aviation, Inc., Downey, CA, USA

Preliminary Apollo program plan

Mar 1, 1962; In English

Contract(s)/Grant(s): NAS9-150

Report No.(s): NASA-CR-117690; SID-62-223; No Copyright; Avail: CASI; [A09](#), Hardcopy

Apollo Project; Mission Planning; Organizations; Project Planning

19790077006 North American Aviation, Inc., Downey, CA, USA

Apollo program plan

Sep 4, 1962; In English

Contract(s)/Grant(s): NAS9-150

Report No.(s): NASA-CR-118612; SID-62-223; No Copyright; Avail: CASI; [A15](#), Hardcopy

Apollo Project; Quality Control; Spacecraft Performance; Spacecraft Reliability; Systems Engineering

19790073936 Bellcomm, Inc., Washington, DC, USA

Radiation projection for Apollo missions

Hilberg, R. H.; Jun 25, 1969; In English

Contract(s)/Grant(s): NASW-417

Report No.(s): NASA-CR-106949; B69-06077; No Copyright; Avail: CASI; [A02](#), Hardcopy

Apollo Flights; Extraterrestrial Radiation; Radiation Effects

19790020032 NASA, Washington, DC, USA

Chariots for Apollo: A history of manned lunar spacecraft

Brooks, C. G.; Grimwood, J. M.; Swenson, L. S., Jr.; JAN 1, 1979; In English

Report No.(s): NASA-SP-4205; No Copyright; Avail: CASI; [A23](#), Hardcopy

Beginning with the challenges presented by Sputnik 1 in 1957, and the formation of NASA, the Apollo lunar exploration program is reviewed through Apollo Flight 11. The focal points are the spacecraft including the command and service modules, and the lunar module.

F.O.S.

Apollo Flights; Apollo Project; Manned Spacecraft; Mission Planning

19790003956 NASA, Washington, DC, USA

Moonport: A history of Apollo launch facilities and operations

Benson, C. D.; Faherty, W. B.; JAN 1, 1978; In English

Report No.(s): NASA-SP-4204; No Copyright; Avail: CASI; [A99](#), Hardcopy

The development of the Apollo launch facilities and launch operations is described from the beginning of design through the final launch. Management techniques, innovation in automation, and testing on the ground to avoid failures in space are

among the topics covered. The impact of the Apollo program on the citrus groves and quiet beaches of Florida's east coast is included.

J.M.S.

Apollo Project; Cape Kennedy Launch Complex; Prelaunch Tests; Spacecraft Launching

19770020109 NASA Lyndon B. Johnson Space Center, Houston, TX, USA

Lunar sample studies

JAN 1, 1977; In English

Report No.(s): NASA-SP-418; No Copyright; Avail: CASI; [A04](#), Hardcopy

Lunar samples discussed and the nature of their analyses are: (1) an Apollo 15 breccia which is thoroughly analyzed as to the nature of the mature regolith from which it derived and the time and nature of the lithification process, (2) two Apollo 11 and one Apollo 12 basalts analyzed in terms of chemistry, Cross-Iddings-Pirsson-Washington norms, mineralogy, and petrography, (3) eight Apollo 17 mare basalts, also analyzed in terms of chemistry, Cross-Iddings-Pirsson-Washington norms, mineralogy, and petrography. The first seven are shown to be chemically similar although of two main textural groups; the eighth is seen to be distinct in both chemistry and mineralogy, (4) a troctolitic clast from a Fra Mauro breccia, analyzed and contrasted with other high-temperature lunar mineral assemblages. Two basaltic clasts from the same breccia are shown to have affinities with rock 14053, and (5) the uranium-thorium-lead systematics of three Apollo 16 samples are determined; serious terrestrial-lead contamination of the first two samples is attributed to bandsaw cutting in the lunar curatorial facility.

CASI

Anorthosite; Basalt; Breccia; Lunar Rocks; Petrography; Samples

19760014180 NASA, Washington, DC, USA

The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966

Brooks, C. G.; Ertel, I. D.; JAN 1, 1976; In English

Report No.(s): NASA-SP-4009-VOL-3; LC-69-60008; No Copyright; Avail: CASI; [A13](#), Hardcopy

The development of the Apollo spacecraft is traced along with that of Saturn V. Emphasis is placed on the detailed engineering design and exhaustive testing performed to qualify both the command and service modules and the lunar module for manned flight.

CASI

Apollo Spacecraft; Command Modules; Lunar Module; Service Modules

19760005868 NASA, Washington, DC, USA

Apollo expeditions to the moon

Cortright, E. M., editor; JAN 1, 1975; In English

Report No.(s): NASA-SP-350; LC-75-600071; No Copyright; Avail: CASI; [A14](#), Hardcopy; Original contains color illustrations

The Apollo program is described from the planning stages through Apollo 17. The organization of the program is discussed along with the development of the spacecraft and related technology. The objectives and accomplishments of each mission are emphasized along with personal accounts of the major figures involved. Other topics discussed include: ground support systems and astronaut selection.

J.M.S.

Apollo Project; Apollo Spacecraft; Lunar Exploration

19760005580 BioTechnology, Inc., Arlington, VA, USA, NASA Lyndon B. Johnson Space Center, Houston, TX, USA

Biomedical results of Apollo

Johnston, R. S., editor; Dietlein, L. F., editor; Berry, C. A., editor; JAN 1, 1975; In English; See also N76-12669 through N76-12695

Contract(s)/Grant(s): NASW-2630

Report No.(s): NASA-SP-368; LC-75-600030; No Copyright; Avail: CASI; [A25](#), Hardcopy; Original contains color illustrations

The biomedical program developed for Apollo is described in detail. The findings are listed of those investigations which are conducted to assess the effects of space flight on man's physiological and functional capacities, and significant medical

events in Apollo are documented. Topics discussed include crew health and inflight monitoring, preflight and postflight medical testing, inflight experiments, quarantine, and life support systems.

Apollo Flights; Biomedical Data; Flight Crews

19740074531 NASA Lyndon B. Johnson Space Center, Houston, TX, USA

Apollo mission evaluation plan

Aug 1, 1968; In English

Report No.(s): NASA-TM-X-70019; MSC-PA-D-68-1; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Data Processing; Postflight Analysis

19740004394 NASA, Washington, DC, USA

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964

Morse, M. L.; Bays, J. K.; JAN 1, 1973; In English

Report No.(s): NASA-SP-4009-VOL-2; No Copyright; Avail: CASI; [A13](#), Hardcopy

A chronology of the Apollo spacecraft development and production program is presented. The subjects discussed are: (1) defining contractual relations, (2) developing hardware distinctions, and (3) developing software ground rules. Illustrations, drawings, and photographs are used extensively to supplement the technical writing. Descriptions of life support systems, communication equipment, propulsion systems, control devices, and spacecraft components are provided.

CASI

Apollo Project; Apollo Spacecraft; Chronology; Project Management; Spacecraft Design

19730037096

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector

Puttkamer, J. V.; VDI-Z; Feb 1, 1973; 115, 2, Fe; In German; Copyright; Avail: Other Sources

An analysis has been conducted to find out whether the management techniques developed in connection with the Apollo project could be used for dealing with such urgent problems of modern society as the crisis of the cities, the increasing environmental pollution, and the steadily growing traffic. Basic concepts and definitions of program and system management are discussed together with details regarding the employment of these concepts in connection with the solution of the problems of the Apollo program. Principles and significance of a systems approach are considered, giving attention to planning, system analysis, system integration, and project management. An application of the methods of project management to the problems of the civil sector is possible if the special characteristics of each particular case are taken into account.

AIAA

Apollo Project; Economics; Management Methods; Project Management; Sociology; Technology Transfer

19720066298 Syracuse Univ., NY, USA

The NASA-Apollo contractor interface: The resident management operation

Kelmachter, B. L.; Feb 1, 1970; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-127620; REPT-6223-WP-24; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo Project; Contract Management; Contract Negotiation; NASA Programs

19720025304 Syracuse Univ., NY, USA

Project management in the Apollo program: An interdisciplinary study

Drucker, E. E.; Pooler, W. S.; Wilemon, D. L.; Wood, B. D.; Jan 1, 1972; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-126941; REPT-6223-R; No Copyright; Avail: CASI; [A08](#), Hardcopy

Findings concerning project management in the NASA Apollo program are presented. The Apollo program in the context of the total NASA organization is examined along with the nature of project management and the manner in which project managers functioned in the Apollo program. The utilization of the in-house technical competence in the support of the Apollo program, and the formal and informal relationships between Apollo managers and the contractors are discussed.

CASI

Apollo Project; Project Management

19720005243 NASA, Washington, DC, USA

What made Apollo a success?

JAN 1, 1971; In English

Report No.(s): NASA-SP-287; No Copyright; Avail: CASI; [A05](#), Hardcopy

Spacecraft development, mission design planning, flight crew operations, and flight operations are considered. Spacecraft design principles and test activities are described. Determination of the best series of flights leading to a lunar landing at the earliest possible time, flight planning, techniques for establishing flight procedures and carrying out flight operations, and crew training and simulation activities are discussed.

CASI

Apollo Spacecraft; Planning; Space Flight; Space Missions

19700076621 NASA Marshall Space Flight Center, Huntsville, AL, USA

Apollo program management, volume 3

Dec 1, 1967; In English

Report No.(s): NASA-TM-X-65294; No Copyright; Avail: CASI; [A06](#), Hardcopy

Apollo Project; Management Planning; Research and Development

19700076195 NASA, Washington, DC, USA

NASA-Apollo program management, volume 1

Dec 1, 1967; In English

Report No.(s): NASA-TM-X-65293; No Copyright; Avail: CASI; [A08](#), Hardcopy

Apollo Project; Project Management; Research and Development

19700011815 Syracuse Univ., NY, USA

The Apollo project manager - Anomalies and ambiguities

Cicero, J. P.; Wilemon, D. L.; JAN 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-109177; No Copyright; Avail: CASI; [A03](#), Hardcopy

Anomalies and ambiguities associated with position of Apollo project manager

CASI

Apollo Project; Project Management

19700011814 Syracuse Univ., NY, USA

The Apollo project manager-contractor interface

Drucker, E. E.; Oct 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-109188; No Copyright; Avail: CASI; [A03](#), Hardcopy

Apollo project manager-contractor differences and similarities

CASI

Apollo Project; Contractors; Management Planning

19700011804 Syracuse Univ., NY, USA

The role of the project manager and management systems in the management of the Apollo program

Hopeman, R. J.; Wilemon, D. L.; JAN 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-109195; No Copyright; Avail: CASI; [A02](#), Hardcopy

Role of project manager and management systems in management of Apollo project

CASI

Apollo Project; Management Planning; Project Management

19700005541 Syracuse Univ., NY, USA

The professional and technical qualifications of Apollo project managers

Cicero, J. P.; Aug 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-107458; No Copyright; Avail: CASI; [A08](#), Hardcopy

Qualifications of Apollo project manager personnel

CASI

Apollo Project; Personnel; Project Management; Qualifications

19700001963 NASA John F. Kennedy Space Center, Cocoa Beach, FL, USA

Apollo program management, Kennedy Space Center, Florida, volume 4

Jan 15, 1968; In English

Report No.(s): NASA-TM-X-61995; REPT-130-12-0001-VOL-4; No Copyright; Avail: CASI; [A06](#), Hardcopy

Apollo program management system at Kennedy Space Center

CASI

Cape Kennedy Launch Complex; Management Planning; Project Management

19690026608 Syracuse Univ., NY, USA

The Apollo project manager, anomalies and ambiguities

Cicero, J. P.; Wilemon, D. L.; Jun 1, 1969; In English

Contract(s)/Grant(s): NGL-33-022-090

Report No.(s): NASA-CR-105282; No Copyright; Avail: CASI; [A03](#), Hardcopy

Problems of Apollo project managers in decision making and production engineering

CASI

Apollo Project; Decision Making; Production Engineering; Project Management

19690022643 NASA, Washington, DC, USA

The Apollo spacecraft. Volume 1 - A chronology

Ertel, I. D.; Morse, M. L.; JAN 1, 1969; In English

Report No.(s): NASA-SP-4009-VOL-1; No Copyright; Avail: CASI; [A12](#), Hardcopy

Chronology of Apollo spacecraft program to 7 Nov. 1962

CASI

Apollo Project; Chronology; Lunar Spacecraft

19680020510 New Mexico State Univ., Las Cruces, NM, USA

Public burden and benefit of the Apollo program on Las Cruces, New Mexico

Beckstead, R. W.; Oct 1, 1967; In English

Contract(s)/Grant(s): NGR-32-003-027

Report No.(s): NASA-CR-89946; No Copyright; Avail: CASI; [A03](#), Hardcopy

Public burden and benefit of Apollo program to Las Cruces, New Mexico

CASI

Aerospace Industry; Apollo Project; Economics; New Mexico

19660020677

Forecasts and appraisals for management evaluation, volume 2

Jan 1, 1966; In English

Report No.(s): NASA-SP-6009, VOL. 2; No Copyright; Avail: CASI; [A18](#), Hardcopy

Forecasting methodology for Apollo project - weight-performance data, mathematical models, probable error relationships, and manual to computational system

Author (CASI)

Apollo Project; Computer Programs; Errors; Forecasting; Manual Control; Mathematical Models; Methodology; Performance Prediction; Weight (Mass)

Subject Term Index

AEROSPACE INDUSTRY

Public burden and benefit of the Apollo program on Las Cruces, New Mexico – 8

ANORTHOSITE

Lunar sample studies – 5

APOLLO 11 FLIGHT

Stages to Saturn – 2

APOLLO FLIGHTS

Apollo by the Numbers: A Statistical Reference – 1

Biomedical results of Apollo – 5

Chariots for Apollo: A history of manned lunar spacecraft – 4

Radiation projection for Apollo missions – 4

Where no man has gone before: A history of Apollo lunar exploration missions – 3

APOLLO PROJECT

Apollo by the Numbers: A Statistical Reference – 1

Apollo expeditions to the moon – 5

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

Apollo mission evaluation plan – 6

Apollo program management, volume 3 – 7

Apollo program plan – 4

Apollo program schedule data – 4

Apollo terminology – 2

Chariots for Apollo: A history of manned lunar spacecraft – 4

Forecasts and appraisals for management evaluation, volume 2 – 8

Moonport: A history of Apollo launch facilities and operations – 4

NASA and the Apollo program – 3

NASA engineers and the age of Apollo – 2

NASA-Apollo program management, volume 1 – 7

Preliminary Apollo program plan – 4

Project management in the Apollo program: An interdisciplinary study – 6

Public burden and benefit of the Apollo program on Las Cruces, New Mexico – 8

The Apollo Program: Was it worth it – 3

The Apollo project manager - Anomalies and ambiguities – 7

The Apollo project manager, anomalies and ambiguities – 8

The Apollo project manager-contractor interface – 7

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

The Apollo spacecraft. Volume 1 - A chronology – 8

The NASA scheduling system: Scheduling in the Apollo program, part 1 – 3

The NASA scheduling system: The techniques of scheduling in the Apollo Program, part 3 – 3

The NASA-Apollo contractor interface: The resident management operation – 6

The professional and technical qualifications of Apollo project managers – 8

The role of the project manager and management systems in the management of the Apollo program – 7

Where no man has gone before: A history of Apollo lunar exploration missions – 3

'Before This Decade Is Out...': Personal Reflections on the Apollo Program – 1

APOLLO SOYUZ TEST PROJECT

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1

APOLLO SPACECRAFT

Apollo by the Numbers: A Statistical Reference – 1

Apollo expeditions to the moon – 5

Stages to Saturn – 2

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6

The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

What made Apollo a success? – 7

Where no man has gone before: A history of Apollo lunar exploration missions – 3

BASALT

Lunar sample studies – 5

BIOMEDICAL DATA

Biomedical results of Apollo – 5

BRECCIA

Lunar sample studies – 5

CAPE KENNEDY LAUNCH COMPLEX

Apollo program management, Kennedy Space Center, Florida, volume 4 – 8

Moonport: A history of Apollo launch facilities and operations – 4

CHRONOLOGY

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6

The Apollo spacecraft. Volume 1 - A chronology – 8

COMMAND MODULES

The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5

COMPUTER PROGRAMS

Forecasts and appraisals for management evaluation, volume 2 – 8

CONFERENCES

Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1

CONTRACT MANAGEMENT

The NASA-Apollo contractor interface: The resident management operation – 6

CONTRACT NEGOTIATION

The NASA-Apollo contractor interface: The resident management operation – 6

CONTRACTORS

The Apollo project manager-contractor interface – 7

COST ANALYSIS

The Apollo Program: Was it worth it – 3

DATA PROCESSING

Apollo mission evaluation plan – 6

DECISION MAKING

The Apollo project manager, anomalies and ambiguities – 8

DEFINITION

Apollo terminology – 2

DICTIONARIES

Apollo terminology – 2

DOCUMENTATION

NASA and the Apollo program – 3

DOCUMENTS

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1

ECONOMICS

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

Public burden and benefit of the Apollo program on Las Cruces, New Mexico – 8

ENGINEERING MANAGEMENT

NASA engineers and the age of Apollo – 2

ERRORS

Forecasts and appraisals for management evaluation, volume 2 – 8

EXTRATERRESTRIAL RADIATION

Radiation projection for Apollo missions – 4

FLIGHT CREWS

Biomedical results of Apollo – 5

FORECASTING

Forecasts and appraisals for management evaluation, volume 2 – 8

HANDBOOKS

'Before This Decade Is Out...': Personal Reflections on the Apollo Program – 1

HISTORIES

Apollo by the Numbers: A Statistical Reference – 1

Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1

NASA engineers and the age of Apollo – 2

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

Where no man has gone before: A history of Apollo lunar exploration missions – 3

'Before This Decade Is Out...': Personal Reflections on the Apollo Program – 1

LUNAR EXPLORATION

Apollo expeditions to the moon – 5

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

Where no man has gone before: A history of Apollo lunar exploration missions – 3

LUNAR LANDING

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1

Stages to Saturn – 2

LUNAR MODULE

The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5

LUNAR ROCKS

Lunar sample studies – 5

LUNAR SPACECRAFT

The Apollo spacecraft. Volume 1 - A chronology – 8

MANAGEMENT METHODS

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

MANAGEMENT PLANNING

Apollo program management, Kennedy Space Center, Florida, volume 4 – 8

Apollo program management, volume 3 – 7

Apollo program schedule data – 4

Stages to Saturn – 2

The Apollo project manager-contractor interface – 7

The role of the project manager and management systems in the management of the Apollo program – 7

MANNED SPACE FLIGHT

Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1

NASA and the Apollo program – 3

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

Where no man has gone before: A history of Apollo lunar exploration missions – 3

MANNED SPACECRAFT

Chariots for Apollo: A history of manned lunar spacecraft – 4

Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2

MANUAL CONTROL

Forecasts and appraisals for management evaluation, volume 2 – 8

MATHEMATICAL MODELS

Forecasts and appraisals for management evaluation, volume 2 – 8

METHODOLOGY

Forecasts and appraisals for management evaluation, volume 2 – 8

MISSION PLANNING

Chariots for Apollo: A history of manned lunar spacecraft – 4

Preliminary Apollo program plan – 4

MULTIDISCIPLINARY RESEARCH

Stages to Saturn – 2

NASA PROGRAMS

NASA and the Apollo program – 3

The NASA-Apollo contractor interface: The resident management operation – 6

NASA SPACE PROGRAMS

Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1

Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2

'Before This Decade Is Out...': Personal Reflections on the Apollo Program – 1

NEW MEXICO

Public burden and benefit of the Apollo program on Las Cruces, New Mexico – 8

ORGANIZATIONS

Preliminary Apollo program plan – 4

PERFORMANCE PREDICTION

Forecasts and appraisals for management evaluation, volume 2 – 8

PERSONNEL

NASA engineers and the age of Apollo – 2

The professional and technical qualifications of Apollo project managers – 8

PETROGRAPHY

Lunar sample studies – 5

PLANNING

What made Apollo a success? – 7

POSTFLIGHT ANALYSIS

Apollo mission evaluation plan – 6

PRELAUNCH TESTS

Moonport: A history of Apollo launch facilities and operations – 4

PRODUCTION ENGINEERING

The Apollo project manager, anomalies and ambiguities – 8

PROGRESS

The Apollo Program: Was it worth it – 3

PROJECT MANAGEMENT

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

Apollo program management, Kennedy Space Center, Florida, volume 4 – 8

Apollo program schedule data – 4

NASA and the Apollo program – 3

NASA-Apollo program management, volume 1 – 7

Project management in the Apollo program: An interdisciplinary study – 6

Stages to Saturn – 2

The Apollo project manager - Anomalies and ambiguities – 7

The Apollo project manager, anomalies and ambiguities – 8

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6

The NASA scheduling system: Scheduling in the Apollo program, part 1 – 3

The NASA scheduling system: The techniques of scheduling in the Apollo Program, part 3 – 3

The professional and technical qualifications of Apollo project managers – 8

The role of the project manager and management systems in the management of the Apollo program – 7

PROJECT PLANNING

Preliminary Apollo program plan – 4

QUALIFICATIONS

The professional and technical qualifications of Apollo project managers – 8

QUALITY CONTROL

Apollo program plan – 4

Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2

RADIATION EFFECTS

Radiation projection for Apollo missions – 4

RESEARCH AND DEVELOPMENT

Apollo program management, volume 3 – 7

NASA-Apollo program management, volume 1 – 7

The Apollo Program: Was it worth it – 3

RESEARCH PROJECTS

NASA and the Apollo program – 3

RESOURCES MANAGEMENT

Stages to Saturn – 2

RISK

Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2

SAMPLES

Lunar sample studies – 5

SATURN LAUNCH VEHICLES

Stages to Saturn – 2

SCHEDULING

The NASA scheduling system: Scheduling in the Apollo program, part 1 – 3

The NASA scheduling system: The techniques of scheduling in the Apollo Program, part 3 – 3

SCIENTISTS

NASA engineers and the age of Apollo – 2

SERVICE MODULES

The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5

SOCIOLOGY

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

SPACE FLIGHT

What made Apollo a success? – 7

SPACE MISSIONS

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

What made Apollo a success? – 7

SPACE TRANSPORTATION SYSTEM FLIGHTS

Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2

SPACECRAFT CABIN ATMOSPHERES

The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3

SPACECRAFT DESIGN

The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6

SPACECRAFT LAUNCHING

Moonport: A history of Apollo launch facilities and operations – 4

SPACECRAFT PERFORMANCE

Apollo program plan – 4

SPACECRAFT RELIABILITY

Apollo program plan – 4

SYSTEMS ENGINEERING

Apollo program plan – 4

TABLES (DATA)

Apollo by the Numbers: A Statistical Reference – 1

TECHNOLOGY TRANSFER

Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6

TERMINOLOGY

Apollo terminology – 2

TERMS

Apollo terminology – 2

U.S.S.R. SPACE PROGRAM

Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1

WEIGHT (MASS)

Forecasts and appraisals for management evaluation, volume 2 – 8

Personal Author Index

- Bays, J. K.**
The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6
- Beckstead, R. W.**
Public burden and benefit of the Apollo program on Las Cruces, New Mexico – 8
- Benson, C. D.**
Moonport: A history of Apollo launch facilities and operations – 4
- Berry, C. A.**
Biomedical results of Apollo – 5
- Bilstein, Roger E.**
Stages to Saturn – 2
- Brooks, C. G.**
Chariots for Apollo: A history of manned lunar spacecraft – 4
The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5
The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3
- Cicero, J. P.**
The Apollo project manager - Anomalies and ambiguities – 7
The Apollo project manager, anomalies and ambiguities – 8
The professional and technical qualifications of Apollo project managers – 8
- Compton, William David**
Where no man has gone before: A history of Apollo lunar exploration missions – 3
- Cortright, E. M.**
Apollo expeditions to the moon – 5
- Dietlein, L. F.**
Biomedical results of Apollo – 5
- Drucker, E. E.**
Project management in the Apollo program: An interdisciplinary study – 6
The Apollo project manager-contractor interface – 7
- Ertel, I. D.**
The Apollo spacecraft: A chronology, volume 3, 1 October 1964 - 20 January 1966 – 5
- The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3
- The Apollo spacecraft. Volume 1 - A chronology – 8
- Faherty, W. B.**
Moonport: A history of Apollo launch facilities and operations – 4
- Fragola, J. R.**
Risk management in US manned spacecraft: From Apollo to Alpha and beyond – 2
- Fries, Sylvia Doughty**
NASA engineers and the age of Apollo – 2
- Garber, Stephen J.**
Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1
- Garber, Stephen**
Apollo by the Numbers: A Statistical Reference – 1
- Grimwood, J. M.**
Chariots for Apollo: A history of manned lunar spacecraft – 4
- Hilberg, R. H.**
Radiation projection for Apollo missions – 4
- Hopeman, R. J.**
The role of the project manager and management systems in the management of the Apollo program – 7
- Hopeman, Richard J.**
The NASA scheduling system: Scheduling in the Apollo program, part 1 – 3
The NASA scheduling system: The techniques of scheduling in the Apollo Program, part 3 – 3
- Johnston, R. S.**
Biomedical results of Apollo – 5
- Kelmachter, B. L.**
The NASA-Apollo contractor interface: The resident management operation – 6
- Launius, Roger**
Looking Backward, Looking Forward: Forty Years of US Human Spaceflight Symposium – 1
- Lowman, Paul D., Jr.**
The Apollo Program: Was it worth it – 3
- Morse, M. L.**
The Apollo spacecraft: A chronology. Volume 2: 8 November 1962 - 30 September 1964 – 6
The Apollo spacecraft. Volume 1 - A chronology – 8
- Newkirk, R. W.**
The Apollo spacecraft: A chronology volume 4, 21 January 1966 - 13 July 1974 – 3
- Orloff, Richard**
Apollo by the Numbers: A Statistical Reference – 1
- Pooler, W. S.**
Project management in the Apollo program: An interdisciplinary study – 6
- Pooler, William**
NASA and the Apollo program – 3
- Puttkamer, J. V.**
Apollo management: A key to the solution of the social-economical dilemma - The transferability of space-travel managerial techniques to the civil sector – 6
- Sallett, Alphonse**
NASA and the Apollo program – 3
- Siddiqi, Asif A.**
Challenge To Apollo: The Soviet Union and The Space Race, 1945-1974 – 1
- Swanson, Glen E.**
'Before This Decade Is Out...': Personal Reflections on the Apollo Program – 1
- Swenson, L. S., Jr.**
Chariots for Apollo: A history of manned lunar spacecraft – 4
- Wilemon, D. L.**
Project management in the Apollo program: An interdisciplinary study – 6
The Apollo project manager - Anomalies and ambiguities – 7
The Apollo project manager, anomalies and ambiguities – 8
The role of the project manager and management systems in the management of the Apollo program – 7
- Wood, B. D.**
Project management in the Apollo program: An interdisciplinary study – 6

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