The 1990 Western Pacific Geophysics Meeting was held in Kanazawa, Japan from August 21-15. This was the first meeting of a new series of meetings for the American Geophysical Union and it proved to be very successful in terms of the scientific program and attendance which was at 1,069 participants. The intent of this meeting was an effort on the part of the American Geophysical Union (AGU) and several Japanese geophysical societies to gather individual Earth and space scientists at a major scientific meeting to focus on geophysical problems being studied in the western Pacific rim. The meeting was organized along the lines of a typical AGU annual meeting with some invited talks, many contributed talks, poster sessions, and with emphasis on presentations and informal discussions. The program committee consisted of scientists from both the U.S. and Japan.

This meeting provided ample opportunities for U.S. and Japanese scientists to get to know each other and their works on a one-to-one basis. It was also a valuable opportunity for students studying geophysics to get together and interact with each other and with scientists from both the U.S. and Japan.

There were 939 abstracts submitted to the conference and a total of 102 sessions designed as a result of the abstracts received. Some of the special focussed topics are described below.

• Space Geodetic and Observatory Measurements for Earthquake and Tectonic Studies - Papers on the applications of high-accuracy space geodetic (GPS, VLBI, SLR) and observatory (strainmeters, tiltmeters) techniques to earthquake and tectonics studies were presented. Likewise, talks on continuous measurement of strain were also given.

• Gravity, Sea Level and Vertical Motion - A major challenge to Earth scientists in the 1990s will be determining the rate, if any, of global warming caused by increasing carbon dioxide from the combustion of fossil fuels and deforestation. Several papers were presented on information related to gravity and vertical motion sea level changes.

• Variations in Earth Rotation and Earth Dynamics - Variations in the Earth orientation are caused by deformation of the solid Earth, and by exchanges of angular momentum between the solid and fluid part of the Earth. These variations are in the rotation rate of the Earth about its spin axis, polar motion, nutations and precessions, Earth tides, the Earth’s mass distribution, and the Earth’s geopotential. Talks were given that infer dynamic properties of Earth from measured variations in Earth orientation.

• Sedimentary Magnetism - This session focussed on magnetization processes in sediments and sedimentary rocks, with special reference to diagenetic alteration of magnetic minerals in oxidizing and reducing conditions, and the implication of diagenetic alteration for the utilization of the rock magnetic rock as a means of stratigraphy correlation. Sedimentary rocks and sediment records of geomagnetic field behavior, including secular variation, transition records, events and excursions, polarity reversal stratigraphy, and the correlation of polarity records with biozonations and the oceanic magnetic anomaly record.
• Global Processes and Precipitation - This session was devoted to results of measurement techniques with potential for global scale measurements of hydrological variables. Present and future space-borne measurements of precipitation, soil moisture, water vapor, snow cover and glacier volume were discussed as well as measurements that can be used to model oceanic evaporation, terrestrial evapotranspiration, runoff and the advection of water vapor.

• Subsurface Contaminant Transport - The first part of this session focussed on theory and interpretation of field experiments and provided a forum in which both experimental and theoretical aspects of issues related to contaminant transport was debated. Questions related to scaling and the possible fractal nature of hydrological parameters, affecting transport was raised. The second part focussed on new measurement techniques which was motivated by the need to enhance field measurement capabilities between Earth scientists and those in engineering fields to move decisively toward solutions to the subsurface contamination problems that face many of the nations that participated in the meeting.

• U.S. Western Pacific Rim Initiatives in Hydrology - This was a forum for individuals who attended the meeting to explore the possibility of developing joint initiatives between the U.S., Japan, and other western Pacific nations. All branches of hydrology were open for discussion in the areas of research, education and exchange programs, as well as funding opportunities.

• Role of Marginal Seas in the Dynamics and Water Mass Characteristics of the Western North Pacific - talks were given on the branching of the Kuroshio and its penetration into coastal regions, incorporation of coastal water into the offshore circulation, lateral mixing across the coastal seas, open ocean boundary, water mass modification in the coastal seas and other topics relevant to the physical makeup of the broad western boundary region.

• Shelf and Coastal Circulation - The session emphasized the role of shelf and coastal circulation in determining the material flux from land to open sea. Talks on mechanisms of material transport, dynamics of wind-driven, buoyancy-driven and tide induced residual circulation, interactions between river rain and coastal, coastal and shelf open-sea waters, fronts, long-term variability, and measurement techniques applied to coastal problems were presented.

• Earthquake Prediction and Hazard Assessment - The focus was on the deterministic and probabilistic approaches to prediction and hazard assessment. Advances in theory and results of observations with emphasis on case histories and on prediction and forecasting.

• Seismic Wave Propagation in Realistic Media - This session explored theory and observations of seismic sources and waves in anisotropic and lossy media, with scattering and lateral heterogeneity, and forward and inverse problems.

• Dynamics and Structure of Plate Boundaries and of the Earth's Deep Interior - These sessions emphasized theory observations processes and structures with applications to regional tectonics and geodynamics models, and results from seismological, geodetic, and core-mantle boundary.

• Physics of Earthquake Processes and Recent Earthquakes - The session focussed on the theory and observations of earthquake nucleation and fault rupture, seismotectonics, and modeling of seismic sources. New results from recent earthquakes and laboratory studies relevant to seismogenesis were presented.
• Computer Experiments in Geospace Plasmas - This session focussed on recent advances in the use of numerical simulation in space plasmas. Talks on the application of such methods to active experiments, waves and instabilities, boundary layer phenomena, and global modeling in magnetospheric, heliospheric, and ionospheric plasmas were given.

• Ground, Balloon, and Rocket Observations of the Aurora - The emphasis of the session was to consolidate all aspects of auroral phenomena that are observed on the ground and on-board balloon and rocket in the regions from the equator to the polar cap. The session also focussed on the results from conjugate observation, multi-ground observation and simultaneous observation with satellites.

• Solar Wind Interaction With Venus - Talks in this session covered the understanding of the plasma and electromagnetic environment of Venus. Subjects included upstream waves and the bow shock, ion pickup, the physics of the ionopause, and ionosphere and VLF waves and lightning.

• Cusp and Boundary Layer ULF Waves - the intent of this session was to assess the spectrum of cusp and boundary layer ULF waves in order to understand their role in the transfer of energy and momentum to the magnetosphere to the magnetosphere and the extent to which they are observable within the magnetosphere. Contributions included wave theory and satellite and ground observations.

• Tectonics, Magmatism and Hydrothermal Processes in Active Backarc Regions - Rifting, igneous activity, and hydrothermal circulation are interlinked dynamic processes operating in active arc-backarc systems. The intent of this session was to increase the understanding of the dynamics of convergent plate margins through exchange of data and ideas on the mechanisms and temporal and spatial relationships of these processes at various arc-backarc systems. Contributions on those dealing with tectonic evolution of backarc basins, petrology in relation to rift tectonics, paleomagnetism applied to backarc opening, hydrothermal activity, and mineralization in various arc-backarc systems were given.

• Chemical Geodynamics and Evolution of the Earth and Planets - The main topics addressed included accretion and thermal evolution of the Earth and planets; Archean tectonics and evolution of the continental crurst; geochemical evolution of the Earth’s mantle, and global geodynamics.

• Modeling of Volcanoes and Volcanisms - During this two-day session recent developments in volcanology and related research fields was featured with special emphasis on models for particular volcanoes and specific volcanic events, chemical and physical properties of magmatic volatiles, experimental and theoretical studies on the genesis and transport of magmas, and mechanisms for volcanic eruption.

This meetings was considered to be most successful and did set the tone for holding the 1992 Western Pacific Geophysics Meeting which was held in Hong. The only publication produced as a result of this meeting was the abstracts which was printed in Eos. A copy of the abstract volume is attached.
Program Committee for the Meeting

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The Sponsors of the first Western Pacific Geophysics Meeting

The first Western Pacific Geophysics Meeting is jointly sponsored by the American Geophysical Union and the following major Japanese geophysical scientific societies. (Each society’s representative on the organizing committee is listed immediately after the name of the society.)

- Geochemical Society of Japan: Sadao Matsuo, University of Electro-Communications
- Geodetic Society of Japan: Minoru Tanaka, Geographical Survey Institute
- Geological Society of Japan: Asahiko Taira, Ocean Research Institute, University of Tokyo
- Meteorological Society of Japan: Tomio Asai, Ocean Research Institute, University of Tokyo
- Oceanographic Society of Japan: Yutaka Nagata, Department of Geophysics, University of Tokyo
- Seismological Society of Japan: Masataka Ando, Disaster Prevention Research Institute, Kyoto University
- Society of Geomagnetism and Earth, Planetary and Space Sciences: Iwane Kimura, cochairman representing the Japanese societies, Department of Electrical Engineering, Kyoto University
- Volcanological Society of Japan: Shigeo Aramaki, Earthquake Research Institute, University of Tokyo
- Japanese Hydrological Committee for WPGM: Kuniyoshi Takeuchi, Faculty of Engineering, Yamanashi University
- American Geophysical Union: Christopher Harrison, cochairman representing AGU, University of Miami
  Juan Roederer, AGU International Secretary, University of Alaska
  A. F. Spilhaus, Jr., AGU Executive Director

Local Organizing Committee
Chairman: Iwane Kimura, Kyoto University
Yoshiteru Kono, Kanazawa University
Masayoshi Mambo, Kanazawa University
Hirosi Matsumoto, Kyoto University
Isamu Nagano, Kanazawa University
Toru Sato, Kyoto University
Nobutada Takase, Kanazawa University

Financial Support
- The Commemorative Association for the Japan World Exposition (Japan)
- Ishikawa Prefecture and Kanazawa City (Japan)
- National Aeronautics and Space Administration (United States)
The 1990 Western Pacific Geophysics Meeting
Kanazawa, Japan / August 21-25, 1990

How To Use This Program

To find the information you need:

Abstracts: These were published in the July 10th issue of Eos. The abstracts are listed within sponsoring sections by day, in numerical order of presentation within each session.

By subject: Scan the Meeting Summary for sessions and jointly sponsored sessions of interest. After finding the day and time of the appropriate session(s), turn to the detailed program.

Detailed Session Program: The title, time, and room name or number appear for each session along with a full listing of the papers and their authors.

Known presenting authors are listed in bold type; and the presentations are oral unless otherwise indicated.

By author: Refer to the author surnames which are listed alphabetically in the index. Each author entry is followed by the numbers of all the published papers for which that person is either author or coauthor.

The papers: Paper numbers give the following information:

• the initial letters are the AGU section abbreviations (see the separate listing on this page)
• the first digit shows what day the paper is to be presented: 2, Tuesday; 3, Wednesday; 4, Thursday; 5, Friday; 6, Saturday
• the second digit indicates whether the presentation is in the morning or the afternoon: 1, A.M.; 2, P.M.
• the number after the hyphen indicates the paper's position in the sequence of papers in that session.

For example, paper number A22A-07 is in Atmospheric Sciences, is being presented on Tuesday afternoon (concurrent session A), and is the seventh paper in the session.

AGU Section Abbreviations
A Atmospheric Sciences
G Geodesy
GP Geomagnetism & Paleomagnetism
H Hydrology
O Ocean Sciences
P Planetology
S Seismology
SP Solar-Planetary Relationships
T Tectonophysics
V Volcanology, Geochemistry, & Petrology

The City of Kanazawa

With a population of 430,000, Kanazawa is both one of Japan's largest coastal cities and the seat of the Ishikawa prefectural government.

A charming blend of the old and the new, Kanazawa is well known as an ancient castle town and was once the headquarters of the Maeda clan. The most powerful feudal clan of Japan's Edo Period, the Maeda ruled for three centuries after 1583. Kanazawa has retained more of the Edo Period culture than any other city in Japan. For these reasons, there are many historic sites to visit, such as the castle, Kenrokuen Park and other monuments. In terms of traditional crafts, the city is comparable to Kyoto both in quality and skills.

There are many excellent restaurants where lunch or dinner costs from about 500 to 1000 yen.

How To Reach the Hotels

From Komatsu Airport: Take the airport limousine bus that goes to Kanazawa train station. In Kanazawa City there are several stops, of which the last four are marked on the map on page 2. Most hotels are within walking distance of these stops.

From Kanazawa Train Station: It usually takes less than 15 minutes by taxi to most hotels. Taxi fare is up to about 1000 yen.

How To Travel to the Convention Halls

Many of the hotels are within a 15-minute walk of the convention halls. From Kanazawa station, it takes 10-15 minutes by taxi to Kosei Nenkin Kaikan. Taxi fare is about 300 yen. You may also take Hokutetsu Bus 18 or 91. Get off at the 'Honda-machi' bus stop in front of Shakai Kyoiku Center (SKC). Bus fare is 180 yen.

Registration Hours

The registration desk will be located at the entrance of Kosei Nenkin Kaikan convention hall (KNK). Registration hours are

18:00-20:00 Aug. 20 08:00-17:00 Aug. 22-24
08:30-17:00 Aug. 21 08:00-15:00 Aug. 25
TUESDAY A.M.

Frontiers of Geophysics
Session U21A  KNK:Large Hall  1000h

TUESDAY P.M.

Atmospheric Electricity
Session A22A  KNK:Horai  1330h

Physics of Earthquakes and Recent Earthquakes I
Session S22A  SKC:Large Hall  1330h

Active Back Arcs I: Japan Sea
Session V22B  SFK:Middle Hall  1330h

Sedimentary Magnetism I
Session GP22A  SKC:32.33  1330h

Global Processes/Precipitation
Session H22A  KNK:Fuyo B  1330h

Future Planetary Missions
Session P22A  KNK:Aioi  1330h (joint with SP)

Physics of Earthquakes and Recent Earthquakes I
Session S22A  SKC:Large Hall  1330h (joint with G,T)

Island Arc Volcanism and Upper Mantle Processes
Session V22A  SKC:Large Hall  1330h

SP Computer Experiments of Geospace Plasmas I
Session SP22A  KNK:Kaga  1300h

Ground, Balloon, and Rocket Observation of the Aurora I
Session SP22B  KNK:Fuyo A  1300h

Future Planetary Missions
Session P22A  KNK:Aioi  1300h

ODP Legs 124–131
Session T22A  SFK:F  1300h

Physics of Earthquakes and Recent Earthquakes I
Session S22A  SKC:Large Hall  1300h

Active Back Arcs I: Japan Sea
Session V22B  SFK:Middle Hall  1300h

Island Arc Volcanism and Upper Mantle Processes
Session V22A  SFK:Large Hall  1300h (joint with S)

Active Back Arcs I: Japan Sea
Session V22B  SFK:Middle Hall  1300h (joint with G,T)

Meeting Facilities

Sessions will be held simultaneously at four public convention halls in Kanazawa City:

Ishikawa Kosei Nenkin Kaikan (KNK),
Ishikawa-ken Shakai Fukushi Kaikan (SFK),
Ishikawa Shakai Kyoku Center (SKC),
Kanazawa-Shi Kanko Kaikan (KKK).

These halls are within walking distance of each other in a park area near the famous Kenrokuuen Garden in the middle of the city.

Many of the hotels are within a 15-minute walk of the convention halls. From Kanazawa station, it takes 10-15 minutes by taxi to Kosei Nenkin Kaikan. Taxi fare is about 300 yen. You may also take Hokutetsu Bus 18 or 91. Get off at the 'Honda-machi' bus stop in front of Shakai Kyoku Center (SKC). Bus fare is 180 yen.

Registration is at Kosei Nenkin Kaikan (KNK), which is about a 10-minute walk through the park from the other halls.

A courtesy microbus shuttle service is available during the session hours. This shuttle runs every 10 minutes, and takes about 5 minutes to go from Kosei Nenkin Kaikan (KKK) to Shakai Fukushi Kaikan (SFK) and Shakai Kyoku Center (SKC). Kanko Kaikan (KKK) is just across the street.

The Courtesy Shuttle Service Runs During the Sessions

shuttle bus route
### WEDNESDAY A.M.

| U | Fifty Years of Helium 3 Geophysics I  
Session U31A SFK:F 0830h |
|---|---|
| A | Typhoons and Tropical Meteorology  
Session A31A KNK:Horai 0830h  
Coupled Ocean-Land-Atmosphere Interaction  
Session A31B KNK:Horai 1045h (joint with O)  
Aeronomy Posters  
Session SP31C KKK:Large Assembly 0830h |
| G | Physics of Earthquakes and Recent Earthquakes II  
Session S31A SKC:Large Hall 0930h  
Active Back Arcs II: Okinawa Trough  
Session V31B SFK:Middle Hall 0830h |
| GP | Sedimentary Magnetism II  
Session GP31A SKC:21 0830h |
| H | Water and Solute Transport in the Unsaturated Zone I  
Session H31A KNK:Fuyo B 0830h  
Effect of Marginal Seas on West Pacific Water Masses I  
Session O31A KNK:Aioi 0830h  
Coupled Ocean-Land-Atmosphere Interaction  
Session A31B KNK:Horai 1045h |
| O | Physics of Earthquakes and Recent Earthquakes III  
Session S32A SKC:Large Hall 1330h  
Active Back Arcs III: Bonin Arc  
Session V32B SFK:Middle Hall 1330h |
| P | Paleomagnetism-Rock Magnetism  
Session GP32A SKC:21 1330h |
| SP | Computer Experiments of Geospace Plasmas II  
Session SP31A KNK:Fuyo A 0900h  
Ground, Balloon, and Rocket Observation of the Aurora II  
Session SP31B KNK:Fuyo A 0900h  
Aeronomy Posters  
Session SP31C KKK:Large Assembly 0830h (joint with A) |
| T | Physics of Earthquakes and Recent Earthquakes III  
Session S32A SKC:Large Hall 1330h  
Active Back Arcs III: Bonin Arc  
Session V32B SFK:Middle Hall 1330h  
Volcanic Seismology and Eruptive Precursors  
Session V32A SFK:Large Hall 1330h (joint with G,T) |

### WEDNESDAY P.M.

| U | Fifty Years of Helium 3 Geophysics II  
Session U32A SFK:F 1330h |
|---|---|
| A | Winds and Clouds  
Session A32A KNK:Horai 1330h |
| G | Physics of Earthquakes and Recent Earthquakes III  
Session S32A SKC:Large Hall 1330h  
Active Back Arcs III: Bonin Arc  
Session V32B SFK:Middle Hall 1330h |
| GP | Paleomagnetism-Rock Magnetism  
Session GP32A SKC:21 1330h |
| H | Water and Solute Transport in the Unsaturated Zone II  
Session H32A KNK:Fuyo B 1330h |
| O | Effect of Marginal Seas on West Pacific Water Masses II  
Session O32A KNK:Aioi 1330h |
| P | Origin and Evolution of the Solar System I  
Session P32A SKC:32.33 1345h |
| S | Physics of Earthquakes and Recent Earthquakes III  
Session S32A SKC:Large Hall 1330h (joint with G,T)  
Volcanic Seismology and Eruptive Precursors  
Session V32A SFK:Large Hall 1330h |
| SP | Global Structures of MHD Waves I  
Session SP32A KNK:Kaga 1330h  
Cusp, Mantle, and Field-Aligned Currents  
Session SP32B KNK:Fuyo A 1330h  
Titan, Io, and Mars  
Session SP32C KNK:Fuyo A 1600h  
Computer Experiments of Geospace Plasmas III  
Posters  
Session SP32D KKK:Large Assembly 1330h |
| T | Physics of Earthquakes and Recent Earthquakes III  
Session S32A SKC:Large Hall 1330h  
Active Back Arcs III: Bonin Arc  
Session V32B SFK:Middle Hall 1330h |
| V | Volcanic Seismology and Eruptive Precursors  
Session V32A SFK:Large Hall 1330h (joint with S)  
Active Back Arcs III: Bonin Arc  
Session V32B SFK:Middle Hall 1330h (joint with G,T) |
### THURSDAY A.M.

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<td>Dynamical Processes in the Middle Atmosphere I&lt;br&gt;Session SP41B  KNK:Fuyo A  0830h</td>
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<td>Wave Propagation and Analytical Techniques&lt;br&gt;Session S41B  SKC:32.33  0900h</td>
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<td>Izu-Oshima Volcano/1986 Eruption&lt;br&gt;Session V41A  SKK:Large Hall  0830h</td>
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### THURSDAY P.M.

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<td><strong>A</strong></td>
<td>Dynamical Processes in the Middle Atmosphere II&lt;br&gt;Session SP42B  KNK:Fuyo A  1330h</td>
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<td><strong>G</strong></td>
<td>Earth Rotation and Dynamics&lt;br&gt;Session G42A  SKC:21  1330h</td>
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<td>Deep and Intermediate Water Circulation II&lt;br&gt;Session O42A  KNK:Aioi  1330h</td>
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<td>Seismicity and Magnitudes&lt;br&gt;Session S42B  SKC:32.33  1330h</td>
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### Japan’s Currency

The Japanese yen is the only currency in use. There are notes for 10,000 yen, 5,000 yen and 1,000 yen; and coins for 500 yen, 100 yen, 50 yen, 10 yen, 5 yen and 1 yen. You can exchange foreign currencies at major banks or at hotel fronts.

Travelers checks can be used at hotels, many restaurants and shops, although local shops may accept only cash. Major credit cards (VISA, MasterCard, Amex, Diners, etc.) are used commonly, but you must be sure to use an international card.

Personal checks are not accepted. You will need to pay in cash for train, bus and taxi fares. In general, cash is used much more than in the United States.

### Tips and Taxes

Tips for service are not usual in Japan. Instead, such charges are either included in overall costs or added to the bill as a service charge. A 3% sales tax is added to most charges and prices.

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### FRIDAY A.M.

| A | Stratospheric Ozone and Atmospheric Chemistry I |
|   | Session SP51B  KNK:Fuyo A  0830h |
| G | Gravity, Sea Level, and Vertical Motion |
|   | Session G51A  SKC:21  0830h |
|   | Dynamics and Structure of the Deep Interior I |
|   | Session S51B  SKC:32.33  1000h |
| GP | Dynamics and Structure of the Deep Interior I |
|   | Session S51B  SKC:32.33  1000h |
| H | Surface Water Hydrology II |
|   | Session H51A  KNK:Fuyo B  0830h |
|   | Contaminant Transport: Theory and Interpretation |
|   | Session H51A  KNK:Horai  0830h |
| O | Waves, Tides, and Turbulence |
|   | Session OS1A  KNK:Aioi  0830h |
| P | Geodynamics and Evolution of the Earth I |
|   | Session V51A  SKF:Large Hall  0830h |
| S | Dynamics and Structure of Plate Boundaries III |
|   | Session S51A  SKC:Large Hall  0930h (joint with T) |
|   | Dynamics and Structure of the Deep Interior I |
|   | Session S51B  SKC:32.33  1000h (joint with G,GP,T,V) |
|   | Geodynamics and Evolution of the Earth I |
|   | Session V51A  SKF:Large Hall  0830h |
|   | Petrologic Studies of Volcanoes I |
|   | Session V51B  SKF:Middle Hall  0830h |

### FRIDAY P.M.

| A | Stratospheric Ozone and Atmospheric Chemistry II |
|   | Session SP52B  KNK:Fuyo A  1330h |
| G | Western Pacific GPS |
|   | Session G52A  SKC:21  1330h (joint with T) |
| GP | Dynamics and Structure of the Deep Interior II |
|   | Session S52B  SKC:32.33  1300h |
| H | Stable and Radioactive Isotopes in Hydrology II |
|   | Session H52A  KNK:Fuyo B  1300h |
| O | Western Boundary Currents I |
|   | Session OS2A  KNK:Aioi  1330h |
| P | Solar Wind Interactions With Venus |
|   | Session SP52C  KNK:Horai  1300h |
|   | Geodynamics and Evolution of the Earth II |
|   | Session V52A  SKF:Large Hall  1300h |
| S | Dynamics and Structure of Plate Boundaries IV |
|   | Session S52A  SKC:Large Hall  1300h (joint with T) |
|   | Dynamics and Structure of the Deep Interior II |
|   | Session S52B  SKC:32.33  1300h (joint with G,GP,T,V) |
|   | Geodynamics and Evolution of the Earth II |
|   | Session V52A  SKF:Large Hall  1300h |
|   | Petrologic Studies of Volcanoes II |
|   | Session V52B  SKF:Middle Hall  1300h |

### FRIDAY A.M.

| SP | Highlights of the EXOS-D, Viking, and DE Projects I |
|    | Session SP51A  KNK:Kaga  0830h |
|   | Stratospheric Ozone and Atmospheric Chemistry I |
|   | Session SP51B  KNK:Fuyo A  0830h (joint with A) |
| T | High Pressure |
|   | Session TS1A  SKF:F  0845h |
|   | Dynamics and Structure of Plate Boundaries III |
|   | Session S51A  SKC:Large Hall  0930h |
|   | Dynamics and Structure of the Deep Interior I |
|   | Session S51B  SKC:32.33  1000h |
|   | Geodynamics and Evolution of the Earth I |
|   | Session V51A  SKF:Large Hall  0830h |
|   | Geodynamics and Evolution of the Earth I |
|   | Session V51A  SKF:Large Hall  0830h (joint with P,S,T) |
|   | Petrologic Studies of Volcanoes I |
|   | Session V51B  SKF:Middle Hall  0830h (joint with S) |
|   | Dynamics and Structure of the Deep Interior I |
|   | Session S51B  SKC:32.33  1000h |

### FRIDAY P.M.

| SP | Highlights of the EXOS-D, Viking, and DE Projects II |
|    | Session SP52A  KNK:Kaga  1330h |
|   | Stratospheric Ozone and Atmospheric Chemistry II |
|   | Session SP52B  KNK:Fuyo A  1330h (joint with A) |
| T | Solar Wind Interactions With Venus |
|   | Session SP52C  KNK:Horai  1330h (joint with P) |
|   | Rheology and Heat Flow |
|   | Session TS2A  SKF:F  1330h |
|   | Western Pacific GPS |
|   | Session G52A  SKC:21  1330h |
|   | Dynamics and Structure of Plate Boundaries IV |
|   | Session S52A  SKC:Large Hall  1330h |
|   | Dynamics and Structure of the Deep Interior II |
|   | Session S52B  SKC:32.33  1300h |
|   | Geodynamics and Evolution of the Earth II |
|   | Session V52A  SKF:Large Hall  1300h |
|   | Geodynamics and Evolution of the Earth II |
|   | Session V52A  SKF:Large Hall  1300h (joint with P,S,T) |
|   | Petrologic Studies of Volcanoes II |
|   | Session V52B  SKF:Middle Hall  1300h (joint with S) |
|   | Dynamics and Structure of the Deep Interior II |
|   | Session S52B  SKC:32.33  1300h |
SATURDAY A.M.

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<td>Subsurface Transport: New Measurement Techniques</td>
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Social Events

Ice Breaker Reception, August 21 (Tuesday), 18:00-20:00 h, MRO Hall, free of charge. Light meal, beer and soft drinks are provided. The MRO Hall is located next to the Shakai Kyoiku Center (SKC).

Noh Play, August 23 (Thursday), 17:30-18:30 h, Nohgakudo Hall, ¥1,000. Noh is Japan's traditional theatrical art, embodying music, dance and literary art. Nohgakudo Hall is located next to Kosei Nenkin Kaikan.

Banquet, August 23 (Thursday), 19:00-21:00 h. Kosei Nenkin Kaikan, (KNK) ¥ 6,000.

The Courtesy Shuttle Service

A courtesy microbus shuttle service is available during the session hours. This shuttle will run every 10 minutes, and take about 5 minutes to go from Kosei Nenkin Kaikan (KNK) to Shakai Fukushi Kaikan (SFK) and Shakai Kyoiku Center (SKC). Kanko Kikan (KKK) is just across the street.

The Weather in August

Average daily minimum and maximum temperatures in August are 22°C (72°F) and 30°C (86°F), respectively. However, you may feel hotter because of the relatively high humidity (average RH is 77%). Hotel rooms are air conditioned.

An umbrella or rain coat is necessary equipment since heavy showers are not unusual most days.
KNK: Kosei Nenkin Kaikan (厚生年金会館)
SFK: Shakai Fukushi Kaikan (社会福祉会館)
SKC: Shakai Kyoiku Center (社会教育センター)
KKK: Kanko-Kaikan (観光会館)
Detailed Session Program

**Tuesday A.M.**

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T21A-01.

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Thus, T21A-01 = Tectonophysics, Tuesday, AM, concurrent session A, first paper in that session.

U21A KNK: Large Hall Tues 1000 h

Frontiers of Geophysics

Presiding: Y Honkura, Tokyo Inst. of Tech; C Harrison, RSMAS/Univ of Miami

1000 h U21A-01 INVITED Subductology: Its Local, Regional and Global Implications: S Uyeda
1040 h U21A-02 INVITED Space Geodesy: The Third Decade: J B Minster
1120 h U21A-03 INVITED Climate Changes due to the Increase of Greenhouse Gases—An Overview of the Present Status of Research: K Matsuno

**Tuesday P.M.**

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T22A-01.

<table>
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Thus, T22A-01 = Tectonophysics, Tuesday, PM, concurrent session A, first paper in that session.

A22A KNK: Horai Tues 1330 h

Atmospheric Electricity

Presiding: Z Kawasaki, Ohsaka Univ

1330 h A22A-01 Spectrum Analysis for Electric Field, Pressure and Wind Velocity at the Earth's Surface: K Narita, Y Goto, H Komuro

1345 h A22A-02 Meteorological Aspects of Winter Thunderstorms Along the Japan Sea Coast: N Kitagawa
1430 h A22A-05 Detection of Cloud-to-Ground Lightning Strokes in Winter by a Magnetic Direction Finder: M Ishii, J Hojo

1445 h BREAK

1515 h A22A-07 Triggered Lightning Striking to Several Transmission Line Towers: M Nakano, Y Kawamura, T Takeuti, Z I Kawasaki
1530 h A22A-08 Artificially Triggered Lightning Experiments to a Transmission Line and Apparatus: K Nakamura, K Horii, S Aiba, M Nakano
1545 h A22A-09 Currents Measurements of Rocket Triggered Lightning: A Wada, K Horii, M Nakano, K Nakamura, M Yoda
1600 h A22A-10 A Study of Lightning Strikes to Aircraft in the Winter in the Area Surrounding Kanazawa (Komatsu Airport): K Michimoto

GP22A SKC: 32.33 Tues 1330 h

Sedimentary Magnetism I

Presiding: J E T Channell, Univ of Florida; M Hyodo, Kobe Univ

1330 h GP22A-01 INVITED Magnetic Grain Size of Deep-Sea Sediments: What Controls?: T Yamazaki
1355 h GP22A-02 Contribution of Magnetotactic Bacteria to the Sediment Magnetization: M Funaki, H Sakai, H Hirose, Y Tamaura, Y Fukumori
1410 h GP22A-03 Further Magnetostratigraphic Results From Shallow-Water Carbonates: Constraints on the Growth of Mururoa Atoll, French Polynesia: D Aissaoui, J L Verosub
1425 h GP22A-04 The Use of NRM:IRM(s) Demagnetization Plots in Evaluating Sedimentary Magnetism: K L Kirschvink
1440 h GP22A-05 The Origin of Natural Remanent Magnetization of Loess Sequence: H Liu, K Yashkawa

1455 h BREAK

1510 h GP22A-07 Magnetic Fabric Study of a Meandering Paleocurrent System: C Caballero-Miranda, J Urrutia-Fucugauchi, G Silva-Romo
1525 h GP22A-08 INVITED Magnetic Mineral Diagenesis in Sediments and Sedimentary Rocks and Its Effects on the Paleomagnetic Record: R Karlin
1550 h GP22A-09 Magnetic Fabric Study of a Meandering Paleocurrent System: C Caballero-Miranda, J Urrutia-Fucugauchi, G Silva-Romo

1605 h GP22A-10 Chemical Remanent Magnetization in Synthetic Hematite: Implications for Sedimentary Magnetism: L B Stokking, L Tauxe

Withdrawn
1620 h GP22A-11 Paleomagnetism of the Tansen Group in the Lesser Himalaya, Nepal: Evidence for Large-Scale Northward Motion Since the Early Cretaceous: P Gautam, Y Fujiiwara
1635 h GP22A-12 Chemical Remanent Magnetization in Paleozoic Sedimentary Rocks in Australia That Constrains the Gondwanan APWP: G A Thrupp, Z X Li

H22A KNK: Fuyo B Tues 1330 h Global Processes/Precipitation
1355 h H22A-02 Observation of Local Rain Characteristics by Broadcasting Satellite Signals and the MU Radar: T Yamada, T Taguchi, T Sato, I Kimura
1410 h H22A-03 INVITED Synthetic Aperture Microwave Radiometer for Global Soil Moisture Measurements: D M Le Vine, C T Swift, T Jackson
1435 h H22A-04 INVITED Estimation of Evaporation Over Global Oceans Using Satellite Data: W T Liu

1500 h BREAK

1530 h H22A-07 Global Estimates of Oceanic Rain From SSM/I Measurements: T T Wilheit, A T C Chang, L S Chiu
1615 h H22A-10 Raindrop Size Distribution in Darwin, Australia: D A Short, T Kozu, K Nakamura
1630 h H22A-11 Relation Between NOAA Imagery and Rainfalls on the Ground: K Takeuchi

P22A KNK: Aioi Tues 1330 h Future Planetary Missions (joint with SP)
Presiding: J Boyce, NASA Headquarters
1355 h P22A-02 243 Ida Is a Single Fragment, Not a Rubble Pile Remnant: Y Takagi, H Mizutani
1410 h P22A-03 INVITED Future Space Physics Missions: D N Baker
1435 h P22A-04 The NASA Solar Probe Mission: Science; B T Tsurutani

1450 h BREAK

1505 h P22A-06 INVITED A Close Exploration of the Sun—the Solar Probe Mission: J E Randolph

1530 h P22A-07 Investigation of Magnetosphere/Ionosphere in the Inner Planets: K Tsuruda, T Mukai, T Ogawa
1545 h P22A-08 INVITED Lunar Observer and Global Geoscience of the Moon: P D Spudis
1610 h P22A-09 INVITED The Comet Rendezvous Asteroid Flyby Mission: P R Weissman, M M Neugebauer
1635 h P22A-10 INVITED Mars Observer: The Next Mission to Mars: F D Palluconi, A L Albee

S22A SKC: Large Hall Tues 1330 h Physics of Earthquakes and Recent Earthquakes I (joint with G,T)
Presiding: T Mikumo, Kyoto Univ
1330 h S22A-01 A Mechanical Interpretation of Velocity Dependent Friction in Simulated Fault Gouge: C Marone
1345 h S22A-02 Fracture Nucleation Within a Seismic Source Region: H Yukutake
1400 h S22A-03 Slip-Dependent Friction Law and Nucleation Process in Earthquake Rupture: M Matsu'ura, H Katoaka, B Shibazaki
1430 h S22A-04 Earthquake Source Nucleation: A Physical Interpretation of Short-Term Precursors: M Ohnaka
1445 h S22A-05 Estimation of the Effective Stress at an Introductory Stage of Rupture Process: M Kikuchi

1500 h BREAK

1515 h S22A-08 Dynamic Fault Rupture Processes Under Depth-Dependent Shear Stress and Frictional Constitutive Relations: T Mikumo
1530 h S22A-09 A Multifractal Model of the Spatial Energy Distribution of Earthquakes: K Ito, T Hirabayashi
1545 h S22A-10 Comparison of Local Tomographic P-Wave Velocity Variations in California and Washington: Can We Image Fault Asperities?: J M Lees
1600 h S22A-11 Gravity Change due to Shear and Tensile Faults: S Okubo
1615 h S22A-12 Piezomagnetic Change due to Shear and Tensile Faults: Y Sasai
1630 h S22A-13 Drilling Into Earthquake Foci: Preliminary Results: H Tsukahara, R Ikeda

SP22A KNK: Kaga Tues 1330 h Computer Experiments of Geospace Plasmas I
Presiding: H Matsumoto, Kyoto Univ
1300 h SP22A-01 INVITED Two-Dimensional Hybrid Simulations of the Magnetopause: K B Quest
1325 h SP22A-02 INVITED Computer Simulation of Driven Reconnection in the Earth's Dayside Magnetopause: Z F Fu
1350 h SP22A-03 INVITED Simulation Study of the Kelvin-Helmholtz Instability at the Magnetospheric Boundary: A Miura
1415 h SP22A-04 Controlling Parameters for Formation of MHD Shocks: Y C Whang

1445 h BREAK

1505 h SP22A-07 INVITED Particle Simulations of the Active Injection of Electron Beams From Spacecraft: R M Winglee
1530 h SP22A-08 Reforming Quasi-Parallel Shocks: D Winske, V A Thomas, N Omidi, K B Quest
1545 h SP22A-09 Simulations of the Nonlinear Evolution of Electron Plasma Waves: K I Nishikawa
1600 h SP22A-10 INVITED High-Resolution Simulation of the Solar Wind-Magnetosphere Interaction and Tail Reconnection: T Sato, K Watanabe

SP22B KNK: Fuyo A Tues 1330 h

Ground, Balloon, and Rocket Observation of the Aurora I

Presiding: T Hirasawa, National Inst. of Polar Res.

1330 h SP22B-01 INVITED Balloon Observations of Auroral Precipitation and Substorms Near the Dayside Cusp: E A Bering, J R Theall, J R Benbrook, D L Matthews, T J Rosenberg
1355 h SP22B-02 INVITED Conjugacy of Auroras and Their Related Phenomena Observed at Syowa-Iceland Conjugate Pairs: N Sato
1420 h SP22B-03 Ionospheric Effects on the Conjugacy of Geomagnetic Variations in High Latitude: S Tsunomura, N Sato
1435 h SP22B-04 Conjugate Ground-Based and Midpoint-Satellite Observations of ULF Waves: A Frey, N Sato, K Takahashi

1505 h BREAK

1525 h SP22B-07 CNA Observations by a Multi-Beam Rionmeter at Ny-Alesund in the Polar Cap: M Nishino, Y Tanaka, T Oguti, A Egeland
1540 h SP22B-08 Drift of Cosmic Noise Absorption Associated With Storm Sudden Commencement: T Kikuchi, H Yamagishi
1555 h SP22B-09 Magnitude of Cosmic Noise Absorption (CNA) Over the Southern Polar Region at the Time of sc and sj Triggered Substorm: T Hirasawa
1610 h SP22B-10 Comparison of Aurora and Auroral Absorption Image: H Yamagishi, T Kikuchi, Y Hakura

T22A SFK: F Tues 1330 h

ODP Legs 124-131

Presiding: K Tamaki, Tokyo Univ; B Taylor, Hawaii Inst. of Geophysics

1345 h T22A-02 Paleogene Rotation of the Celebes Sea—Orientation of the ODP Cores Utilizing the Secondary Magnetization: H Shibuya, D L Merrill, V Hsu
1400 h T22A-03 INVITED Rifting of the Izu-Bonin Arc: B Taylor
1415 h T22A-04 INVITED Volcanism Along Izu-Bonin Arc, Western Pacific: K Fujioka, A Nishimura, K Rodolfo, J Gill, M Koyama
1430 h T22A-05 Paleomagnetism and Tectonic History of the Izu-Bonin Arc: M Koyama, S Umino, S Cisowsk
1445 h T22A-06 INVITED Rifting and Opening Process of the Japan Sea Derived From ODP Leg 127 Drilling Results: K Tamaki, K Pisciotto

1500 h BREAK

1515 h T22A-08 History of Japan Sea: Preliminary Interpretation of the Sedimentary Record From Leg 127: R Tada
1545 h T22A-10 INVITED Electrical Resistivity Experiment in the Japan Sea: Y Hamano, H Utada, J Oubina, K Becker
1600 h T22A-11 Structure, Physical Properties, Fluids in the Nankai Trough Accretionary Prism—Results of Site Survey and ODP Leg 131: A Taira, J Hill, J Firth
1615 h T22A-12 ODP Nankai Downhole Observatory (ONDO) Experiment During ODP Leg 131: H Fujimoto, H Kinoshita, M Yamano, T Kanazawa, H Ishizaki, H Murakami, H Matsuoka, A Taira

V22A SFK: Large Hall Tues 1330 h

Island Arc Volcanism and Upper Mantle Processes (joint with S)

Presiding: E Takahashi, Tokyo Inst. of Tech; D McKenzie, Bullard Labs

1350 h V22A-02 INVITED The Fabric of Late Cenozoic Vesiculated Magmatic Rocks at Mount Rainier to Mount St. Helens: T Mucklow, J G Bush, R M Guffanti
1410 h V22A-03 INVITED Quaternary Volcanism and Regional Tectonic Stress Field in Japanese Islands: M Takahashi

WITHDRAWN
1430 h V22A-04 Geochemical Characteristics of the Quaternary Volcanic Rocks of Central Japan: T Kaneko
1445 h V22A-05 An Isotopic Model for Island Arc Magma Genesis: H Yokose
1500 h V22A-06 INVITED A Dominant Mantle Wedge Source for arc Magmas in the Izu-Honshu Transect: R J Arculus, I Kushiro
1515 h BREAK
1530 h V22A-07 INVITED Role of the Subducted Lithosphere in Arc-Magma Genesis I: Contribution From Phase Petrology and Trace Element Geochemistry: Y Tatsumi, M Murasaki, S Nohda
1550 h V22A-09 Role of the Subducted Lithosphere in Arc-Magma Genesis II: Contribution From Isotope Geochemistry: S Nohda, M Murasaki, Y Tatsumi
1605 h V22A-10 Heavy Alkali Metals of Japanese Volcanics: K Okamoto
1620 h V22A-11 Cenozoic Volcanism Related to Mantle Plume in SW Japan: H Iwamori
1635 h V22A-12 Mantle Diapir in the Subduction Zone Estimated From Calc-Alkaline Andesite: Y Tamura
1650 h V22A-13 Pargasitic Amphibole-Dehydration Solidus of Peridotites Hydrated in Subduction Wedge Mantle: K Niida, D H Green
1705 h V22A-14 INVITED Melt Distribution in the Mantle from Rare Earth Element Concentrations: D McKee, K O'Nions

Wednesday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T31A-01.

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Thus, T31A-01 = Tectonophysics, Wednesday, AM, concurrent session A, first paper in that session.

U31A SFK: F Wed 0830 h
Fifty Years of Helium 3 Geophysics I
Presiding: H Craig, Scripps Inst. of Oceanogr.; Y Horibe, Tokai Univ
0830 h INTRODUCTION: H Craig, Scripps Inst. of Oceanogr.; Y Horibe, Tokai Univ
0835 h U31A-01 INVITED Thirty Years Crustal and Twenty Primordial: Fifty Years of 3He Geophysics: H Craig
0915 h U31A-02 INVITED Noble Gases in Diamonds and Their Implications on Earth Evolution: M Ozima, S Zashu
0950 h U31A-03 Sorting out the Helium Isotopes in Diamonds: Primordial, Cosmogenic, and Implanted Components: D Lal, H Craig
1000 h BREAK
1020 h U31A-05 INVITED Juvenile Helium in Ancient Rocks: I N Tolstikhin, J L Kamensky, V S Dokuchaeva, V R Vetrin
1100 h U31A-06 INVITED Tritiogenic 3He in Groundwater: Applications to Hydrology: N Takaoka, Y Mizutani
1135 h U31A-07 Diffusion of Cosmogenic 3He in Olivine and Quartz: Implications for Exposure Dating: T W Trull, M D Kurz, W J Jenkins

A31A KNK: Horai Wed 0830 h
Typhoons and Tropical Meteorology
Presiding: M Yamasaki, Meteorological Res. Inst.; T N Krishnamurti, Florida State Univ, Tallahassee
0830 h A31A-01 INVITED Prediction of Super typhoons With High Resolution Models: T N Krishnamurti
0855 h A31A-02 INVITED Numerical Simulation of the Tropical Cyclone Formation: Y Kurihara, R E Tuleya
0920 h A31A-03 Wind Disturbances Associated With a Typhoon Observed by the MU Radar: K Sato
0935 h A31A-04 Radar Observation of Cloud Clusters in the Western Tropical Pacific by Keifu-Maru, June, 1989: K Mori, K Yamada
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<td>Interannual Change of the Activity of the 30-60 Day Variation in the Tropics: N Nishi</td>
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<td>A31A-06</td>
<td>Wave-CISK Mode With a Slow Phase Speed Appearing in a High-Resolution GCM and the Tropical Intraseasonal Oscillation: H Itoh</td>
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<td><strong>Coupled Ocean-Land-Atmosphere Interaction</strong></td>
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<td><strong>Presiding:</strong> T Yasunari, Univ of Tsukuba; E W Chiou, NASA, Langley Res. Center</td>
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<td>A31B-01</td>
<td>A Trans-Pacific Network of Wind Profilers—Progress and Plans: K S Gage, B B Balsley, W L Ecklund, R F Woodward, S Avery, J Sogijo</td>
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<td>1100 h</td>
<td>A31B-02</td>
<td>Numerical Simulation of Orographic-Convective Rainfall Over Western Ghat Mountains Using a Limited Area Nested Grid Model: K Alapati, S Raman, R R V Madala</td>
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<td>1115 h</td>
<td>A31B-03</td>
<td>Influence of the Sea Surface Temperature Distribution on the Regional Scale Circulation Over the Northwestern Pacific Area: K Rikiishi, Y Sasaki, H Ida</td>
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<td>A31B-04</td>
<td>Effects of Solar Activity and the Earth’s Pole Tide to Annual Mean Sea Level and Tree-Ring Growth Rate in Subarctic Zone: S Nakamura</td>
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<td>A31B-05</td>
<td>Determining Large Scale Land Surface Processes for Climatic Models: B J Tsuang, J A Dracup</td>
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<td>ABIC Analysis of Pass-Through Magnetometer Data of Sediment Cores: H Oda, H Shibuya</td>
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<td>INVITED High Resolution Geomagnetic Record in the Sedimentary Sequence in Boso Peninsula, Central Japan: N Niihama</td>
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<td>Magnetic Properties of Pleistocene Marine Sediments From the Boso Peninsula, Central Japan: M Torii, H Oda, J E T Channell</td>
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<td>Stalagmite (One of Speleothems) Magnetization and a Geomagnetic Reversal Record: H Morinaga, H Inokuchi, K Yashika</td>
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<td>Paleomagnetic Study of Unconsolidated Sediments From Beppu Bay in Kyushu, Japan: M Ohno, Y Hamano, M Okamura, K Shimazaki</td>
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<td>Paleomagnetic Results of Lake Sediments From Central Mexico: B Ortega-Guerrero</td>
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<td>Spatial Dependence of the Declination and Inclination Inferred From a Model of Geomagnetic Secular Variation: Y Honkura, M Matsushima</td>
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<td>Paleosecular Variation for the Last 250 ka in Rapidly Deposited Marine Sediments at DSDP Site 480 in the Gulf of California: R Karlin, S Levi</td>
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<td>INVITED Short Events and Long Intervals: Magnetostratigraphic Challenges: W Lowrie</td>
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<td>Lower Cretaceous Magnetostratigraphy From Italian Land Sections—Correlations to Nannofossil Biostratigraphy and to the Western Pacific Oceanic Anomaly Record: J E T Channell, E Erba, K Tamaki, M Nakashima</td>
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<td><strong>Water and Solute Transport in the Unsaturated Zone</strong></td>
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<td>Water Path Flow Through the Unsaturated Glass-Bead Layer: Y Sakamoto</td>
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<td>Refraction, Fingering and Lateral Flow of Water in Layered Slopes: T Miyazaki</td>
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<td>On the Role of Characteristic Hysteresis in Vadose Soil Transport Dynamics: R E Smith, W E Niccoli</td>
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<td>The Transmission Model: An Analytical Model of Unsaturated Downward Soil Water Flow: S Shiozawa</td>
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<td>Ternary Heterovalent Cation Exchange During Unsteady, Unsaturated Soil Water Flow: WJ Bond</td>
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<td>Transport of Exchanging Na* and Ca2+ During Evaporation From Ca-Bentonite: N Toride, K Kato, M Nakano</td>
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<td>Nonequilibrium Models for Pesticide Transport and Degradation in Soils: M T van Genuchten, A P Gamerdinger, R J Wagenet</td>
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<td>INVITED Characteristics of Solute Transport Under Unsaturated Conditions: S Iwata, M Ishiguro</td>
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<td>INVITED Field Investigation of Trichloroethylene Vapour Transport in the Unsaturated Zone: R W Gillham, B M Hughes, C A Mendoza</td>
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<td>INVITED Interrelation Between Soil-water Chemistry and Element Cycle in a Forest Ecosystem: K Muraoka, T Hirata</td>
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<td><strong>Effect of Marginal Seas on West Pacific Water Masses I</strong></td>
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<td>Periodic Intrusion of Warm Water Mass Into the Bungo Channel: H Takeoka, H Akiyama, T Kikuchi</td>
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<td>The Kuroshio Intrusion Into the East China Sea: Y Hsueh</td>
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<td>0910 h</td>
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<td>INVITED The Relationship Between Currents and Winds Northeast of Taiwan: W S Chuang</td>
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0940 h  O31A-04 On the Driving Mechanism of the Shelf Circulation Southeast of China: P T Shaw

1000 h  BREAK

1020 h  O31A-06 Role of Internal Tides in the Water Mass Exchange Between the Kuroshio and the Coastal Water of the East China Sea: T Matsuno

1040 h  O31A-07 INVITED Kuroshio-Induced Circulation in the South China Sea and the East China Sea: J L Su

1110 h  O31A-08 Circulation of the East China Sea, II: The Monsoon: S Y Chao

1130 h  O31A-09 Interdisciplinary Study of the Tidal Front in the Bungo Channel: T Yanagi

P31A  SKC: 32.33  Wed 0830 h

Physics of Outer Planets

Presiding:  J Boyce, NASA Headquarters

0830 h  P31A-01 Coherent Signal Arraying of Voyager/Neptune Radio Science Data Received at Three Stations: E Mizuno, N Kawashima, P A Rosen, D P Hinson, G L Tyler

0845 h  P31A-02 Surface Topography on Triton Inferred From Limb Diffraction of Voyager Radio Occultation Signals: P A Rosen, E A Marouf

0900 h  P31A-03 The Ionosphere of Neptune: H Shinagawa, J H Waite

0915 h  P31A-04 INVITED Neptune’s Atmosphere as Seen by Voyager 2: R F Beebe

0940 h  P31A-05 INVITED Voyager 2 Results on Neptune’s Rings: C C Porco

1005 h  BREAK

1020 h  P31A-07 INVITED Voyager 2 Results at Neptune: Triton and the Satellite System: R G Strom

1045 h  P31A-08 INVITED The Structure and Composition of Triton’s Atmosphere: R V Yelle

1110 h  P31A-09 A Despin Mechanism for A Proto-Giant Planet by Magnetic Torque: T Takata, D J Stevenson

1125 h  P31A-10 Evolution of Titan—Early Thermal History and Atmosphere Formation: K Kuramoto, T Matsui

1140 h  P31A-11 A Model on Eccentric Tilted Dipole of the Planetary Magnetism: T Saito, Y Kozuka, S I Akasofu

S31A  SKC: Large Hall  Wed 0930 h

Physics of Earthquakes and Recent Earthquakes II (joint with G,T)

Presiding:  F Tajima, Univ of Texas, Austin

0930 h  S31A-01 Positive Feedback Fracture Process Induced by Non-Uniform High-Pressure Water Flow in Dilatant Granite: K Masuda, O Nishizawa, K Kusunose, T Satoh, M Takahashi, R L Kranz


1000 h  S31A-03 A Preliminary Experimental Study of Aftershocks: Observation of the Acoustic Emission After Turning Out Gas Stove and Electric Cooking-Pot: H Ogasawara

1015 h  S31A-04 Characteristics of Foreshock and Aftershock Activities of Adjacent Large Earthquakes Around Japan: N Yamakawa, M Takahashi

1030 h  BREAK

1045 h  S31A-06 Properties of Aftershock Sequences in Southern California: C Kissinger, L M Jones


1115 h  S31A-08 Greek Seismic Migration Explained by Initial Fault Break and CMT Epicenters Distribution: V Arvanitopoulos, N Fujii

1130 h  S31A-09 Migration of Large Earthquakes Along San Andreas Fault: T Terashima

1145 h  S31A-10 Mathematical Modeling of the Earthquake Strain Field: T Ouchi

SP31A  KNK: Kaga  Wed 0900 h

Computer Experiments of Geospace Plasmas II

Presiding:  D Winske, Los Alamos National Lab


0925 h  SP31A-02 Computer Experiments on Nonlinear Plasma Wave Excitation by Microwave Energy Beam: H Matsumoto, H Hirata, Y Hashino

0940 h  SP31A-03 INVITED Computer Simulations of VLF Triggered Emissions: Y Omura, H Matsumoto

1005 h  SP31A-04 Numerical Simulations of an Active Space Experiment in Three Dimensions: H Okuda

1020 h  BREAK

1035 h  SP31A-06 Properties of Nonlinear Steepened Waves and Whistler Wave Packets: 1-D Computer Experiments: H Kojima, Y Omura, H Matsumoto, B T Tsurutani

1050 h  SP31A-07 Cyclotron Subharmonic Resonance Between Ions and Obliquely Propagating Magnetosonic Waves: T Terawasaw, M Nambo, T Hada

1055 h  SP31A-08 A Simulation Study of the Solar Wind Including the Solar Rotation Effect: H Washimi, T Sakurai

1120 h  SP31A-09 INVITED Global Magnetohydrodynamic Simulation of the Wind and Magnetosphere Interaction: T Ogino, R J Walker, M Ashour-Abdalla

1145 h  SP31A-10 A Global Magnetohydrodynamic Simulation of the Dayside Magnetopause and Convection: R J Walker, T Ogino, M Ashour-Abdalla

SP31B  KNK: Fuyo A  Wed 0900 h

Ground, Balloon, and Rocket Observation of the Aurora II

Presiding:  E A Bering, Univ of Houston

0900 h  SP31B-01 Where and How Does an Initial Brightening of Auroral Breakup Start?: T Yamamoto

0915 h  SP31B-02 Two Different Arcs Near the Polar Cap Region: K Makita
0830 h **SP31C-09 POSTER** Development of Fabry Perot Doppler Imaging System for Observation of the Thermospheric Dynamics: S Okano, H Nakajima, K Shikawa, H Fukunishi, T Ono

0830 h **SP31C-10 POSTER** Horizontal Velocities of Thermospheric Wind Observed With an HF Doppler Array: Y Yoshimura, T Shibata, T Okuzawa, M Tsutsui

0830 h **SP31C-11 POSTER** Temperature and Humidity in the Formation of the Mesospheric Protein Hydrates: T Sugiyama, Y Muraoka

0830 h **SP31C-12 POSTER** Mapping of Intensity in the Ionosphere for Signals Excited by a Ground Based VLF Transmitter: Y Kitagishi, S Yagitani, I Nagano, M Mambo, I Kimura

0830 h **SP31C-13 POSTER** An Estimation Method of Electron Density Profile in the Lower Ionosphere From a Knowledge of VLF Ground Observation Data: M Mambo, T Saitoh, I Nagano

0830 h **SP31C-14 POSTER** Transmission of Power Line Radiation Into Ionosphere: T Tomizawa, H Tagashira

V31A SFK: Large Hall  Wed 0830 h

Magma Dynamics and Eruptive Processes (joint with S)

**Presiding:** T Koyaguchi, Kumamoto Univ; A Rice, Univ of Colorado

0830 h **V31A-01** Conditions of the Upper Mantle Magma Segregation—Surface Energy Control Regime: N Fuji, T Nakano

0845 h **V31A-02** Deformation of Partially Molten Material—An Experimental Approach to Melt-Segregation Process: T Watanabe, M Kumazawa, K Kurita

0900 h **V31A-03** Variation of Magma Transport With Time by Propagation System of Liquid-Filled Cracks: A Takada

0915 h **V31A-04 INVITED** Magma Mixing During Magma Ascent: T Koyaguchi, S Blake

0935 h **V31A-05** Application of the WLF-Equation to the Viscous Behavior of Diopside-Anorthite Melt: H Taniguchi

0950 h **V31A-06** Pahoehe Versus Aa Lavas: Difference in Heterogeneous Nucleation—An Example From Izu-Oshima Volcano, Japan: H Sato

1005 h **BREAK**

1020 h **V31A-08** Magma Flow Directions Inferred From Preferred Orientations of Phenocrysts: A Composite Feeder Dike of Miyake-Jima Island, Japan: Y Wada

1035 h **V31A-09** Liquid Immiscibility in a Calc-Alkaline Magma Chamber, the Hoei Tephra, Fuji Volcano, Japan: T Kawamoto

1050 h **V31A-10** Crystal Settling in Convecting Magmas: T Koyaguchi, M A Hallworth, H E Huppert, D Martin

1105 h **V31A-11** Fractal Structure of Heterogeneous Ejecta Produced by Mixing in Volcanic Conduit of Me-Akan Volcano, Eastern Hokkaido, Japan: K Wada

1120 h **V31A-12 INVITED** Modeling of Vesiculation Process in Ascending Magmas: A Toramaru

1140 h **V31A-13 INVITED** Recent Objections to Suggestions of High Over-Pressures in Volcanic Eruption: Their Flaws: A Rice
0830 h V31B-01 Continental Rifting Trending Perpendicular to the Ryukyu Arc-Okinawa Trough Systems; Tectonics of the Kerama Gap: M Furukawa, K Tsuji, N Isezaki

0845 h V31B-02 Formation Process of the Ryukyu Arc and the Okinawa Trough: Paleomagnetic and Geochronological Evidence: M MikI, T Matsuda, Y Ototuji

0900 h V31B-03 The Electrical High Conductivity Layer Beneath the Northern Extension of the Okinawa Trough: S Handa, T K Matsuda, Y Otofuji

0915 h V31B-04 Evolution of the Trough: S Handa, T K Matsuda, Y Otofuji

0930 h V31B-05 Heat Flow Anomaly Around a Hydrothermal Field in the Izena Hole, Middle Okinawa Trough: M Kinoshita, M Yamano, E Kikawa, T Urabe, K Nakamura, Y Okuda


1015 h V31B-08 Volatile Components of the Hydrothermal Fluids in the Mid-Okinawa Trough: J Ishibashi, Y Sano, H Wakita, T Gamo, M Tsutsumi, H Sakai

1030 h BREAK

1045 h V31B-10 INVITED Chemistry of Hydrothermal Vent Fluids From a Back Arc Spreading Ridge (Lau Basin): J Erzinger, J L Charlou

1105 h V31B-11 INVITED Tectonic, Magmatic and Hydrothermal Activity in the Western Woodlark Basin, Papua New Guinea: A Propagating Marginal Basin: R A Binns, S D Scott

1125 h Pichon, Jolivet, X Le

WITHDRAWN

Wednesday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T32A-01.

Section Day Time Session Sequence in Session
T 2 = Tues. 1 = AM A 01
3 = Wed. 2 = PM B
4 = Thur. 3 = PM C
5 = Fri. 4 = PM D
6 = Sat.

Thus, T32A-01 = Tectonophysics, Wednesday, PM, concurrent session A, first paper in that session.

U32A SFK: F Wed 1330 h

Fifty Years of Helium 3 Geophysics II

Presiding: H Craig, Scripps Inst. of Oceanogr.; Y Horibe, Tokai Univ

1330 h U32A-01 INVITED Re-Evaluation of He-Ar Isotope Systematics and Significance of He-Pb Isotope Systematics in the Earth’s Interior: I Kaneoka

1410 h U32A-02 INVITED U-Th-Pb and He Isotopic Variations in Volcanic Rocks From the Hawaiian and Cook-Austral Chains: M Tatsumoto, Y Nakamura, A R Basu, H Craig

1450 h BREAK

1510 h U32A-04 INVITED Implications of Sr, Nd, Pb, and He Isotopes for Recycled Continental Crust in the Evolution of the Hawaiian Hot Spot: B E Faggart, A R Basu, H Craig

1540 h U32A-05 INVITED Origin of Carbon and Helium in Volcanic Gases From Circum-Pacific Arcs: R J Poreda, H Craig

1620 h U32A-06 INVITED Helium and Carbon Isotopic Composition of Gas and Water Samples From Turkey: K Nagao, I Kita, J Matsuda, T Ercan

1650 h U32A-07 Helium Isotopes in Samoa: Still Coming of Age: K A Farley, H Craig, J Natland, J D Macdougall

1330 h U32A-08 TITLE ONLY Cosmogenic 3He and the Ages of Geomorphic Surfaces: T E Cerling, H Craig

A32A KNK: Horai Wed 1330 h

Winds and Clouds

Presiding: N Murayama, Meteorological Satellite Center; G Nastrom, St. Cloud State Univ

1330 h A32A-01 The Christmas Island Wind Profiler: The First Four Years: K S Gage, J R McAfee, B B Balsley, W L Ecklund, D A Carter

1345 h A32A-02 Vertical Motions at Christmas Island: Implications for the Large-Scale Circulation: K S Gage, J R McAfee, D A Carter, G C Reid, B B Balsley
1400 h A32A-03 Diagnosis of a Downward Bias in the Vertical Motions Seen by VHF Clear-Air Doppler Radars: G D Nastrom, T E VanZandt, W L Clark, J M Warnock, J L Green, K S Gage
1415 h A32A-04 Speculations on the Origin of Circular Crop Damage: T Kikuchi, J T Snow, G T Meaden
1430 h A32A-05 Transport of the Dust Clouds Kosa From the East Asian Dust Storms to the Northwestern Pacific Area: N Murayama, T Satomura, H Sasaki, F Kimura

1445 h BREAK

1545 h A32A-08 A Numerical Study of Thermal Convection in a Rotating Annulus Fluid With High Prandtl Number: S Sugata, S Yoden
1600 h A32A-09 Characteristics of High-Cloud Distributions Over the Western Pacific Derived From SAGE II Occultation Measurements: E W Chio, M P McCormick, W P Chu, L R McMaster, G K Yue

GP32A SKC: 21 Wed 1330 h
Paleomagnetism/Rock Magnetism
Presiding: R G Gordon, Northwestern Univ; H Tanaka, Tokyo Inst. of Tech

1330 h GP32A-01 Global Plate Motion Circuits and Motion Between Hotspots: A Paleomagnetic Test: G D Acton, R G Gordon
1345 h GP32A-02 Preliminary Results From Paleomagnetism on APW Path for Hubei, South China Block: Y Adachi, H Morinaga, Y Liu, G Fang, K Yaskawa
1400 h GP32A-03 New Miocene Paleomagnetic Results From Northern China and Reappraisal of Late Mesozoic Paleomagnetic Data of Siberia: X Zhao, Y Zhou, S Hu, Z Dong, J Wang
1415 h GP32A-04 Thermal History Deduced From 40Ar/39Ar Geothermometry and Paleomagnetism in the Grenville Province, Canada: Multiple Thermal Events at a Dike Contact: H Hyodo, D York, D J Dunlop
1430 h GP32A-05 Paleomagnetism of Early Cretaceous Block Movement: K Kodama, T Takeuchi, T Otsuka
1445 h GP32A-06 The Utilization of Formation Microscanner (FMS) Logs to Obtain Azimuthal Orientations of Paleomagnetic Samples From Western Pacific ODP Cores: S M Cisowski, R Jarrard, M Koyama

1500 h BREAK

1515 h GP32A-08 The Acambah Graben, Central Mexico, Paleomagnetic Study: A Soler-Arechale, J Urrutia-Fucugauchi, J Santos-Santiago
1530 h GP32A-09 Paleointensity High at 9000 Years Ago Found From Volcanic Rocks in Japan: H Tanaka
1545 h GP32A-10 Some New Results of Study on the Changes in the Magnetic Moment of the Earth During the Last 5000 Years: J Y Zheng, C Tang, D J Li, S F Wei, Q Y Wei
1500 h BREAK

1600 h GP32A-11 Paleomagnetic Dating of Paleoeartquake: K Hirooka, H Sakai
1615 h GP32A-12 Tectonomagnetic Signals Associated With Earthquake Swarm and Crustal Uplift in the Izu Peninsula Since 1978: N Oshiman, Y Sasai
1645 h GP32A-14 Arm Acquisition in Natural and Synthetic Samples: J Urrutia-Fucugauchi

H32A KNK: Fuyo B Wed 1330 h
Water and Solute Transport in the Unsaturated Zone II
Presiding: M T van Genuchten, U.S. Salinity Lab; T Miyazaki, Univ of Tokyo

1330 h H32A-01 INVITED A Nonlocal Theory of Multiphase Transport: B Munhunthan, J H Cushman
1355 h H32A-02 INVITED The Use of Fractal Concepts to Estimate Soil Hydraulic Properties: S W Tyler, S W Wheatcraft
1420 h H32A-03 Occurrence of Zero Flux Plane in the Unsaturated Zones: Y Yamamura
1435 h H32A-04 Experimental Studies on Heat and Moisture Transfer in Saturated-Unsaturated Soil Zone: H Horino, T Moroizumi, T Murayama
1450 h H32A-05 Effects of a Time-Variation of Wind Speed and Short Wave Radiation on the Evaporation in Bare Land: Y Kuzuna, Y Ishihara, E Shimojima
1505 h H32A-06 Effect of Wind Turbulence on Evaporation From Bare Land: Y Ishihara, E Shimojima
1520 h H32A-07 A Complementary Relationship Between Actual Evapotranspiration and Pan Evaporation in a Small Area: H Oue, K Otsuki, T Maruyama

O32A KNK: Aioi Wed 1330 h
Effect of Marginal Seas on West Pacific Water Masses II

1330 h O32A-01 On Kuroshio Front Fluctuations in the East China Sea Using Satellite Images and in Situ Observational Data: B Qiu, T Toda, N Imasato
1350 h O32A-02 Water Exchange Processes Induced By Variations in the Kuroshio South of Japan: T Awaji, K Akimoto, N Imasato
1410 h O32A-03 Characteristics of Sea Surface Height Fields in the Southeastern and Western Pacific Seas by GEOSAT Altimeter: Y J Ro
1430 h O32A-04 INVITED Observations of Water Masses From Low and High Latitudes in the East Sea (Sea of Japan): K Kim, K R Kim

1500 h BREAK

1520 h O32A-06 Sources of North Pacific Intermediate Water From the Sea of Japan and Sea of Okhotsk: S C Riser

—21—
1540 h O32A-07 INVITED The Role of the Okhotsk Sea on the Formation of the Oyashio Water: K Ohtani, Y Nagata
1610 h O32A-08 INVITED The Role of the Okhotsk and Japan Seas in Modifying Intermediate Waters in the North Pacific: L D Talley
1640 h O32A-09 The Exchange of Kuroshio and East China Sea Shelf Water: D P Wang, C S Chern, J Wang

P32A SKC: 32.33 Wed 1345 h
Origin and Evolution of the Solar System I
1345 h P32A-01 Planetesimal Formation Through Non-Axisymmetric Gravitational Instabilities in a Dust Layer: Y Nakagawa, M Sekiya
1400 h P32A-02 Collision and Tidal Interaction Between Planetesimals: S I Watanabe, S M Miyama
1415 h P32A-03 Angular Momentum Transfer in Oblique Impacts: M Yanagisawa, J Eluszkiewicz, T J Ahrens
1445 h BREAK
1510 h P32A-05 Anomalous Nitrogen in Y74191 (L3) Chondrite: N Sugiura, K Hashizume
1530 h P32A-06 Nitrogen Isotope Fractionation in Ordinary Chondrites: K Hashizume, N Sugira
1545 h P32A-07 The Rb-Sr Internal Isochron Age of E3 Chondrite, Qingzhen and Yamato-6901: N Torigoye, M Shima
1600 h P32A-08 INVITED Venus Lightning: C T Russell
1615 h P32A-10 A Two-Dimensional MHD Model of the Venus Ionosphere: H Shinagawa
1630 h P32A-11 Chemical Composition of Pyroxenes in Ordinary Chondrites as a Quantitative Parameter for "Metamorphism": T Noguchi
1645 h P32A-12 Noble Gas Ion Implantation Into Minerals: T Futagami, M Ozima, S Nagai, Y Aoki

S32A SKC: Large Hall Wed 1330 h
Physic of Earthquakes and Recent Earthquakes III (joint with G,T)
Presiding: M Kikuchi, Yokohama City Univ
1330 h S32A-01 Seismic Spectrum of Ultra-Microearthquakes: Y Iio
1400 h S32A-03 The 1989, July 9 Ito-Oki Earthquake (M 5.5): Modeling of Strong Ground Motion: J C Gariel, K Irikura, K Kudo
1415 h S32A-04 Source Time Function of the Ito-Oki Earthquake on July 9, 1989 Deduced From Strong Motion Seismograms: M Takeo
1430 h S32A-05 The Rupture Process of the 1946 Nankai Earthquake Derived From Strong Ground Motion Data: K Irikura, T Iwata, J C Gariel
1445 h BREAK
1500 h S32A-07 Variable Rupture Mode of Large Earthquakes in the Nankai Trough: K Satake, H Kanamori
1515 h S32A-08 Rupture Process of Sanriku-Oki Earthquakes Occurring on October 29 and November 1, 1989: Y Yoshida, M Takeo
1530 h S32A-09 Re-Examination of the Source Process of the 1976 Guatemala Earthquake: M Kikuchi, H Kanamori
1545 h S32A-10 Teleseismic Interpretation of the Earthquake Sources in Eastern Iran: M R Gheitanchi, M Kikuchi, M Mizoue

SP32A KNK: Kaga Wed 1330 h
Global Structures of MHD Waves I
Presiding: T Kitamura, Kyushu Univ
1355 h SP32A-02 INVITED Global Dynamics of MHD Waves—Ground Multi-Station Network: K Hayashi
1420 h SP32A-03 INVITED Global Model Nature of Pi 2 Magnetic Pulssations: K Yumoto
1445 h SP32A-04 INVITED Distribution of Pc 3-5 Wave Energy in the Magnetosphere From AMPTE/OCE Observations: K Takahashi, B J Anderson
1510 h BREAK
1530 h SP32A-06 INVITED Resonance and Non-Resonance Mechanism of MHD Waves in the Magnetosphere: Y Inoue

SP32B KNK: Fuyo A Wed 1330 h
Cusp, Mantle, and Field-Aligned Currents
Presiding: T Tamao, Univ of Tokyo
1330 h SP32B-01 Statistical Studies of Cusp-Region Magnetic Impulse Events and Interplanetary Conditions: A Wolfe, L J Lanzerotti, C G MacLennan, R M Konik, D Venkatesan
1345 h SP32B-02 Identification and Observations of the Plasma Mantle at Low Altitude: P T Newell, E R Sanchez, C I Meng, M E Greenspan, W Burke, F Rich
1400 h SP32B-03 Magnetosheath Turbulence and Flux Transfer Events: An Objection to the FTE Momentum Transport Model: T K Nakamura, S I Ohtani
1415 h SP32B-04 Long-Term Dependence of Pc 3 Activity on Upstream Solar Wind Parameters: A Wolfe, K Yumoto
1430 h SP32B-05 Linear Analysis of Ion Inertia Effect on Kelvin-Helmholtz Instability: M Fujimoto, A Nishida, T Terasawa
1445 h SP32B-06 Laboratory Dipole Tilt Effects on the Structure of the Magnetospheres: S Minami, Y Takeya
1500 h BREAK

1515 h SP32B-08 A Test of Magnetic Field Topology Based on Tsyganenko's Model of the Magnetosphere: N Nishitani, T Ogino, T Oguti

1530 h SP32B-09 Correlation Between Magnetic and Electric Fields Perturbations Associated With Field-Aligned Currents: M Ishii, T Iyemori, M Sugiru, M C Maynard, J A Slavin

1545 h SP32B-10 Field-Aligned Currents With a Cylindrical Structure in Dayside Region 1: S Taguchi, M Sugiru, T Iyemori, J A Slavin, T Araki

SP32C KNK: Fuyo A Wed 1600 h

Titan, Io, and Mars

Presiding: T Tamao, Univ of Tokyo

1600 h SP32C-01 A Theoretical Model of the Ionosphere of Titan: C N Keller, T E Cravens, L Gan

1615 h SP32C-02 3D-Structure of HM-Waves Generated by a Moving Localized Conductor: Reconsideration of Io’s Case: T Tamao, M Yamashita

1630 h SP32C-03 The Ionospheric Effects of a Weak Intrinsic Magnetic Field at Mars: H Shinagawa, T E Cravens

SP32D KKK: Large Assembly Wed 1330 h

Computer Experiments of Geospace Plasmas III

POSTERS

Presiding: T G Onsager, Los Alamos National Lab

1330 h SP32D-01 POSTER Particle Simulations of Wave Propagation in a Nonuniform Plasma: S Yagitani, I Nagano, Y Omura, H Matsumoto

1330 h SP32D-02 POSTER Particle Simulations of Spacecraft-Plasma Interactions: M Okada, Y Omura, H Matsumoto

1330 h SP32D-03 POSTER Computer Experiments of Particle Beam Dynamics in a Nonuniform Plasma: H Furukawa, Y Omura, H Matsumoto

1330 h SP32D-04 POSTER Nonlinear Response of Magnetized Plasma to a Large Amplitude Monochromatic EM Wave Radiated From a Current Sheet Antenna: H Yashtiro, H Matsumoto

1330 h SP32D-05 POSTER Computer Experiments of Plasma Chaos: Y Usui, H Matsumoto

1330 h SP32D-06 POSTER Long Time Scale Simulations for Whistler Mode-Wave-Particle Interaction in the Magnetosphere: T Nakayama, Y Omura, H Matsumoto

1330 h SP32D-07 POSTER Particle Simulations of Diamagnetic Cavity Formation and Related Plasma Dynamics: M E Jones, D Winske, C Barnes, V A Thomas

1330 h SP32D-08 POSTER Simulation of Strong Alfvencic Turbulence: K Akimoto, D Winske

1330 h SP32D-09 POSTER Numerical Simulations of the Beam-Excited UPHR Mode and Whistler Mode Waves and Comparison With the Results of the EXOS-D Observations: T Watanabe, H Oya

1330 h SP32D-10 POSTER Particle Loadings of Plasma Shear Layers in Magnetized Plasmas: D Cai, L R O Storey

1330 h SP32D-11 POSTER Decay Process of Incoherent Alfvencic Waves: H Umeki, T Terasawa

1330 h SP32D-12 POSTER Computer Simulation Study of Ion Dynamics at Quasi-Parallel Shocks: T G Onsager, D Winske, M F Thomsen

1330 h SP32D-13 POSTER Evolution of the Plasmoid and Accompanied Shocks Induced by a Sudden Reconstruction Enhancement Within a Neutral Sheet: K Maezawa

V32A SFK: Large Hall Wed 1330 h

Volcanic Seismology and Eruptive Precursors (joint with S)

Presiding: M Mizoue, Univ of Tokyo; B A Chouet, USGS, Menlo Park


1355 h V32A-02 INVITED Earthquake Swarms Accompanied by Magma Driven Propagation of Cracks: M Mizoue

1420 h V32A-03 A Model for Crustal Deformation Observed With Episodic Volcanic Tremors: J Oikawa, Y Ida

1435 h V32A-04 BL-Type Earthquakes Observed at Asama Volcano, Central Japan: M Sawada

1450 h V32A-05 Source Mechanism of Volcanic Earthquakes Related to Volcanic Activity at Volcano Aso, Japan: T Wada, H Ono

1505 h V32A-06 Observation of Volcanic Microtremors at the Aso Volcano in 1989: Y Sudo

1520 h BREAK

1535 h V32A-08 Long Period Microearthquakes Occurring Near the Moho Boundary Beneath Tokachi-Dake Volcano, Hokkaido: S Suzuki, M Kasahara

1550 h V32A-09 INVITED Low-Frequency Microearthquakes Occurring at the Bottom of the Crust or in the Uppermost Mantle Beneath Active Volcanoes in Northern Japan: A Yamamoto, A Hasegawa


1630 h V32A-11 Geomagnetic Variations Associated With the 1989 Eruptions of Aso: Y Tanaka

1645 h V32A-12 Temporal Variation of Heat Discharge in Usu Volcano (From 1977 to 1987): N Matsushima, Y Nishida

1700 h V32A-13 Modeling of Hydrothermal Systems and Their Fluctuations due to Volcanic Activity in Some Volcanoes in Kyushu, Japan: K Ohta

1715 h V32A-14 Precursory Changes in Temperature of Fumarolic Gas Emitted From Izu-Oshima Volcano Associated With Submarine Eruption off the Eastern Coast of the Izu Peninsula: K Notsu, H Wakita, G Igarashi
Thursday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T41A-01.

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<td>Sat.</td>
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Thus, T41A-01 = Tectonophysics, Thursday, AM, concurrent session A, first paper in that session.

GP41A

SKC: 21

Thurs 0830 h

Geomagnetism and Electromagnetic Induction

**Presiding:** C G A Harrison, RSMAS/Univ of Miami; N Isezaki, Kobe Univ

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<td>0830 h</td>
<td>GP41A-01 The U.S. Geomagnetic Field Satellite Program: J R Heirtzler, R A Langel, P T Taylor, W J Webster, C A Harrison</td>
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<td>0845 h</td>
<td>GP41A-02 Stochastic Inversion of Magnetic Observatory Annual Means: M G McLeod</td>
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<td>0900 h</td>
<td>GP41A-03 Distributions of Amplitude of Marine Magnetic Anomalies and Crustal Magnetizations in the Pacific, Atlantic, and Indian Oceans: K Sayanagi, K Tamaki</td>
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<td>0915 h</td>
<td>GP41A-04 Significantly Deflected Magnetic Fields Inside Fissure-Like Openings: Implications for Sea Floor Spreading Anomalies: C Baag, S Z Xu, C E Helsley</td>
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<td>GP41A-05 The Thickness of the Marine Magnetic Source Layer Is Obtained From Vector Anomalies of Marine Magnetic Field: N Seama, N Isezaki</td>
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<td>0945 h</td>
<td>GP41A-06 Magnetic Properties of Gabbros From Ocean Drilling Program Hole 735B at the Southwest Indian Ridge: E Kikawa, J E Pariso</td>
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<td>1000 h</td>
<td>GP41A-07 Relation of Magnetic Anomalies to the Tanna Fault: Y Okubo</td>
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**DISCUSSION**

1015 h

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1145 h GP41A-14 An Investigation of Conductivity Structure Beneath the Oki Islands in the Inner Zone of Southwestern Japan: K Fujita, S Yamaguchi, K Kashihara, T Ichikita, H Nishioka, I Shiozaki, K Yaskawa

H41A KNK: Fuyo B Thurs 0830 h
Surface Water Hydrology I
Presiding: K Takeuchi, Yamamashi Univ; D P Lettenmaier, Univ of Washington

0830 h H41A-01 Mechanism Controlling the Instability of Slopes Made of Granular Materials: Y Onda, Y Matsukura

0845 h H41A-02 Mechanism of Suspended Sediment Supply in the Hiyamizusawa River, Hokkaido, Japan: Y Kurashige

0900 h H41A-03 Surface Velocity Measurement by Radio Wave Current Meter: F Yoshino, T Yamaguchi

0915 h H41A-04 The Halphen System of Distributions for Flood Frequency Analysis: F Ashkar, B Bobee

0930 h H41A-05 Bayesian Relative Information as a Measure of Model Validity: M E Moss


1010 h BREAK

1025 h H41A-08 Estimation of Evapotranspiration From Mountainous Watersheds Using the Complementary Method: K Otsuki


1105 h H41A-10 Field Observations of Precipitation in an Mountainous Basin and Its Characteristics: T Yamada, T Mugi

1120 h H41A-11 A Distributed Rainfall-Runoff Model Using Radar-Measured Rainfall Data: M Lu, T Koike, N Hayakawa

1135 h H41A-12 Experimental and Theoretical Studies on Small Scale Rainfall Rates: K P Georgakakos, M B Sharifi

O41A KNK: Aioi Thurs 0830 h
Deep and Intermediate Water Circulation I
Presiding: K Taira, Univ of Tokyo; S Imawaki, Kyoto Univ

0830 h O41A-01 Behavior of the High Density Water Flowing Down Along a Shelf Slope: Y Yamazaki, Y Nagata, R Kimura

0850 h O41A-02 INVITED Circulation of Antarctic Water Near the Dateline in the South Pacific: S P Hayes, J Bullister, D Wisegarver, R Gammon

0920 h O41A-03 On a Study of the Subantarctic and Polar Fronts Past the Falkland Plateau: T Matsuura, W D Nowlin, T Whitworth

0940 h O41A-04 INVITED The HELIOS Helium 3 Section: Implications for the Deep Water Circulation in the North and South Pacific: H Craig

1010 h BREAK

1030 h O41A-06 Diagnostic Calculation for Circulation and Water Mass Movement in the Deep Pacific: S Fujio, N Imasato

1050 h O41A-07 Flow of Abyssal Water Into the Samoan Passage: B A Taft, S P Hayes, G E Friederich, L A Codispoti

1110 h O41A-08 Deep Water Characteristics and Circulation of the Western North Pacific Ocean: H Sudo

1130 h O41A-09 INVITED Abyssal Waters of the Coral and Solomon Seas: E J Lindstrom, S P Hayes

P41A SFK: F Thurs 0830 h
Origin and Evolution of the Solar System II
Presiding: H Mizutani, Inst. of Space and Astro. Sci.

0830 h P41A-01 Radial Structure of Kinetic Temperature in Gases Bound by a Gravitational Field: R Shubert

0845 h P41A-02 Plate Boundary Structures on Venus: J Raitala, T Tormanen

0900 h P41A-03 Gravity Coefficients of Outer Planet Satellites: J K Campbell, J D Anderson

S41A SKC: Large Hall Thurs 0830 h
Dynamics and Structure of Plate Boundaries I (joint with T)
Presiding: M Ishida, Nat'l Res. Ctr. for Disaster Prevention

0830 h S41A-01 Tomographic Determination of the Velocity Structure in and Around the NE Japan: D P Zhao, S Horiuchi, A Hasegawa

0845 h S41A-02 Three-Dimensional Seismic Velocity Structure in Northern Tohoku Region, Honshu, Japan: N T Puspito, T Sato, K Tanaka

0900 h S41A-03 Three-Dimensional P and S Wave Velocity Structures in the Kanto-Tokai District, Japan: M Ishida, A Hasemi


0930 h S41A-05 Fingering and Lower Mantle Penetration of the Kurile Slab: Y Yamanaka, T Miyatake, K Hirahara

0945 h S41A-06 Corrections for Receiver Structure in Teleseismic Travel Time Inversion: 3-D P-Wave Velocity Structure of the New Hebrides: H Taniyama, K Shimazaki, K Hirahara

1000 h S41A-07 Defect of Deep Slabs: P Lundgren, D Glar

WITHDRAWN
I

Responses: T Tsunoda

1145 h S41B-12 Detection of Kinoshita, H Sato

Mudrock at Chikura, Japan: Comparison of Incident and Kanao, K

1130 h S41B-10 Attenuation Property of Coda Am-

ponent Strainmeters: S Sakata, S Shimada

Obtained Takanami, H Okada, G Kitagawa

1045 h S41B-04 The Automated Data Acquisition Time Series Model and Screening out Microearthquakes: T Takano, M Takeo, K Abe, S Tsuboi, M Takahashi

0945 h S41A-10 Thickness of the Low Velocity

Kurile-Kamchatka Wadati-Benioff Zones

Wadati-Benioff Envelope: K Obara

Mantle Revealed From the Broadening of Seismogram En-

velope: K Obara

1145 h S41B-14 A Study of Upper Mantle Q Structure Beneath the Japan Arc Taking Into Account Slab-Induced Defocusing: D Suetsugu, T Iidaka

S41B SKC: 32.33 Thurs 0900 h

Wave Propagation and Analytical Techniques

Presiding: S Tsuboi, Tokyo Univ

0900 h S41B-01 Calculating Synthetic Seismograms for Arbitrarily Heterogeneous Media Using the Method of Weighted Residuals: T Ohminato, R J Geller, D Suetsugu

0915 h S41B-02 Seismic Response in Three-Dimen-

sional Sedimentary Basin Due to Plane S Wave Incidence: M Horike

0930 h S41B-03 Large Amplitude Overtone Phase From Deep Earthquakes in Vertical Component Seismo-

grams: S Watada, T Tanimoto

0945 h S41B-04 The Automated Data Acquisition System for the Remote Digital Broadband Seismographs: K Takano, M Takeo, K Abe, S Tsuboi, M Takahashi

1000 h S41B-05 Extraction of Seismic Signal by a Time Series Model and Screening out Microearthquakes: T Takenami, H Okada, G Kitagawa

1015 h BREAK

1030 h S41B-07 The Interplanetary Causes of Great Dst): W D Gonzalez

1055 h S41A-08 Influence of the Heliospheric Cur- rent Sheet on Interplanetary Disturbances: T Watanabe

1110 h S41A-09 Substorm Activity Controlled by Rotation of the Solar Magnetic Fields: T Okl, T Saito, Y Kozuka

1125 h S41A-10 Solar and Solar Wind Conditions for Planar Magnetic Structures: T Nakagawa

SP41B KNK: Fuyo A Thurs 0830 h

Dynamical Processes in the Middle Atmosphere I

(joint with A)

Presiding: M Geller, SUNY Stony Brook

0830 h SP41B-01 INVITED Highlights of the MU Radar Observation of Wind and Waves in the Middle Atmosphere: S Kato

0900 h SP41B-02 Observations of Saturated Gravity Waves in the Middle Atmosphere: T Tsuda, Y Murayama, T Nakamura, M Yamamoto, S Kato, S Fukao

0915 h SP41B-03 Doppler-Shifted Atmospheric Gravity Wave Spectra: T E VanZandt, C H Love

0930 h SP41B-04 Comparison of Model Doppler-Shifted Atmospheric Gravity Wave Spectra With Vertical and Oblique Spectra Obtained Over Very Flat Terrain: G D Nastrom, T E VanZandt, J L Green, W L Clark, J M Warnock, K S Gage

0945 h SP41B-05 Seasonal Variation of Momentum Flux in the Mesosphere Observed With the MU Radar: Y Murayama, T Tsuda, M Yamamoto, S Kato, S Fukao

1200 h S41B-13 Regional Difference in Maximum Velocity Amplitude Decay With Distance in the Kanto-Tokai District, Central Japan: S Noguchi

SP41A KNK: Kaga Thurs 0900 h

Solar, Interplanetary Physics and Magnetic Storms

Presiding: K Marubashi, Hiraiso Solar Terr. Res. Center

0900 h SP41A-01 Characteristics of Coronal Holes Associated With Geomagnetic Storms: S I Watari

0915 h SP41A-02 Preliminary Results of Interplane-

tary Scintillation Measurements at 2, 8 and 22 GHz Using 34 m Antenna: M Tokumaru, H Morii, T Tanaka, T Kondo, H Takaba, Y Koyama

0930 h SP41A-03 Solar Wind Simulation Using a High-Resolution Scheme: T Tanaka, E Sagawa, H Morii

0945 h SP41A-04 Solar Wind Acceleration at 0.1 to 0.3 AU Observed With Interplanetary Scintillation: M Kojima
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<td>Variability of Vertical Eddy Diffusivity in the Middle Atmosphere, Part I: 36-Month Observations by the MU Radar: S Fukao, M D Yamanaka, W K Hocking, N Ao, M Yamamoto, T Nakamura, T Tsuda, S Kato</td>
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<td>1045 h</td>
<td>SP41B-08</td>
<td>Meso- and Medium-Scale Dynamics by the MU Radar Troposphere Observations: Preliminary Results: M D Yamanaka, S Fukao, G Kotani, T Yokota, Y Maekawa, T Sato, M Yamamoto, T Tsuda, S Kato</td>
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<td>1100 h</td>
<td>SP41B-09</td>
<td>Meteor Wind Observations with the MU Radar: T Tsuda, T Nakamura, M Tsutsumi, K Kita, M Yamamoto, S Kato, S Fukao</td>
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<td>1115 h</td>
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<td>Effects of Atmospheric Winds and of Anisotropic Scattering on Radar Interferometry Measurements: J S Van Baalen, A D Richmond, S K Avery, T Tsuda, S Kato, S Fukao, M Yamamoto</td>
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<td>0930 h</td>
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<td>INVITED Growth and Damping of Waves Below the Proton Gyrofrequencies During Storm Conditions: R M Thorne, R Horne</td>
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<td>Parametric Instability of Hydromagnetic Waves in Space Plasmas: T Hada, E Mjolhus</td>
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<td>A Review of Recent Results on Wave Amplification in a Magnetoplasma: D Summers, R M Thorne</td>
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<td>Mode Conversion Process From Z-Mode Waves to Free Space Electromagnetic Waves as the Source Mechanism of AKR: M Iizima, H Oya</td>
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<td>1040 h</td>
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<td>Chaos in Driven Alfven Systems: T Hada, M Nambu, C F Kennedy, B Buti, E Mjolhus</td>
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<td>1055 h</td>
<td>SP41C-06</td>
<td>On the Role of Energetic Proton Drift Induced Anisotropy in Generating Outer Magnetospheric Pc 1 Waves: B J Anderson, R E Erlandson, K Takahashi, T A Potemra</td>
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<td>1110 h</td>
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<td>Proton Cyclotron Echoes and Absorption Bands in (3f_h) and (4f_h) Resonances: R E Horita, M M Chen</td>
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<td>Electron Generation of Broadband Electromagnetic Noise in the Earth’s Magnetotail: T G Onsager, M F Thomsen, J T Gosling, R R Anderson</td>
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<td>Dispersion Relation of Electromagnetic Noise Observed With ISEE-3 in the Deep Tail Boundary Layer: M Tsutsumi, R J Strangeway, B T Tsuturani, J L Phillips, E W Greenstadt, H Matsumoto</td>
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<td>AMPTE/IRM Studies of Broadband Electromagnetic Noise in the Geomagnetic Tail: R R Anderson</td>
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<td>1210 h</td>
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<td>A Comparison of the Wide Band Polarization and Multi-Point Fixed Frequency Intensity of Jupiter’s Decametric Radiation: K Imai</td>
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**SP41D**  KKK: Large Assembly Thurs 0930 h

**Global Structures of MHD Waves II Posters**

**Presiding:** J V Olson, Univ of Alaska

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<td>POSTER Structures of Large Amplitude Pc1 Waves Observed by DE-2 in the Ionosphere: T Iyemori, M Sugiyura, J A Slavin, L H Brace, G R Ludlow</td>
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<td>POSTER Amplification of Electromagnetic Ion Cyclotron Waves Along a Wave Path in the Earth’s Multicomponent Magnetosphere: Y D Hu, B J Fraser, J V Olson</td>
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<td>POSTER Multistation Observations of Pc1-2 ULF Pulselwts Between the Plasmapause and Polar Cap: F W Menk, B J Fraser, H J Hansen, P T Newell, C I Meng, R J Morris</td>
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<td>POSTER High Latitude Pc1 Bursts Originating Within the Low Latitude Boundary Layer: H J Hansen, W F Menk, B J Fraser, Y D Hu, P T Newell, C I Meng, R J Morris</td>
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<td>POSTER Correlations Between Cusp Pc3 Pulselwts and the Solar Wind: J V Olson, P Struckman, C P Price</td>
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<td>POSTER Magnetospheric Oscillations Caused by a Sudden Impulse During the Great Magnetic Storm of February 1986: T Takahashi, K Yumoto, T Watanabe</td>
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<td>POSTER Eigenmode Analysis of Coupled Hydromagnetic Oscillations in the Dipole Magnetosphere: C Z Cheng, K Takahashi, T Watanabe</td>
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<td>POSTER Drift Mirror and Ballooning Instabilitiesin the Magnetosphere: C Z Cheng, K Takahashi, T Watanabe</td>
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0930 h SP41D-12 POSTER An Investigation of Low Latitude Pc3 Geomagnetic Pulsation Resonance Structure by the Gradient Method: C L Waters, F W Menk, B J Fraser

0930 h SP41D-13 POSTER Spatial Characteristics of Low Latitude Pc3-4 Geomagnetic Pulsations: C W S Ziosolek, F W Menk, B J Fraser, P W McNabb

0930 h SP41D-14 POSTER The Effects of Non-Uniform Ionospheric Conductivity on the Equatorial Pc Pulslations: O Saka

0930 h SP41D-15 POSTER A Conjugate Area Study of HM Waves Observed in the Auroral Region: Y Tonegawa, N Sato, T Saemundsson

0930 h SP41D-16 POSTER Observation of Magnetic Pi2 Pulslations on the Ground and in the Magnetosphere: T Sakurai, K Takahashi, K Yumoto, N Sato

0930 h SP41D-17 POSTER A Conceptual Model of Global pi 2 Pulslations in Middle and Low Latitudes: T Tamao

0930 h SP41D-18 POSTER Global Mode of ULF Waves in the Equatorial Region: T Kitamura, M Shinohara

T41A SFK: F Thurs 0930 h

Rifting, Back Arc Basins, and Tectonics

Presiding: T Seno, Tokyo Univ; A Klaus, Hawaii Inst. of Geophysics

0930 h T41A-01 The New Isochron Chart and Tectonic History of the Western Central Pacific From Late Jurassic to Early Cretaceous: M Nakanishi, K Tamaki, K Kobayashi

0945 h T41A-02 Tectonic Evolution of the Central Mobile Belt (CMB) in New Brunswick: Record of the Opening and Closing of a Middle Ordovician Back-Arc Basin in the Northern Appalachians: C R van Staal

1000 h T41A-03 Normal Faults in the Seaward Slope of the Japan Trench: K Kobayashi, K Tamaki, H Fujimoto, T Furuta

1015 h T41A-04 Energy Dissipation at the Oblique Spreading: A Tanaka, N Fujii

V41A SFK: Large Hall Thurs 0830 h

Izu-Oshima Volcano/1986 Eruption (joint with S)

Presiding: H Watanabe, Univ of Tokyo; H Glicken, Univ of California, SB

0830 h V41A-01 INVITED The 1986-87 Eruption of Izu-Oshima Volcano, Japan: S Aramaki

0850 h V41A-02 INVITED Physical Processes of the 1986 Eruption of Izu-Oshima Volcano, Japan: H Watanabe

0905 h V41A-03 Evidence of Magmatic Activities at Izu-Oshima Volcano as Inferred From a Seismic Reflection Survey: H Suzuki, K Kasahara, M Ohtake, A Takahashi, T Ikawa, S Abe, Y Kawabe

0920 h V41A-04 Magnetization Intensity Mapping on and Around Izu-Oshima Volcano, Japan: S Okuma, M Makino, T Nakatsuka

0935 h V41A-05 Interpretation of the Apparent Resistivity Change Prior to the 1986 Eruption of Izu-Oshima Volcano: H Utada

1050 h V41A-07 Importance of Volatiles on Activity Model of Izu-Oshima Volcano: Part 1. General Concept and Pre-Eruption Process: H Shinohara, K Kazahaya

1020 h V41A-08 Importance of Volatiles on Activity Model of Izu-Oshima Volcano: Part 2. Eruption and Post-Eruption Processes: K Kazahaya, H Shinohara

1035 h V41A-09 Origin of Volcanic Tremors at Izu-Oshima Volcano: H Watanabe

1050 h V41A-10 INVITED Implications of Recent Eruptions at Izu-Oshima Volcano for Driving Mechanism of Magma Migration: Y Ida

1110 h V41A-11 INVITED Petrological Model of the Eruptions of the Izu-Oshima Volcano, Japan: T Fujii, S Aramaki

1125 h V41A-12 Magmatic Evolution on Izu-Oshima Volcano, Japan: Y Kawanabe

1140 h V41A-13 INVITED Great Phreatomagmatic Eruptions of Izu-Oshima Volcano, Japan: H Glicken, K Nakamura

V41B SFK: Middle Hall Thurs 0830 h

Volcanic Avalanche and Pyroclastic Flow (joint with S)

Presiding: T Ui, Kobe Univ; B Voight, Penn State Univ

0830 h V41B-01 INVITED Debris Avalanches: Their Source Areas and Modes of Formation: T Ui

0850 h V41B-02 Flow and Depositional Mechanisms of Debris Avalanches: S Takarada

0905 h V41B-03 INVITED Computational Fluid Dynamic Modeling of Volcanic Avalanches at Ontake, Japan, and Mount St. Helens, USA: B Voight, J Sousa

0925 h V41B-04 Motion of the Pyroclastic Flows Which Occurred at Mount Semeru Volcano in 1989: T Yamada, T Mizuyama

0940 h V41B-05 The 886 A.D. Eruption of Niijima Island, Izu-Mariana Arc—A Case Study of Silicic Phreatomagmatic Eruption: J Itoh
0955 h  BREAK

1010 h V41B-07 Ash Eruption of Nakadake Crater, Aso Volcano, Western Japan: K Oso, K Watanabe
1025 h V41B-08 Sequence of 1988-1989 Tokachidake Eruptions Considered From Ejecta and Geophysical Phenomena: M Yoshida, N Miyaji, Y Nishimyura, H Okada
1040 h V41B-09 Geology and Physical Properties of the Intracaldera Welded Tuff in the Sengan Geothermal Area, Northeast Japan: S Suto, O Matsubayashi
1055 h V41B-10 Geochemical Characteristics and Origin of Volcanogenic Fragments in the Shirahama Formation, Southern Boso Peninsula, Central Japan: A Koizumi, M Koyama, S Umino, S Aramaki, M Takahashi
1110 h V41B-11 Mode of Caldera-Forming Eruption at Crater Lake Caldera Inferred From Component Analysis of Lithic Fragments: K Suzuki-Kamata, H Kamata
1125 h V41B-12 Volcanic-Hazards Assessment of Augustine Volcano in the Aleutian Island Arc, U.S.A.—A Case Study of the 1976 Eruption: H Kamata, R B Waitt

Thursday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T42A-01.

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Thus, T42A-01 = Tectonophysics, Thursday, PM, concurrent session A, first paper in that session.

G42A SKC: 21 Thurs 1330 h
Earth Rotation and Dynamics
Presiding: K Yokoyama, National Astronomical Observatory; T Herring, MIT

1330 h G42A-01 Global and Regional Studies of the Excitation of Earth Rotation by the Atmosphere/Ocean System: D A Salstein, R D Rosen, R M Ponte
1345 h G42A-02 Earth Rotation Monitoring With Orthogonal VLBI Baselines: T Yoshino, F Takahashi, K Yokoyama
1400 h G42A-03 Variation of UT1 due to Long Period Tides and Mantle Q: Y Tamura
1415 h G42A-04 Tidal Displacements and the Determination of Short Period Earth Rotation Variations: T A Herring
1430 h G42A-05 Earth Orientation Parameters From a Global GPS Tracking Network: E C Pavlis, T A Williams
1445 h G42A-06 Earthquakes and the Decade Fluctuations in Polar Motion: R S Gross
1500 h G42A-07 Results of the IRIS-P Burst Earth Rotation Observations Made in February 1990: K Yokoyama, S Manabe, S Hama, Y Takahasi

H42A KNK: Fuyo B Thurs 1330 h
Stable and Radioactive Isotopes in Hydrology I
Presiding: W W Wood, USGS, Reston; N Tase, Univ of Tsukuba

1330 h H42A-01 INVITED Spatial and Temporal Variations of Environmental Tritium of River Water in Mountainous Catchments: K Sanjo
1355 h H42A-02 INVITED Study of Shallow Groundwater Movement to Perched Springs in Southwest Nevada by Ionic, Isotopic and Discharge Measurements: B F Lyles, N L Ingraham, R L Jacobson, J W Hess
1420 h H42A-03 INVITED Analysis of Temporal Variations in Streamwater Chemistry During Storm: H Ikeda, T Ohsumi

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1445 h  H42A-04  Use of $^2$H and $^{18}$O in Defining Solute Balance in an Evaporating Lake-Groundwater System: W W Wood

1500 h  BREAK

1515 h  H42A-06  INVITED  Isotopic Constraints on the Interaction of Near Surface Ground Water and Formation Brine in the Michinami Basin: D T Long, T P Wilson, L Badalamenti

1540 h  H42A-07  INVITED  Carbon Isotopes and Reappraisal of the Hydrogeochemical Concept of "Soil Zone as Acid Pump": C K Keller, D L Johnstone, B D Wood, K J Severson, C S Haling

1605 h  H42A-08  INVITED  Age Dating of Powerares From Clayey Till Using Radiocarbon in DIC and DOC: M J Hendry, L I Wassenaar

O42A  KNK: Aoi  Thurs 1330 h

Deep and Intermediate Water Circulation II

Presiding: W Schmitz, Woods Hole Oceanogr. Inst.; B Taft, WOCE IPO

1330 h  O42A-01  Direct Current Measurement in the Pacific North Equatorial Current: N Yoshioka, M Endoh, H Ishizaki

1350 h  O42A-02  Tracking of Sofar Floats at Mid-Depth in Shikoku Basin: K Taia, S Kitagawa, K Uehara, H Ichikawa, H Hachiya, T Teramoto

1410 h  O42A-03  The Hydrographic Structure Along 12°N and 13°N in the Philippine Sea: K Uehara, K Taira, A Masuda

1430 h  O42A-04  A Model of the Abyssal Circulation in Relation to the Philippine Sea: A Masuda, K Uehara, K Taira

1450 h  O42A-05  INVITED  Abyssal Circulation Model of the Philippine Sea: M Kubota, K Ono

S42B  SKC: Large Hall  Thurs 1330 h

Seismicity and Magnitudes

Presiding: M Wysession, Northwestern Univ

1330 h  S42B-01  Earthquake Swarm Activities Northwest of Chichijima, Bonin Islands in 1985: T Moriyama

1345 h  S42B-02  Earthquake Swarms in Western Kyushu: Characteristics of Hypocentral Regions: K Umakoshi, H Shimizu

1400 h  S42B-03  Local Earthquake Activities Around Syowa Station, East Antarctica: K Kaminuma, J Akamatsu


1430 h  S42B-05  Systematic Difference in the ISC Body-Wave Magnitude—Seismic Moment Relationship Between Intermediate and Deep Earthquakes Around Japan: K Kuge

1445 h  S42B-06  M$_m$: Application of Mantle Magnitudes to the Single-Station Estimation of the Seismic Moment of Large Historical Earthquakes: E A Okal

1500 h  S42B-07  Use of the Mantle Magnitude M$_m$ for Real-Time, Automated Single-Station Estimation of Teleseismic Moments: D Reymond, O Hyvernaud, J Talandier, E A Okal

S42B  SKC: Small Hall  Thurs 1330 h

Modeling and Analysis of Hydrodynamic Processes

Presiding: P F Langseth, Woods Hole Oceanogr.

1330 h  S42B-08  Dynamic and Hydrodynamics of the Japan Trench: P F Langseth

1345 h  S42B-09  Modeling of the Japan Trench: J G Lee

1400 h  S42B-10  A Kinematic Model for Evolution of Island Arc-Trench Systems: T Sato, M Matsu'ura

1415 h  S42B-11  Geophysical Models Across Pacific Convergent Margins: Implications for Subduction Erosion: C Finn

1430 h  S42B-12  Interpretation of in Situ Depth Gradient of Horizontal Stress: The Flexure Around Plate Boundaries: H Ogasawara

1445 h  S42B-13  Use of Mantle Magnetic Anomalies to Assess Convergence Rate: G J Peltier

1450 h  S42B-14  Comparison of Mantle Magnetic Anomalies and Seismic Data: H Fütterer

1515 h  S42B-15  The Influence of Mantle Magnetic Anomalies on the Seismicity of the Japan Trench: M J Treloar

1530 h  S42B-16  The Relationship Between Mantle Magnetic Anomalies and Seismic Activity: J G Lee

SP42A  KNK: Kaga  Thurs 1330 h

Global Structures of MHD Waves III

Presiding: B J Fraser, Newcastle Univ

1330 h  SP42A-01  INVITED  Generation of Hydromagnetic Waves by Physical Processes at the Dayside Magnetopause: A Review: L C Lee

1355 h  SP42A-02  INVITED  The Distributions of Shock-Related ULF Waves Outside the Magnetopause: E W Greenstadt
1420 h  SP42A-03  INVITED  ULF Pulsations Observed at the Polar Cusp: J V Olson, B J Fraser
1445 h  SP42A-04  INVITED  Coupling of Compressionnal and Alfven Waves in the Magnetosphere: R L Lysak

1510 h  BREAK

1530 h  SP42A-06  INVITED  POSTER PREVIEW  Characteristics of ULF Waves Generated by External and Internal Magnetospheric Processes: B J Fraser

SP42B  KNK: Fuyo A  Thurs 1330 h  
Dynamical Processes in the Middle Atmosphere II (joint with A)
Presiding: S Fukao, Kyoto Univ

1330 h  SP42B-01  INVITED  Kelvin Waves in the Equatorial Middle Atmosphere: I Hirota, M Shiotani, T Sakurai, J C Gille
1400 h  SP42B-02  Comparative Radar Observations of the Mesospheric Gravity Waves in the Northern and Southern Hemisphere, Kyoto(35°N) and Adelaide(35°S): T Nakamura, T Tsuda, Y Tawara, Y Murayama, M Yamamoto, S Kato, S Fukao
1415 h  SP42B-03  Sources of Gravity Waves and Mesoscale Variability From Aircraft Studies in GASP: G D Nastrom, D C Fritts
1430 h  SP42B-04  Generation of Stratospheric Inertia-Gravity Waves as a Multiplication of Tropopause: M D Yamanaka
1445 h  SP42B-05  A Dynamical Explanation for the Asymmetry in Zonally Averaged Column Ozones Between Northern and Southern Springs: A Hou, H R Schneider, M Ko

1500 h  BREAK

1530 h  SP42B-07  INVITED  Effects of Satellite Observation and Mapping on Middle Atmosphere Fields: M Geller, Y Chi, R Rood, J Kaye
1600 h  SP42B-08  A Numerical Modelling on the Time Evolution of Atmospheric Tides: T Aso
1615 h  SP42B-09  Tidal Waves Simulated With a General Circulation Model: M Chiba, K Shibata
1630 h  SP42B-10  Gravity Wave Drag Parameterization and Stratospheric Sudden Warming: I Yagai, K Yamazaki
1645 h  SP42B-11  Seasonal Variation of the Lagrangian-Mean Circulation of NCAR CCM1: T Iwasaki

SP42C  KNK: Horai  Thurs 1330 h  
Magnetic Storms and Magnetic Quiet Periods
Presiding: T Saito, Tohoku Univ

1330 h  SP42C-01  INVITED  The Space Weather Forecast Program of Japan: K Marubashi, T Kikuchi, M Toku-maru, F Tomita, T Ogawa
1355 h  SP42C-02  The Definitions of and Distinctions Between Geomagnetic Sudden Impulses (SI) and Sudden Storm Commencements (SSC): J A Joselyn, B T Tsurutani
1410 h  SP42C-03  Low Latitude Auroras on October 21, 1989: H Miyaoaka, T Hirasawa, K Yamoto, Y Tanaka
1425 h  SP42C-04  Role of PIL on Red Aurorae Observed in Japan: T Saito, H Matsuoka, H Takeuchi
1440 h  SP42C-05  Disturbances of Both Earth’s and Cometary Magnetospheres Excited by the Same Solar Flare: Y Konza, T Saito
1455 h  SP42C-06  INVITED  Forecasting Magnetically Quiet Periods: J A Joselyn

1520 h  BREAK

1535 h  SP42C-08  Geomagnetic Activity for Northward Fields: L Scarry, C T Russell
1550 h  SP42C-09  Polarizations of Sudden Commencements and Sudden Impulses in the Magnetotail: H Kawano, T Yamamoto, S Kokubun
1605 h  SP42C-10  Current Vortices in the Polar Ionosphere at the Geomagnetic Sudden Commencements: H Nagano, T Araki
1625 h  SP42C-11  Magnetic Field Structure at the Geosynchronous Orbit: T Araki, T Iguchi
1640 h  SP42C-12  Suprathermal Mass Spectrometer (SMS) Observations of Minor Ions in the Magnetosphere: A W Yau, B A Whalen

T42A  SFK: Middle Hall  Thurs 1330 h  
Rifting, Back Arc Basins, and Tectonics II
Presiding: T Takeshita, Ehime Univ; A Nur, Stanford Univ

1330 h  T42A-01  Dynamics and Evolution of the Lithosphere-Asthenosphere System in the Japanese Island Arc: Japan Sea Opening and Hidaka Metamorphism: T Takeshita, M Komatsu, A Yamaji
1345 h  T42A-02  Fission-Track Thermochronology of Granitic Bodies Around Kofu Basin, Central Japan: T Nishiyama, T Tagami, S Nishimura
1400 h  T42A-03  Counter-Clockwise Paleomagnetic Direction From the Gogonyama Formation (N9-N10) on the Western Coastal Area of Northeast Japan: Implications for the Formation of the Japan Sea: H Momose, M Torii
1415 h  T42A-04  Crustal Structure and Magnetic Anomaly in Southern Part of Boso Peninsula, Chiba, Japan: R Morijiri, T Fujiwara, S Ogura, H Kinoshita, T Nagao
1430 h  T42A-05  K-Ar Ages of Some Plutonic Rocks in the South Fossa Magna: K Saito, I Otomo, K Kato, Y Takai

1445 h  BREAK

1500 h  T42A-07  Continental Rifting in Kyusyu, Japan: T Tada
1515 h  T42A-08  Deformation of a Narrow Zone Along the Indus-Zangbo Suture Between India and Asia: Paleomagnetic Study of Western Tibet: Y Otofuji, S Funahara, J Matsuo, F Murata, K Yaskawa, T Nishiyama, X Zheng
1545 h  T42A-10  Deformation of Southern Asia: The Preliminary Paleomagnetic Study of the Western Yunnan Province, China: S Funahara, Y Z Wang
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<td>1345 h</td>
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<td>INVITED Interpretation of 1989 off Itō Earthquake Swarm and Submarine Volcanic Activities in Central Japan: Y Okada, E Yamamoto</td>
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<tr>
<td>1410 h</td>
<td>V42A-03</td>
<td>The Seismicity Accompanying the Eruption of a New Submarine Volcano off Izu Peninsula, Japan: S Ueki, Y Morita, T Nishimura, S Horiuchi, H Hamaguchi</td>
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<tr>
<td>1425 h</td>
<td>V42A-04</td>
<td>INVITED Source Mechanism of Volcanic Trenor Estimated From Seismic Array Observations: K Yamaoka</td>
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<tr>
<td>1450 h</td>
<td>V42A-05</td>
<td>Source Process of an Unusual Earthquake (M5.5) During the 1989 Itō-oki, Japan, Pre-Eruption Swarm Activity: E Fukuyama, S Kinoshita, F Yamamizu</td>
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<tr>
<td>1505 h</td>
<td>V42A-06</td>
<td>Reflection Profiles of the Active Volcanic Region off the East Coast of Izu Peninsula: K Kasahara, F Yamamizu, A Takahashi, T Ikawa</td>
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<tr>
<td>1520 h</td>
<td>V42A-07</td>
<td>Multi-Channel Reflection Profiles of the Active Tectonic Field, off the East Coast of the Izu Peninsula: K Kasahara, H Suzuki, F Yamamizu, Y Okada, T Kuroda, T Ikawa, Y Iwaki, M Asada</td>
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<tr>
<td>1535 h</td>
<td>BREAK</td>
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<td>1550 h</td>
<td>V42A-09</td>
<td>INVITED Possible Models of Long Valley Caldera From 3-D Raytracing of Teleseismic Waves: L K Steck, W A Frohéro</td>
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<td>1615 h</td>
<td>V42A-10</td>
<td>INVITED The Evolving Image of a Complex Magmatic System Beneath Long Valley Caldera and the Mono-Inyo Volcanic Chain, Eastern California: D P Hill, R A Bailey</td>
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<td>1330 h</td>
<td>V42B-01</td>
<td>Ne Excess in Natural Glasses: K Matsubara, J Matsuda</td>
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<td>1345 h</td>
<td>V42B-02</td>
<td>Partition of Nitrogen and Noble Gases Between Gas and Liquid Phases: A Miyazaki, H Hiyagon, K Hashizume, N Sugiura</td>
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<td>1400 h</td>
<td>V42B-03</td>
<td>Concentrations of Polonium-210 and Lead-210 in the Surface Air, Sublimates and Condensates From Volcanic Areas of Japan: K Komura, K Uchida, M Yamamoto, K Ueno, H Sakamoto</td>
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<tr>
<td>1415 h</td>
<td>V42B-04</td>
<td>Trace and Volatile Element Microanalyses by SIMS: H Yurimoto, M Kurosawa, S Sueno</td>
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<tr>
<td>1430 h</td>
<td>V42B-05</td>
<td>Microanalyses of H2O and CO2 in Silicate Glasses by Laser Extraction and QMS: G Saitoh, M Kusakabe</td>
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<tr>
<td>1445 h</td>
<td>V42B-06</td>
<td>3He Flux From Subaerial Volcanoes: The 210Po Calibration: B Marty, M F Le Cloarec</td>
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<tr>
<td>1500 h</td>
<td>BREAK</td>
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<td>1515 h</td>
<td>V42B-08</td>
<td>INVITED An Estimate of Thermal and CO2 Fluxes to Lake Nyos, Cameroon: M Kusakabe, Y Njiri, Y Sano, H Sato, J Hiraibayashi, H Shinohara, G Tanypeke</td>
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<td>1535 h</td>
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<td>INVITED Chemistry and Metal Contents of Discharges From Esan and Kirishima Volcanoes, Japan: Effects and Significance of Meteoric Interaction: M Aoki, J W Hedenquist</td>
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<td>1555 h</td>
<td>V42B-10</td>
<td>Oxygen Isotope Measurement of Wairakite and Its Application to the Kirishima and Takigami Geothermal Fields, Japan: M Noto, M Kusakabe</td>
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<td>1610 h</td>
<td>V42B-11</td>
<td>Dissolution and Hydration of Olivine Under Hydrothermal Conditions: K Fujimoto, B Velde</td>
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<td>1625 h</td>
<td>V42B-12</td>
<td>Precipitation and Dissolution of Quartz in Cooling and Diluting Hydrothermal Solution: Y Shibue</td>
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<td>1640 h</td>
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<td>ESR Studies of Thermal Effect in Metamorphic Rock Near the Instruction Rock: S Toyoda, M Ikeya, H Minamibayashi</td>
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<td>1655 h</td>
<td>V42B-14</td>
<td>Fossilized Argon Wave in Biotite Around a Dike Contact: D York, H Hyodo</td>
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<td>1710 h</td>
<td>DISCUSSION</td>
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**Friday A.M.**

**Paper Numbers.** A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T51A-01.**

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Thus, **T51A-01** = Tectonophysics, Friday, AM, concurrent session A, first paper in that session.

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**G51A**

**SKC: 21**

**Gravity, Sea Level, and Vertical Motion**

**Presiding:** J Segawa, Univ of Tokyo; M Zumberge, Scripps Inst. of Oceanogr.


0845 h G51A-02 A Closed Global Gravity Tie by a Surface Ship Gravimeter and Study of Long-Wavelength Gravity Anomaly: J Segawa, C S Yang, Y Fukuda

0900 h G51A-03 Height Variations of the Global Satellite Laser Ranging Network: E C PavUs, D E Smith

0915 h G51A-04 Tidal Gravity Observation at Asuka Station on the Ice Sheet of Antarctica: K Shibuya, F Ogawa, Y Fukuda

0930 h G51A-05 Gravity Anomaly as a Fossil Evidence of Past Fault Motion: S Okubo, R Shichi, M Satomura, M Komazawa

0945 h G51A-06 Secular Gravity Change in Tokai District, Honshu, Japan: S Nakai, R Shichi, K Nakamura, T Higashi

1000 h **BREAK**

1015 h G51A-08 Gravity Changes Associated With Atmospheric Pressure Variation Observed by a Superconducting Gravity Meter: K Doi, T Higashi, I Nakagawa

1030 h G51A-09 Plans for the Development of an Ocean Bottom Absolute Gravity Meter: M A Zumberge, J A Hildebrand

1045 h G51A-10 A New Generation Transportable Absolute Gravimeter: T Tsubokawa, H Hanada, S Tsuruta

1100 h G51A-11 Development of the Absolute Gravimeter With a Rotating Vacuum Pipe and Experiments for Automation: H Hanada, T Tsubokawa, S Tsuruta

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**H51A**

**KNK: Fuyo B**

**Fri 0830 h**

**Surface Water Hydrology II**

**Presiding:** K Takeuchi, Yamanashi Univ

0830 h H51A-01 Experiments on Stream Flow Generation by the Hillslope Model: Y Sakura

0845 h H51A-02 Experimental Study of the Infiltration Processes in a Slope: T Yamada, Y Iwasaki

0900 h H51A-03 A Long-Term Runoff Model Based on Subsurface Flow: M Tani

0915 h H51A-04 Hydrogeomorphological Interactions on the Hillslope With Special Reference to the Throughflow: K Okunishi, T Yoshida, T Saito

0930 h H51A-05 A Basic Study on Effects of Catchment Scale on Direct Runoff Discharge: K Sunada

0945 h H51A-06 Hydrologic Process Zone Identification for Small Catchments Subject to Land Use Change: S J Burges

1000 h **BREAK**

1015 h H51A-07 Effects of Land Reclamation on Runoff Characteristics: H Tanakamaru, M Kadoya

1030 h H51A-09 On the Formation of Hydrograph and Its Characteristics: T Yamada, Y Toyoda


1100 h H51A-11 Tropical Hydrology Simulation Model-1 for Watershed Management: S Susanto, Y Kaida

1115 h H51A-12 Study on the Synthetic Storage Function Model: H Sugiyama, M Kadoya, A Nagai

1130 h H51A-13 Study on Runoff Process Based on Probability Characteristics of River Network Structure: H Hayakawa, M Fujita

1145 h H51A-14 Interrelationships Among Slope Failures, Hydrological Processes and Regolith Zone Formation: Y Onda, S Shindo

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**H51B**

**KNK: Horai**

**Fri 0830 h**

**Contaminant Transport: Theory and Interpretation**

**Presiding:** S P Neuman, Univ of Arizona; M Nishigaki, Okayama Univ

0830 h H51B-01 **INVITED** Characteristic Finite Element Method With Spline Interpolation for Convective-Dispersive Transport: K Fujinawa

0855 h H51B-02 Transverse Dispersivity in the Mixing Zone of Fresh-Salt Groundwater: K Jinno, K Momi, T Hosokawa

0910 h H51B-03 Stochastic Analysis of Dispersion in Unsteady Flow Through Heterogeneous Porous Media: K R Rehfeldt, L W Gelhar

0925 h H51B-04 **INVITED** Solute Movement in Heterogeneous Porous Media: A Discussion of the Position and Arrival Time Analyses: A M Shapiro

0950 h H51B-05 **INVITED** Effects of Heterogeneity and Viscosity in Simulation of Solute Transport: M F Wheeler, T F Russell
**O51A**  
**KNK: Aoi**  
**Fri 0830 h**  
**Waves, Tides, and Turbulence**  
**Presiding: I S F Jones, Univ of Sydney; T Yanagi, Ehime Univ**

**1000 h O51A-07**  
Sea Surface Height, Wind Speed and Significant Waveheight Variability in the Western Equatorial Pacific: E B Dobson, D L Porter

**1015 h O51A-08**  
Tidal Current in the Coastal Waters: N Hayakawa, Y Matsuno

**1030 h O51A-09**  
Tide-Induced Residual Currents Caused by the Horizontal Variation of the Tidal Currents in a Rotating Basin: H Yasuda

**1045 h**  
**Withdrawn**

**1100 h O51A-11**  
Directional Spectra Observations of Seafloor Microseisms and Gravity and Infragravity Water Waves From an Ocean Subbottom Seismometer Array: T Yamamoto, T Nye, M Trevorrow, D Goodman

**1115 h O51A-12**  
The Bottom Shear Modulus Profiler (BSMP), a Passive Remote Sensor Using a Gravity Wave Inversion: T Yamamoto, M Trevorrow

**S51A**  
**SKC: Large Hall**  
**Fri 0930 h**

**Dynamics and Structure of Plate Boundaries III (joint with T)**

**Presiding: K Shimazaki, Tokyo Univ**

**0930 h S51A-01**  
Apparent Polar Wander Path of North China Block Since Jurassic: Z Zheng, M Kono, H Tsunakawa, G Kimura, Q Wei, X Zhu, T Hao

**0945 h S51A-02**  
Intraplate Movement Inferred From Paleomagnetic Poles From East of Tanlu Fault in the North China Block: H Uchimura, M Kono, G Kimura, H Tsunakawa, Q Wei

**1000 h S51A-03**  
Incipient Rifting of Oceanic Lithosphere Associated With the Large-Scale Plate Boundary Reorganization Near Easter Island: D F Naar, F Martinez, R N Hey

**1015 h S51A-04**  
Glaucophane Schists of Diverse Ages Associated With Serpentinite Belts in Eastern Australia: T Watanabe, T Itaya, S Fukui, E C Leitch, M Iwasaki

**1030 h**  
**Break**

**1045 h S51A-05**  
Seismicity Along the Southern Segment of the Pacific-Australian Plate Boundary: M E Wysession, E A Okal

**1050 h S51A-06**  
Means and Variances of Focal Mechanism Solutions: S Matsushima

**1115 h S51A-07**  
Seismic Activity and Tectonic Stress in Kyushu, Southwest Japan: H Shimizu, N Matsuno, K Umakoshi, S Kuwahara

**1130 h S51A-08**  

**1145 h S51A-09**  
Recurrent Slip Pattern: Field Evidence in Beppu Bay, Japan: K Shimazaki, T Nakata, N Chida, M Okamura, T Miyatake

**S51B**  
**SKC: 32.33**  
**Fri 1000 h**

**Dynamics and Structure of the Deep Interior 1 (joint with G,GP,T,V)**

**Presiding: C Wicks Jr, Univ of California, B**

**1000 h S51B-01**  
Hydrogen Distribution in San Carlos Olivine: M Kurosawa, H Yurimoto, S Sueno, K Matsumoto

**1015 h S51B-02**  
Oxygen Diffusion Along High Diffusivity Paths in Forsterite and Implications for Creep Mechanism: H Yurimoto, M Morikawa, H Nagasawa

**1030 h S51B-03**  
Time-Dependent Convection With T, P-Dependent Non-Newtonian Rheology: T Nakakuki, H Fujimoto

**1045 h S51B-04**  
Seismologic Constraints on the Phase Change at 670 km: C W Wicks, M A Richards

**1100 h S51B-05**  
Global Upper Mantle Lateral Velocity Variations With Spherical Harmonics up to lmax = 30: Y S Zhang, T Tanimoto

**1115 h S51B-06**  
Iterative Waveform Inversion for Laterally Heterogeneous Earth Structure Using a Laterally Heterogeneous Starting Model: T Hara, S Tsuibo, R J Geller

**1130 h S51B-07**  
Lateral Variation of Q From Singlet Modal Q Measurements of 0S2: T Tanimoto

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1145 h S51B-08 Thickening of Subducted Lithosphere at a Viscosity Step: C Trengove, G F Davies

SP51A KNK: Kaga Fri 0830 h

Highlights of the EXOS-D, Viking, and DE Projects I
Presiding: H Oya, Tohoku Univ

0830 h SP51A-01 INVITED The Dynamics Explorer Program and Its Application to the Auroral Particle Acceleration Problem: R A Hoffman

0900 h SP51A-02 INVITED ELF/VLF Wave Signatures of Wave-Particle Interactions Observed on the Dynamics Explorer-1 Spacecraft: U S Inan, V S Sonwalkar, R A Helliwell

0925 h SP51A-03 INVITED Impulsive VLF Signals Observed on the DE 1 Satellite: R A Helliwell, V S Sonwalkar, U S Inan

0950 h BREAK

1005 h SP51A-05 INVITED The Viking Project: G Gustafsson

1035 h SP51A-06 INVITED High Latitude Observations of Low Frequency Electromagnetic Waves From Viking: R E Erlandson, T A Potemra, L J Zanetti

SP51B KNK: Fuyo A Fri 0830 h

Stratospheric Ozone and Atmospheric Chemistry I
(joint with A)
Presiding: N Iwagami, Univ of Tokyo

0830 h SP51B-01 Stratospheric Ozone, Temperature and Aerosol Measurements by MRI Mark II Mobile Lidar: O Uchino, T Tabata

0855 h SP51B-02 Observation of Stratospheric Ozone and Temperature Profiles Using a Multiple Wavelength UV Lidar at NIES: H Nakane, Y Sasano, N Sugimoto, S Hayashida-Amano, J Matsui, A Minato

0910 h SP51B-03 Observations of Atmospheric Ozone and Nitrous Oxide With the Laser Heterodyne Spectrometer at Sendai, Japan: M Taguchi, S Okano, H Fukunishi

0925 h SP51B-04 Concurrent Observations of Tropospheric and Stratospheric Ozone With the Laser Heterodyne Spectrometer and Ozonesondes at Sendai, Japan: S Okano, M Taguchi, H Fukunishi, Y Sasano

0940 h SP51B-05 Diurnal Variation of Nitric Oxide in the Upper Stratosphere: Y Kondo, A Iwata, M Pirre, R Ramaroson, P Aimedieu, W A Matthews, W R Sheldon, J R Benbrook

0955 h SP51B-06 Far Infrared Limb Observing Spectrometer for Stratospheric OH Measurements: H M Pickett, D B Peterson

1010 h SP51B-07 A Simulation Study to Observe Stratospheric O₃ and ClO Using Millimeter-Wave Ground-Based and Limb Sounding Systems: S Ochital, H Masuko

1030 h BREAK

1045 h SP51B-09 Distribution of Total Ozone Amounts Over Japan Derived From NOAA/TOVS Data: S Takahashi, S Okano, H Fukunishi

1100 h SP51B-10 Plan for Polar Ozone Studies Using Improved LAS Onboard ADEOS Satellite: Y Sasano, M Suzuki, T Yokota, H Akimoto, A Matsuzaki, K Asada


1130 h SP51B-12 Model Assessment of the Ozone Impacts From CFC Substitutes: N D Sze, M Ko

1145 h SP51B-13 Early Detection of Stratospheric Changes: Possible Impact of Heterogeneous Chemistry: J M Rodriguez, N D Sze, M K W Ko

1200 h SP51B-14 Ozone Impact From Hypersonic Civil Transport: A Two-Dimensional Model Assessment: M Ko, N D Sze, D Weisenstein

1215 h SP51B-15 Input of the Atmospheric Trace Elements to the Yellow Sea During the Spring of a Low-Dust Year: Y Gao, R A Duce, R Arimoto

T51A SFK: F Fri 0845 h

High Pressure
Presiding: M Nicol, Univ of California, LA; M Akaogi, Gakushuin Univ

0845 h T51A-01 Direct Determination of Cation Diffusion Coefficients in Pyroxenes: K Fujino, H Naohara, H Momoi

0900 h T51A-02 Sulfur at High Pressures: Raman Spectra, Photosensitivity, and Phase Transitions: P Wolf, B J Baer, H Cynn, M Nicol

0915 h T51A-03 Pressure Effect on the Divalent Cation Distribution in Mg-Fe Olivine Solid Solution: T Aka-matsu, M Kumazawa, N Aikawa, F Takei


0945 h T51A-05 Prediction of Inactive Modes and Bulk Moduli for Rutile-Types From Vibrational Spectra: A M Hofmeister

1000 h BREAK

1015 h T51A-07 Nonhydrostatic and Nonequilibrium Thermodynamics of Rocks: I Shimizu

1030 h T51A-08 Pressure Derivatives of Elastic Constants of Single Crystal MgO and MgAl2O4: A Yoned

1045 h T51A-09 Transformation Mechanism of Forsterite to Spinel Structures Under Distinctive Stress Conditions: K Fujino, T Irie

1100 h T51A-10 Determination of Phase Boundary of Rutile-AlphaPbO2 Transition in TiO2: M Akaogi, K Kusaba, J Susaki, T Yagi, M Matsui, T Kikegawa

1115 h T51A-11 Applicability of Oxygen Proper Solid Electrolyte to High Pressure Research: A Yasuda, T Fujii

1130 h T51A-12 Estimation of Supplied Impact Sites From Density and Composition of Plagioclase Feldspar: Y Miura

1145 h T51A-13 Different An Contents and Crystallization Ages Among Terrestrial, Meteoritic, Martian and Lunar Plagioclase Feldspars: Y Miura
V51A  SFK: Large Hall  Fri 0830 h  
Geodynamics and Evolution of the Earth I (joint with P,S,T)  
Presiding: T Matsui, Univ of Tokyo; D J Stevenson, Caltech

0830 h  V51A-01  On the Temporal Variation of the Impact Flux of the Moon: S Sugita, T Matsui
0845 h  V51A-02  INVITED  Differentiation, Convective Mixing and Impact Stirring in the Early Earth: Y Abe
0905 h  V51A-03  Thermal Equilibration of the Earth Following a Giant Impact: T Spohn, G Schubert, M Ogawa
0925 h  V51A-04  Global Magma Ocean—Formation Mechanism and Constraints: S Sasaki
0940 h  V51A-05  A Possible Role of Heavy Bombardments on the Origin and Evolution of Continents: T Matsui, K Kuramoto

1010 h  BREAK

1025 h  V51A-08  INVITED  Core Formation and the Nature of the Core-Mantle Boundary Regions: D J Stevenson
1050 h  V51A-09  Numerical Simulation of Rayleigh-Taylor Instability and Its Application to Formation of the Earth’s Core: R Honda, H Mizutani
1105 h  V51A-10  Hydrodynamic Stability of the Thermal and Compositional Boundary Layer at the CMB: Y Muromachi, M Kumazawa
1120 h  WITHDRAWN

V51B  SFK: Middle Hall  Fri 0830 h
Petrologic Studies of Volcanoes I (joint with S)  
Presiding: T Yanagi, Kyushu Univ; M F J Flower, Univ of Illinois

0830 h  V51B-01  INVITED  Style of Silicic Volcanism in the Snake River Plain—Yellowstone Hotspot Track: A Petrologic Overview: N Honjo, W P Leeman
0850 h  V51B-02  A Modeling of Sakurajima Volcano: T Kobayashi
0905 h  V51B-03  INVITED  Coupled Chambers and Repeated Eruptions of Sakurajima Volcano: T Yanagi
0925 h  V51B-04  Multi-Active Volcanic Group Generated in a Slightly Tensile Stress Field: T Kagiyama, Y Ida, M Yamaguchi, M Masutani
0940 h  V51B-05  Thermal Structure Beneath Kuju Volcano, Central Kyushu, Japan: S Ehara
0955 h  V51B-06  Velocity Structure in the Unzen Volcanic Region, Southwest Japan: S Ohmi, H Shimizu

1010 h  BREAK

1025 h  V51B-08  INVITED  Decompression Melting Beneath Stretched Lithosphere: Hainan Island Basalts, South China: M F J Flower, K Tu, M Zhang, G H Xie
1045 h  V51B-09  Two Types of the Cenozoic Alkali Basalts in SW Japan, and Their Source Mantle: N Fujibayashi, T Nagao, H Kagami

1100 h  V51B-10  Temporal Variations of Magmas From the Young Somma to the Central Cone Stages of Hakone Volcano, Japan: Y Hirata
1115 h  V51B-11  A Petrologic Model for Northern-Yatsugatake Volcanoes, Central Japan: M Nakamura
1130 h  V51B-12  Two Reservoir System Beneath Asama Volcano, Central Japan, as Revealed by Leveling Survey: T Miyazaki
Friday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T52A-01.

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Thus, T52A-01 = Tectonophysics, Friday, PM, concurrent session A, first paper in that session.

G52A SKC: 21 Fri 1330 h

Western Pacific GPS (joint with T)

Presiding: I Murata, Univ of Tokyo; M Bevis, North Carolina State Univ

1330 h G52A-01 INVITED The Southwest Pacific GPS Project: Monitoring Crustal Dynamics and the Earthquake Cycle in an Area of Rapid and Complex Plate Motions: M Bevis, J Recy

1400 h G52A-02 INVITED Geodetic Studies of Oblique Plate Convergence in Sumatra: Y Boek, R McCaffrey, J Rais, I Murata

1430 h G52A-03 Southwest Japan GPS Campaign: K Hirahara

1445 h G52A-04 A GPS Study of the Philippine Sea Plate: J Beavan, C H Scholz, I Murata, T Kato, H Ishii, D M Davis, S W Roecker, K Hirahara, T Tamaka

1500 h BREAK

1515 h G52A-06 Crustal Movement Observations Caused by Subduction of the Philippine Sea Plate in Kii Peninsula and Shikoku, Southwestern Japan: T Tanaka, M Kato, K Hirahara, Y Hosot, T Tabei

1530 h G52A-07 Preliminary Results of Crustal Motion Monitoring by GPS in Central Japan: F Kima, M Nakamura, R Miyajima, T Okuda, Y Sumino, I Fujii, M Satomura, Y Sasaki, Y Sasaki


1600 h G52A-09 The Sagami Bay GPS Campaign in the South Kant, Japan: T Kato

1615 h G52A-10 GPS Campaigns in the Hokusiku District, Central Japan: T Kato, A Takeuchi, Y Yabuta, K Hirahara, Y Kono, T Nagao, S Okubo, K Kawai, T Miyai

1630 h G52A-11 GST's Regional GPS Tracking Network in Japan: H Tsuji, M Murakami

H52A KNK: Fuyo B Fri 1330 h

Stable and Radioactive Isotopes in Hydrology II

Presiding: N Tase, Univ of Tsukuba; W Wood, USGS, Reston

1330 h H52A-01 INVITED Methane in the Crystalline Environment The Case for Abiogenic Synthesis: B S Lollar, S K Frape, P Fritz, S A Macko, J A Welhan

1355 h H52A-02 INVITED Delta^{15}N Studies of Groundwater Nitrate Transport Through Macropores in a Mantled Karst Aquifer: N C Krothe

1420 h H52A-03 INVITED ^{11}B/^{10}B Isotopic Ratio for Environmental, Geochemical, and Hydrologic Application: R L Bassett, G R Davidson

1445 h H52A-04 Geochemical Study of Natural Groundwater Recharge in Semi-Arid Inland of Tanzania: M Hayashi

O52A KNK: Aioi Fri 1330 h

Western Boundary Currents I

Presiding: D Hu, Academia Sinica; W S Chuang, Taiwan National Univ

1330 h O52A-01 Subtropical Mode Water in the North Pacific Ocean: T Suga, K Hanawa

1350 h O52A-02 INVITED Temperature Distributions Near the Kuroshio: F Bingham

1420 h O52A-03 The Structure of the Kuroshio Front off From Boso to Joban Coast: H R Shin, Y Nagata

1440 h O52A-04 INVITED The Kuroshio in the East China Sea: A Three-Dimensional Hydrographic Inversion: D Roemmich, B Cornuelle

1510 h BREAK

1525 h O52A-06 Effects of Coastal Irregularity on the Flow Over a Continental Slope: H Nishigaki, N Imasato, T Awaji

1545 h O52A-07 Spatial and Temporal Variability of Volume Transport of the Kuroshio in the East China Sea: H Ichikawa, R C Beardsley

1605 h O52A-08 Statistical Features of the Turbulent Flow of the Kuroshio: K Rikiishi

1625 h O52A-09 Blocking of an Oceanic Front: Eddy Branching of the Kuroshio: L Y Oey, P Chen

1645 h O52A-10 Southward Intrusion of the Intermediate Oyashio Water Along the Coast of the Boso Peninsula, Japan: S K Yang, Y Nagata, K Taira

S52A SKC: Large Hall Fri 1330 h

Dynamics and Structure of Plate Boundaries IV (joint with T)

Presiding: N Hirata, Chiba Univ

1330 h S52A-01 Gravity Anomalies, Their Gradients, and Isostasy Over the Japanese Islands: Y Kono, M Awara, N Furuse

1345 h S52A-02 Geophysical Research on the Structure of Ogchon Belt, Korea: S Nishimura, K D Min, T Mogi, J Nishida, S C Shin
1400 h  S52A-03  Gravity Anomalies and Structure of the Ulleung Basin, East Sea (Sea of Japan): M Suh, B C Suk, S R Kim, Y Kim

1415 h  S52A-04  Digital Broadband Borehole Seismometer System in ODP Hole 794D in the Japan Sea: K Suyehiro, T Kanazawa, N Hirata

1430 h  S52A-05  High Resolution Seismic Crustal Structure in the Northern Yamato Basin of the Japan Sea by an Array of OBSs and Downhole Seismometer at ODP Site 794D: M Shinohara, N Hirata, H Kinoshita, T Kanazawa, K Suyehiro, H Nanbu, S Abe

1445 h  S52A-06  Ocean Bottom Seismometer Measurement of the 1989 DELP Experiment in the Vicinity of T-T-T Triple Junction off Boso Peninsula, Japan: N Hirata

1500 h  BREAK

1515 h  S52A-08  Network MT Measurement in the Eastern and Central Parts of Hokkaido, Northern Japan: M Uyeshima, H Utada, T Kawase, S Uyeda, Y Nishida


1545 h  S52A-10  Waveform Inversion for Vertical Velocity Structure of the Crust and Uppermost Mantle: T Shibutani, K Hirahara

1600 h  S52A-11  Reflection Survey on Osaka Basin Structure: Y Iwasaki, S Sawada, T Kagawa, N Matsuyama, K Ohsima

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S52B  SKC: 32.33  Fri 1330 h

Dynamics and Structure of the Deep Interior II (joint with G,G,P,T,V)

Presiding: A M K Szeto, York Univ

1330 h  S52B-01  Detection of Core Modes of the Earth’s Free Oscillation Using a Superconducting Gravimeter Record: Y Imanishi, M Kumazawa, T Sato, M Ooe

1345 h  S52B-02  Variations of the Vertical and Thermal Instability at the CMB: C Kakuta

1400 h  S52B-03  The Convective Velocity of the Outer Core: S Yoshida, M Kumazawa

1415 h  S52B-04  On the Nature of Fluid Motion in the Outer Core: Y Honkura, H Takayanagi

1430 h  S52B-05  Fluid Motion in the Earth’s Outer Core Estimated for a Strong Toroidal Magnetic Field Model: M Matsushima, Y Honkura

1445 h  BREAK

1500 h  S52B-07  The Sixty Year Variation and Fluid Motion Beneath the Core-Mantle Boundary: Y Yokoyama, T Yukutake

1515 h  S52B-08  Application of Computer Algebra to Kinematic Dynamos: T Nakajima, M Kono

1530 h  S52B-09  A New Multipole Representation of the Geomagnetic Field: Y Sano, M Sugura

1545 h  S52B-10  Torque Balance of the Inner Core: A M K Szeto

---

SP52A  KNK: Kaga  Fri 1330 h

Highlights of the EXOS-D, Viking, & DE Projects II

Presiding: T A Potemra, APL/Johns Hopkins Univ

1330 h  SP52A-01  INVITED Mid-Altitude Signatures of the Dayside Magnetospheric Boundary Layers: Results From the Hot Plasma Instrument on Board Viking: J Woch, R Lundin

1400 h  SP52A-02  INVITED Results of EXOS-D (Akebono) Satellite for Auroral Particle Acceleration and Plasmasphere Responses to the Magnetospheric Activities: H Oya

1430 h  SP52A-03  Electrostatic Component of AKR Found in the Source Region: A Morioka, H Oya, K Kobayashi

1445 h  SP52A-04  The Effect of Non-Uniform Media in the Source Regions of Auroral Kilometric Radiations: K Kobayashi, H Oya

1500 h  BREAK


1535 h  SP52A-07  Akebono Observation of HIPAS VLF Modulation Signal: I Kimura, M Yamamoto, K Ishida, A Wong, T Okada, I Nagano, K Hashimoto


1505 h  SP52A-09  Amplitude and Phase Variation of Omega-Triggered Emissions Observed by the Akebono Satellite: Y Kishli, M Yamamoto, A Sawada, I Kimura


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SP52B  KNK: Fuyo A  Fri 1330 h

Stratospheric Ozone & Atmospheric Chemistry II (joint with A)

Presiding: Y Kondo, Nagoya Univ

1330 h  SP52B-01  Global Ozone Distribution in the Stratosphere Based on the EXOS-C Satellite Data: M Kolke, T Ogawa, K Suzuki

1345 h  SP52B-02  Polar Stratospheric Aerosol Enhancement and Geochemical Cycle of Nitric Acid: Aerosol Effect on Ozone Hole: Y Iwasaka, M Hayashi, Y Kondo, A Matthews

1400 h  SP52B-03  Antarctic Ozone Hole in 1989 Observed at Syowa Station and by Nimbus 7/TOMS: H Kanazawa, S Kawaguchi

1415 h  SP52B-04  Zonal Wind Changes Relating to the Development of the Ozone Hole: K Kawahira, T Hirooka

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<tr>
<td>1430 h</td>
<td>V52A-01</td>
<td>INVITED High Pressure Geochemistry of Cr, V Mn and O: Implications for the Formation of Planetary Cores and Origin of the Moon</td>
<td>A E Ringwood, W Hibberson</td>
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<tr>
<td>1435 h</td>
<td>V52A-02</td>
<td>Carbon as a Light Element in the Outer Core—High Pressure Melting Experiments in the System, Fe-C: Y Hirayama, T Fujii, K Kurita</td>
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<td>1441 h</td>
<td>V52A-03</td>
<td>INVITED Melting of the Allende CV3 Meteorite up to 25 GPa: Importance of Magnesiowustite in Earth Differentiation: C B Agee</td>
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<td>1443 h</td>
<td>V52A-04</td>
<td>INVITED Calcium Perovskite Controlling Fractionation of Basaltic Material and Chemical Heterogeneity of the Mantle: T Kato</td>
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<tr>
<td>1510 h</td>
<td>V52A-07</td>
<td>Phase Equilibria of Mantle Minerals up to 7.5 GPa: T Kawasaki</td>
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<td>SP52B-08</td>
<td>Unmanned Aircraft: New Tools for Atmospheric Research in the 1990s: J G Anderson, J S Langford</td>
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<tr>
<td>1530 h</td>
<td>SP52B-09</td>
<td>Nitric Oxide and Ozone Measurements From Mid-Latitude to Equator Over the West Pacific: Y Kondo, Y Iwasaka, A Iwata, T Ogawa, Y Sugimura, Y Makino</td>
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<td>1545 h</td>
<td>SP52B-10</td>
<td>Global Distribution of Atmospheric Ozone and Aerosol During the INSTAC Campaign: Y Makino, Y Tsutsumi, M Ikegami, K Okada, Y Zaizen, Y Nikaido</td>
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<td>1600 h</td>
<td>SP52B-11</td>
<td>Long-Term Trends and Seasonal Variations of Atmospheric Methane in Japan: H Tsuruta</td>
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<td>1515 h</td>
<td>SP52C-02</td>
<td>Three-Dimensional Magnetohydrodynamic Simulation of the Interaction of the Solar Wind With the Venus Ionosphere: T Ogino, A Sakurai</td>
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<td>1540 h</td>
<td>SP52C-03</td>
<td>A Study of Interplanetary Magnetic Flux Ropes Using the PVO Magnetometer Data: K Marubashi</td>
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<td>1545 h</td>
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<td>INVITED Physics of the Venus Ionosphere: What We Think We Know and Don't Know: T E Cravens</td>
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<td>1550 h</td>
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<td>Statistical Properties of Impulsive Signals Observed in the Nightside Ionosphere of Venus: R J Strangeway, C M Ho, C T Russell</td>
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<td>1555 h</td>
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<td>Plasma Waves Observed in the Electron and Ion Foreshock of Venus: G K Crawford, R J Strangeway, C T Russell</td>
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<td>Venus Orbiter Program in Middle of 1990s Using Japanese Spacecraft: H Oya</td>
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<td>INVITED Venus Orbiter Program Using Japanese Spacecraft: H Oya</td>
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<td>Development of EUV Spectrometer Equipped With Absorption Cells for D/H Ratio Measurement: T Kawahara, S Okano, H Fukunishi</td>
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<td>1650 h</td>
<td>SP52C-10</td>
<td>Venus Mantle—Mars Planetosphere: What are the Similarities?: A F Nagy, T I Gombosi, K Szego, R Z Sagdeev, Y D Shapiro, V I Shevchenko</td>
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<td>V52A-08</td>
<td>On the Formation of Carbon Reservoir in the Earth’s Mantle: K Kurita, T Fujii</td>
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<td>1755 h</td>
<td>V52A-09</td>
<td>Stabilities of Carbonate in the Peridotite at High Pressures: Implications for a Carbon Reservoir in the Mantle: T Katsura, E Ito, S Akimoto</td>
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<td>1810 h</td>
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<td>INVITED Komatiite Genesis and Thermal State of the Early Earth: E Ohtani, J Moriyama, N Yurimoto</td>
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1630 h V52A-11 INVITED Reconstruction of the Archean Earth: E Takahashi
1650 h DISCUSSION

V52B SFK: Middle Hall Fri 1330 h
Petroleum Studies of Volcanoes II (joint with S)
Presiding: T Hasenaka, Tohoku Univ; R J Arculus, Univ of New England
1330 h V52B-01 INVITED A Model for a Quaternary Andesitic Volcano: Ruapehu, New Zealand: B F Houghton, W R Hackett
1350 h V52B-02 A First Approximate Petrological Model of Minamigassan Activity, Nasu Volcanic Group, NE Japan: M Ban
1405 h V52B-03 INVITED Tholeiitic and Calc-Alkline Magma Series at Adatara Volcano, Northeast Japan: Mechanism of Evolution and Petrological Relationship: A Fujinawa
1425 h V52B-04 Magmatic Evolution of Zao Volcano, Northeast Japan: A Sakayori
1440 h V52B-05 INVITED Bimodal Volcanism of Moriyoshi Volcano, Northeastern Japan: M Nakagawa
1450 h V52B-06 Volcanism Since 3 Ma in Aizu-Shirakawa District, Tohoku, Japan: I Moriya
1515 h BREAK

1530 h V52B-08 INVITED Klyuchevskoy (Kamchatka), the World's Most Active arc Volcano is the Product of a non-Steady State RTF Magma Chamber: R J Arculus, A B Kersting, V M Okrugin, A P Khrenov, S A Fedotov
1550 h V52B-09 INVITED Contrasting Monogenetic Volcanisms in Michoacan-Guanajuato, Mexico: Cinder Cone Group vs. Shield Volcano Group: T Hasenaka
1610 h V52B-10 Magma Chamber Beneath Slow-Spreading Ridge: Petrology of Fe-Ti Oxide Gabbros From ODP Leg 118, Hole 735B, South West Indian Ridge: K Ozawa, P S Meyer
1625 h V52B-11 Origin of Olivine Cumulate in the Toba Ultramafic Complex, Central Japan: H Ozawa
1640 h V52B-12 High Magnesium Primary Magmas From Haleakala Volcano, Hawaii: C Y Chen

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1145 h G61A-13 Plate Motion Parameters Estimated From Changing Rates of VLBI and SLR Baseline Lengths: K Sato
1200 h G61A-14 Deformation of the Aquifer due to Well Pumping: T Maruyama

H61A KNK: Fuyo B Sat 0830 h
Subsurface Transport: New Measurement Techniques
Presiding: I Kaihatsu, Hiroshima Univ; F J Molz, Auburn Univ

0830 h H61A-01 Physical Controls on Contaminant Migration and Recovery in an Alluvial Fan Setting: J A Conte, M M Mitchell, P T Regan
0845 h H61A-02 INVITED Field Measurements of Dispersion Parameters: G L Molynex
0935 h H61A-04 An Applicability of Directional Velocimeter With a CCD Camera to Groundwater Flow: Y Ando, T Tamura

1015 h BREAK

1030 h H61A-07 Determination of Subsurface Water Flux Using Temperature: M Taniguchi
1045 h H61A-08 Thermal Energy Storage Experiments in an Unconfined Aquifer at Sanrihama Dune: I Kobayashi, A Inamota, T Hashida, K Fujinawa
1100 h H61A-09 Analysis of Frequency Dependent Fluctuations of Groundwater Discharge Induced by Earth Tides and Atmospheric Loading: N Koizumi
1115 h H61A-10 INVITED An Investigation Method of Groundwater Flow in a Rock Mass Using Resistivity Tomography: K Ichikawa, H Ishibashi
1140 h H61A-11 INVITED In Situ Column Method for Evaluation of Biotrartion Rates: R W Gillham
1205 h H61A-12 INVITED Bioavailability of Organically Bound Micropollutants: J T Novak, K G Robinson

O61A KNK: Aioi Sat 0830 h
Western Boundary Currents II
Presiding: F Bingham, Scripps Inst. of Oceanogr.; J H Yoon, Kyushu Univ

0830 h O61A-01 INVITED Currents off Mindanao: D Hu, M Cui
0900 h O61A-02 The Structure and Transport of Low-Latitude Western Boundary Currents in the North Pacific During June and July 1988: P Hacker, E Firing, R Lukas
0920 h O61A-03 Sea-Surface Dynamic Topography in the Western North Pacific Derived From Satellite Altimetry Data: S Imawaki, K Ichikawa

0940 h O61A-04 INVITED Kuroshio/Oyashio Dynamics From 1/4° Models of the North Pacific: H E Hurlburt, E J Metzger, A J Walcraff

1010 h BREAK

1025 h O61A-06 Observations of Eddy Fields in the North-West Pacific by GEOSAT Altimetry: J Suwa, Y Okada, Y Sugimori
1045 h WITHDRAWN ce Height Variability
1105 h O61A-08 Anomalous Southward Intrusion of the Oyashio East of Japan: Y Sekine
1125 h O61A-09 Oceanic Circulations in the South Hemisphere: J Fukuoka

S61A SFK: Middle Hall Sat 0830 h
Earthquake Prediction and Hazard Assessment I
Presiding: C Kisslinger, Univ of Colorado

0830 h S61A-01 Long-Term Prediction of an M 7-Class Disastrous "Odawara Earthquake" in the Izu Collision Zone, Central Japan: K Ishibashi
0845 h S61A-02 Precursory Swarm of Moderate and Small Earthquakes in Northern Kinki District, Japan: K Ito
0900 h S61A-03 Current Seismic Quiescence at Parkfield, California: An Independent Indication of an Imminent Earthquake: M Wyss, P Bodin, R E Habermann
0915 h S61A-04 Time Constants in Seismicity Pattern: T Tsukuda
0930 h S61A-05 Changes in the Poisson Rate Prior to Major Earthquakes in Central Japan: M Imoto
0945 h S61A-06 Characteristics of Distribution of Regional Earthquakes Before the Moderate and Strong Earthquakes: S Jungo

1000 h BREAK

1015 h S61A-08 A Practical Approach to Identifying Foreshocks: Y Motoya
1030 h S61A-09 Earthquake Hazard After a Mainshock in the Kanto-Tokai Districts, Japan: P A Reasenberg, Y Okada, F Yamazaki
1045 h S61A-10 Prediction of and Hazard Assessment for Earthquakes and Tsunamis in the Japan Region: R Carmichael
1115 h S61A-12 Earthquake Hazard Assessment of Damsites: Y Nakayama
1130 h S61A-13 Automated Tsunami Warning Using Mantle Magnitudes and Tsunami Normal Mode Theory: J Talandier, E A Okal

SP61A KNK: Kaga Sat 0830 h
Highlights of the EXOS-D, Viking, & DE Projects III
Presiding: K Tsuruda, Inst. of Space and Astronaut. Sci.

0845 h SP61A-02 Some Characteristics of Whistlers Observed by the Akebono Satellite: I Nagano, E Kennel, I Kimura, M Yamamoto, T Okada, K Hashimoto
0900 h SP61A-03 Antenna Impedance Measurements by Akebono VLF Instruments: K Hashimoto, T Okada, I Nagano, M Yamamoto, I Kimura
0915 h SP61A-04 INVITED Structures and Origin of Small-Scale Field-Aligned Currents Observed by the Akebono (EXOS-D) Satellite: H Fukunishi, T Mikai
0945 h SP61A-05 Triaxial Search Coil Measurements of ELF Waves With EXOS-D: S Kokubun, M Takami, K Hayashi, H Fukunishi
1000 h SP61A-06 Field-Aligned Particle Acceleration in Upward Field-Aligned Currents: R Fujii, H Fukunishi, S Kokubun, M Sugura, T Mukai, N Kaya
1015 h SP61A-07 Identification of the Charge Carriers of Field-Aligned Currents by the Akebono (EXOS-D) Satellite: Y Takahashi, H Fukunishi, R Fujii, T Mukai
1030 h BREAK
1050 h SP61A-09 Irregular Electric Field Observed Near Midnight Auroral Region: H Hayakawa, K Tsuruda, T Mukai, A Matsuoka, Y I Kohn, T Okada
1105 h SP61A-10 Polar Cap Convection Related to the Polar Cap Arcs; Observations From the Akebono (EXOS-D): T Obara, T Mukai, H Hayakawa, S Machida, A Matsuoka, Y Kohn, K Tsuruda, A Nishida, N Kaya, T Okada
1150 h SP61A-12 EXOS-D Observations of Plasma Injection and Transport in the Dayside Polar Cusp: T Mukai, A Matsuoka, Y Saito, H Hayakawa, S Machida, K Tsuruda, A Nishida, N Kaya, E Sagawa, W Miyake, H Fukunishi
1205 h SP61A-13 Alternation of Ion Conics and Beams Observed by Low Energy Particle Instrument on Board EXOS-D: W Miyake, E Sagawa, T Mukai, N Kaya, H Fukunishi

SP61B KNK: Fuyo A Sat 0900 h
Substorms and Magnetosphere-Ionosphere Coupling Systems I
Presiding: Y Kamide, Kyoto Sangyo Univ; R L McPherron, Univ of California, LA
0900 h SP61B-01 INVITED Solar Wind and IMF Effects on High-Latitude Ionospheric Plasma Convection: C R Clauer
0925 h SP61B-02 INVITED Computer Simulation of Solar Wind-Magnetosphere-Ionosphere Interaction: K Watanabe
0950 h SP61B-03 A Macroscopic Study of Generation of Field-Aligned Currents in Height Integrated Plasma Sheet Coupled With Ionosphere: M Yamauchi
1005 h SP61B-04 INVITED The Role of Birkeland Currents in Substorms: T A Potemra
1030 h SP61B-05 Observation of Surge-Associated Field-Aligned Currents at Geosynchronous Orbit: N Nishitani, T Oguti

T61A SKF: Large Hall Sat 0830 h
Deep Earthquakes/Subduction Zones
Presiding: S Kirby, USGS, Menlo Park; T Shimamoto, Tokyo Univ
0830 h T61A-01 INVITED Transformation Faulting: A Physical Mechanism of Deep EQs: S H Kirby
0845 h T61A-02 INVITED Rheological Framework for Comparative Subduction Tectonology: T Shimamoto, T Seno
0900 h T61A-03 INVITED Faulting Accompanying the Olivine to Spinel Transition Under Stress: A New Mechanism for Deep-Focus Earthquakes: H W Green, P C Burnley
0915 h T61A-04 A Test of the Anticrack Theory of Deep Earthquakes: Initial Results: H W Green, T E Young, D Walker, C Scholz, D Prior
0930 h T61A-05 Kinetics of Dehydration, Fluid Flow and Reaction-Enhanced Ductility in a Subduction Zone: T Nishiyama
0945 h T61A-06 INVITED Subducting Garnetite Sheet of 450-750 km and Deep Focus Earthquakes: M Toriumi
1000 h BREAK
1015 h T61A-08 Preferred Orientation of Modified Spinel Type Mn2GeO4 Under Nonhydrostatic Stress: S Tanaka, C Hasegawa, A Fujimura
1030 h T61A-09 Study on Earthquakes Within a Subducting Slab in the Hindu Kush Region: N Sugl, M Kikuchi
1045 h T61A-10 The Large ScSp/ScS Amplitude Ratio and Its Relevance to the Structure of the Slab/Mantle Interface: G Hellfrich, S Stein, B Wood
1115 h T61A-12 Lower Mantle High-Velocity Zone Beneath the Okhotsk Sea as Inferred From Travel Time Analysis of the WWSSN Data: K Okano, D Suet sugu
1130 h T61A-13 Intermediate-Depth Earthquakes and Upper Mantle Structure Beneath the Northeastern Japan Arc: T Matusawa
1145 h T61A-14 The Depths of Subducting Garnetite Sheet Beneath the Bonin Islands: P R Lun"
0920 h V61A-04 INVITED Isotopic Evidence for Recycled Crust in the Sources of the Cook-Austral Island Rocks: M Tatsumoto, Y Nakamura


1000 h BREAK

1015 h V61A-07 Noble Gases in Carbonatites and Their Implications on the Subcontinental Upper Mantle: T Sasada, H Hiyagon

1030 h V61A-08 Anomalous Neon and Xenon Isotopes in Some Crustal Rocks: S Azuma, M Ozima, H Hiyagon


1105 h V61A-10 INVITED Mantle Pb Isotopes: Subduction of Continental Crust, a Geochemical Mystery Tour: E Jagoutz

1125 h V61A-11 INVITED 3.5 Ga Oceanic-Like Lithosphere: Some Chemical and Geodynamic Constraints on (Archean) Earth Models: M J de Wit, M Tredoux, R Hart

1145 h V61A-12 Mantle Plumes, Mantle Stirring and Hotspot Chemistry: G Davies

1200 h DISCUSSION

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Saturday P.M.

**Paper Numbers.** A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T62A-01.

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Thus, T62A-01 = Tectonophysics, Saturday, PM, concurrent session A, first paper in that session.

**G62A**

**SFK: F**

**Sat 1330 h**

**Seismotectonic Studies II**

**Presiding:** E Pavlis, NASA/Goddard Space Flight Center

**1330 h G62A-01** On-Going Distance Changes Between Japan and China From Geodetic Very Long Baseline Interferometry: K Heki, S Hama

**1345 h G62A-02** Constraints From VLBI on Pacific-North America Motion and Deformation: D F Argus, R G Gordon

**1400 h G62A-03** SLR and VLBI Results for Back Arc Stations: C G A Harrison, S Robaudo


**1445 h G62A-06** VLBI Experiments Using the Highly Transportable VLBI Station: J Amagai, H Kiuchi, A Kaneko, Y Sugimoto

1500 h BREAK

**1515 h G62A-08** Western Pacific VLBI Network: (1) Overviews and Introduction of Minami-Torisma (Marcus) VLBI Station: F Takahashi, C Miki, T Yoshino, E Kawai, K Imamura, Y Sugimoto, J Amagai, H Kiuchi, T Kondo, K Heki

**1530 h G62A-09** Western Pacific VLBI Network: (2) The Main Station With 34 m Antenna at Kashima: Y Koyama, H Takaba, M Imae, Y Sugimoto

**1545 h G62A-10** Western Pacific VLBI Network: (3) The Result of the First Experiment: S Hama, F Takahashi, C Miki, J Amagai, Y Takahashi, Q Ling

**1600 h G62A-11** GST's VLBI Observations: S Matsuzaka, M Tobita, Y Nakahori

**1615 h G62A-12** A New VLBI Data Acquisition System, K-4: H Kiuchi, S Hama, J Amagai, Y Abe, Y Sugimoto

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1630 h G62A-13 Results of Test Observation at Tokyo SLR Station: H Kunimori, E Kawai, F Takahashi, T Itabe, T Aruga, A Yamamoto


H62A KNK: Fuyo B Sat 1330 h
Snow Hydrology and Spatial Scaling
Presiding: D Marks, NSI Environmental Sciences; K Tusima, Toyama Univ


1355 h H62A-02 INVITED Coupling an Energy Balance Snowmelt Model to a Watershed Model: D Marks, D P Lettenmaier, L Vail

1420 h H62A-03 Characterization of Monthly Precipitation Patterns in Mountainous Regions: J Dolph, D Marks, D Phillips

1435 h H62A-04 Continuous Observations of Bottom-Melt and Percolated Meltwater During the Winter: Y Ujihashi, N Takase

1450 h BREAK

1505 h H62A-06 INVITED Distributed Approach to Modeling the Chemical Composition of Snowmelt Runoff: R Bales, R Davis

1530 h H62A-07 Parameterization of Heterogenous Flow in Melting Snow Covers: P Marsh

1545 h H62A-08 Fundamental Investigation on the Role for the Melting Rate of Snow by Atmospheric Factors: M Hasebe, T Kumeakawa, M Hino

1600 h H62A-09 Hydrologic Regime in Tundra Plain, Permafrost Regions, Alaska: K Nakao, E Tokunaga

O62A KNK: Aioi Sat 1330 h
Biogeochemical Flux and Cycling
Presiding: Y Suzuki, Meteorological Res. Inst.; J Murray, Univ of Washington

1330 h O62A-01 Pore Water Chemistry of Sediments From a Deep-Sea "Cold Seepage" Community off Hatsushima Island, Sagami Bay: T Masuzawa, N Handa, H Kita-gawa, M Kusakabe

1350 h O62A-02 Carbonate Chemistry of the Wintertime Bering Sea Marginal Ice Zone: C T A Chen


1430 h O62A-04 Descriptive Chemical Oceanography off Northeast Taiwan: The Comparisons Between Summer and Winter: C T A Chen, R Rou

1450 h BREAK

1510 h O62A-06 Comparative Study of Biogeochemical Data by Using Mean Oceanic Residence Time as a Standard: T Yamamoto, Y Otsuka, K Okamoto

1530 h O62A-07 Sedimentation Rates and Fluxes in the Western Philippine Sea: R S Chen, Y Chung


1630 h O62A-10 INVITED Th234 Disequilibrium and New Production in the Eastern Equatorial Pacific: C L Wei, J W Murray

S62A SFK: Middle Hall Sat 1330 h
Earthquake Prediction and Hazard Assessment II
Presiding: M Ohtake, Tohoku Univ

1330 h S62A-01 On the Detectability of Self-Potential Variations Related to Tectonic Activities: T Mori, M Ozima, H Takayama

1345 h S62A-02 Anomalies of an Electric Field Under the Ground Before a Shallow Earthquake and an Eruption: K Takahashi, Y Fujinawa

1400 h S62A-03 LF Seismogenic Emissions Just Prior to Earthquake and Volcano Eruption and Their Prediction: T Yoshino, I Tomizawa

1415 h S62A-04 Observations of Possible Precursory Electromagnetic Wave Radiations Prior to Earthquakes or Volcanic Eruptions: Y Fujinawa, K Takahashi, T Kumagai


1445 h S62A-06 Individuality of Anomalous Bioelectric Potential of Silk Tree Prior to Earthquake: H Toriyama

1500 h BREAK

1515 h S62A-08 Precursory Deformation Expected From a Fault Model Into Which Rheological Properties of the Lithosphere Are Incorporated: T Yamashita, M Ohnaka

1530 h S62A-09 Groundwater Anomalies Associated With Great Earthquakes of Low-Angle Thrust Type (II): The 1923 Great Kwantoo Earthquake: I Kawabe

1545 h S62A-10 Time Series Analysis to Detect Coseismic Changes of Groundwater Level: N Matsumoto, G Kitagawa, M Takahashi

1600 h S62A-11 Tidal Responses and Earthquake-Related Changes in the Water Level of Deep Well: G Igarashi, H Wakita

1615 h S62A-12 Tidal Triggering of the 1989 Sanriku-Oki, Japan, Earthquakes: M Ohtake

SP62A KNK: Kaga Sat 1330 h
Highlights of the EXOS-D, Viking, & DE Projects IV
Presiding: G Gustafsson, Swedish Inst. of Space Physics

1330 h SP62A-01 EXOS-D Observations of the Ion Energy Dispersion in the Dawnside Auroral Region: M Hirahara, T Mukai, S Machida, H Hayakawa, K T Tsuruda, A Nishida, N Kaya, E Sagawa, M Miyake

1400 h SP62A-03 INVITED Thermal and Suprathermal Ion Observations From the EXOS-D (Akebono) Suprathermal Mass Spectrometer (SMS): B A Whalen, A W Yau, S Watanabe

1430 h SP62A-04 Simultaneous, Mass-Resolved, Observations of Upflowing Ions From Akebono (EXOS-D) and Dynamics Explorer-1: W K Peterson, A W Yau

1445 h SP62A-05 Counter Streaming Ion Events Observed by Akebono: E Saganawa, I Iwamoto, B A Whalen, A W Yau

1500 h SP62A-06 Minor Light Ions Measured by Akebono EXOS-D: S Watanabe, E Saganawa, I Iwamoto, B A Whalen

1515 h BREAK

1535 h SP62A-08 Thermal Electron Energy Distribution Associated With Field-Aligned Current in the Auroral Region: T Abe, T Okuzawa, K I Oyama, H Fukunishi, R Fuji

1550 h SP62A-09 INVITED Features of Polar-Cap Aurora Observed by the Akebono VUV-Imager: E Kanada, T Yamamoto, T Oguti

1620 h SP62A-10 Storm-Time Aurora as Observed With Akebono VUV Imager: T Yamamoto, E Kanada, K Hayashi, R Fugii, A Kadokura, M Ejiri, K Makita, T Oguti

1630 h V62A-12 INVITED Anorogenic Magmatism Associated With Proterozoic Orogenic Belts: And Modern Analogues in the Wilson Cycle: B F Windley

V62A SFK: Large Hall Sat 1330 h Geodynamics and Evolution of the Earth IV (joint with P,S,T) Presiding: S Maruyama, Univ of Tokyo; B F Windley, Univ of Leicester

1330 h V62A-01 INVITED Crustal Growth and Mantle Dynamics: G Schubert

1355 h V62A-02 INVITED Pattern Transition of Continents on Early Earth: M Toriumi, A Taira, T Matsui

1410 h V62A-03 Evolution of the Atmosphere on the Earth and Thermal History of the Mantle: E Tajika, T Matsui

1425 h V62A-04 INVITED Photoautotrophy and Early Biological Modulation of the Terrestrial Carbon Cycle: M Schidlowski

1450 h V62A-05 Anomalous Mineralogical Data of Shocked Quartz Grains From Colorado K-T Boundary: Y Miura

1520 h BREAK