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, tilmeters) 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 alternation 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 focused 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 focused 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 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 crust; 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 meeting 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.
Western Pacific Geophysics Meeting

1990 WPGM PROGRAM

August 21-25 Kanazawa, Japan
Program Committee for the Meeting

- **Cochairmen**
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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
Hiroshi 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)
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

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<th>Time</th>
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<td>18:00-20:00</td>
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<td>08:00-15:00</td>
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TUESDAY A.M.

Frontiers of Geophysics
Session U21A  KNK:Large Hall  1000h

TUESDAY P.M.

A  Atmospheric Electricity
   Session A22A  KNK:Horai  1330h

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

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

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

T  ODP Legs 124–131
   Session T22A  SFK:F  1330h

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

Active Back Arcs: Japan Sea
   Session V22B  SFK:Middle Hall  1330h  (joint with SP)

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

V  Island Arc Volcanism and Upper Mantle Processes
   Session V22A  SKC:Large Hall  1330h  (joint with S)

   Session V22B  SFK:Middle Hall  1330h  (joint with G,T)

Joint Session

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 Kyoiku Center (SKC),
Kanazawa-Shi Kanko Kaikan (KKK).

These halls are within walking distance of each other in a park area near the famous Kenrokuen 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 Kyoiku 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 (KNK) to Shakai Fukushi Kaikan (SFK) and Shakai Kyoiku Center (SKC). Kanko Kaikan (KKK) is just across the street.
### WEDNESDAY A.M.

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### THURSDAY A.M.

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<td>P41A</td>
<td>SKC:003</td>
<td>Origin and Evolution of the Solar System II</td>
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<tr>
<td>0830h</td>
<td>S41A</td>
<td>SKC:Large Hall</td>
<td>Dynamics and Structure of Plate Boundaries I</td>
</tr>
<tr>
<td>0930h</td>
<td>T41A</td>
<td>SFK:V</td>
<td>Off-Ito Eruption 1989 and Long Valley Caldera</td>
</tr>
<tr>
<td>0930h</td>
<td>V41A</td>
<td>SFK:Large Hall</td>
<td>Izu-Oshima Volcano/1986 Eruption</td>
</tr>
</tbody>
</table>

### THURSDAY P.M.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>1330h</td>
<td>SP42B</td>
<td>KNK:Fuyo A</td>
<td>Dynamical Processes in the Middle Atmosphere II</td>
</tr>
<tr>
<td>1330h</td>
<td>G42A</td>
<td>SKC:21</td>
<td>Earth Rotation and Dynamics</td>
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<tr>
<td>1330h</td>
<td>H42A</td>
<td>KNK:Fuyo B</td>
<td>Stable and Radioactive Isotopes in Hydrology I</td>
</tr>
<tr>
<td>1330h</td>
<td>O42A</td>
<td>KNK:Aioi</td>
<td>Deep and Intermediate Water Circulation II</td>
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<tr>
<td>1330h</td>
<td>S42A</td>
<td>SKC:Large Hall</td>
<td>Dynamics and Structure of Plate Boundaries II</td>
</tr>
<tr>
<td>1330h</td>
<td>T42A</td>
<td>SFK:Middle Hall</td>
<td>Rifting, Back Arc Basins, and Tectonics II</td>
</tr>
<tr>
<td>1330h</td>
<td>V42A</td>
<td>SFK:F</td>
<td>Off-Ito Eruption 1989 and Long Valley Caldera</td>
</tr>
</tbody>
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### Japan’s Currency

The Japanese yen is the only currency in use. There are notes for 10,000 yen, 5000 yen and 1000 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.
### FRIDAY A.M.

<table>
<thead>
<tr>
<th>Session Code</th>
<th>Session Title</th>
<th>Location</th>
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<tbody>
<tr>
<td>SP51B A</td>
<td>Stratospheric Ozone and Atmospheric Chemistry I</td>
<td>KNK:Fuyo A</td>
<td>0830h</td>
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<tr>
<td>G51A G</td>
<td>Gravity, Sea Level, and Vertical Motion</td>
<td>SKC:21</td>
<td>1000h</td>
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<tr>
<td>S51B G</td>
<td>Dynamics and Structure of the Deep Interior I</td>
<td>SKC:32.33</td>
<td>1000h</td>
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<tr>
<td>H51A H</td>
<td>Surface Water Hydrology II</td>
<td>KNK:Fuyo B</td>
<td>0830h</td>
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<tr>
<td>H51A H</td>
<td>Contaminant Transport: Theory and Interpretation</td>
<td>KNK:Horai</td>
<td>1000h</td>
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<tr>
<td>H51A H</td>
<td>Dynamics and Structure of Plate Boundaries III</td>
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<td>1000h</td>
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<td>V51A V</td>
<td>Geodynamics and Evolution of the Earth I</td>
<td>SKC:Large Hall</td>
<td>1330h</td>
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<tr>
<td>V51B V</td>
<td>Petrologic Studies of Volcanoes I</td>
<td>SFK:Middle Hall</td>
<td>1330h</td>
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<tr>
<td>SP52B A</td>
<td>Highlights of the EXOS-D, Viking, and DE Projects I</td>
<td>KNK:Kaga</td>
<td>1330h</td>
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<td>G52A G</td>
<td>Western Pacific GPS</td>
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<tr>
<td>S52B G</td>
<td>Dynamics and Structure of the Deep Interior II</td>
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<td>Stable and Radioactive Isotopes in Hydrology II</td>
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<td>O52A O</td>
<td>Western Boundary Currents I</td>
<td>KNK:Fuyo B</td>
<td>1330h</td>
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<td>V52A P</td>
<td>Solar Wind Interactions With Venus</td>
<td>KNK:Horai</td>
<td>1330h</td>
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<tr>
<td>S52A S</td>
<td>Dynamics and Structure of Plate Boundaries IV</td>
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<td>V52B V</td>
<td>Petrologic Studies of Volcanoes II</td>
<td>SFK:Middle Hall</td>
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</table>
SATURDAY A.M.

| G | Seismotectonic Studies I |
|   | Session G61A SFK:F 0830h |
| H | Subsurface Transport: New Measurement Techniques |
|   | Session H61A KNK:Fuyo B 0830h |
| O | Western Boundary Currents II |
|   | Session O61A KNK:Aoi 0830h |
| P | Geodynamics and Evolution of the Earth III |
|   | Session V61A SKC:Large Hall 0830h |
| S | Earthquake Prediction and Hazard Assessment I |
|   | Session V61A SKC:Middle Hall 0830h |

| SP | Highlights of the EXOS-D, Viking, and DE Projects III |
|    | Session SP61A KNK: Kaga 0830h |
|     | Substorms and Magnetosphere-Ionosphere Coupling Systems I |
|    | Session SP61B KNK:Fuyo A 0900h |
| T | Deep Earthquakes/Subduction Zones |
|    | Session S61A KNK:Large Hall 0830h |
| V | Geodynamics and Evolution of the Earth III |
|    | Session V61A SKC:Large Hall 0830h |

SATURDAY P.M.

| G | Seismotectonic Studies II |
|   | Session G62A SFK:F 1330h |
| H | Snow Hydrology and Spatial Scaling |
|   | Session H62A KNK:Fuyo B 1330h |
| O | Biogeochemical Flux and Cycling |
|   | Session O62A KNK:Aoi 1330h |
| P | Geodynamics and Evolution of the Earth IV |
|   | Session V62A SFK:Large Hall 1330h |
| S | Earthquake Prediction and Hazard Assessment II |
|   | Session V62A SFK:Middle Hall 1330h |

| SP | Highlights of the EXOS-D, Viking, and DE Projects IV |
|    | Session SP62A KNK:Kaga 1330h |
|     | Substorms and Magnetosphere-Ionosphere Coupling Systems II |
|    | Session SP62B KNK:Fuyo A 1330h |
| T | Geodynamics and Evolution of the Earth IV |
|    | Session V62A KNK:Large Hall 1330h |
| V | Geodynamics and Evolution of the Earth IV |
|    | Session V62A SFK:Large Hall 1330h |

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)

* copy machine
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

Entrance

1F

Copy machine *

Souvenir Shop

Room #3

Room #2

Coffee Shop

2F

Large Assembly
(posters, exhibitions, beverages)

WC
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.

<table>
<thead>
<tr>
<th>Section</th>
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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: T 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>
<thead>
<tr>
<th>Section</th>
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</table>

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 Kawamata, 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 Diagnoses in Sediments and Sedimentary Rocks and Its Effects on the Paleomagnetic Record: R Karlin

1550 h  GP22A-09 Chemical Remanent Magnetization in Synthetic Hematite: Implications for Sedimentary Magnetism: L B Stokking, L Tauxe

---13---
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

1510 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 Imageries 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


1530 h P22A-07 Investigation of Magnetosphere/I onosphere 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 Fracture Nucleation Within a Seismic Source Region: H Yukutake
1415 h S22A-04 Slip-Dependent Friction Law and Nucleation Process in Earthquake Rupture: M Matsu'ura, H Kataoka, B Shibazaki
1430 h S22A-05 Earthquake Source Nucleation: A Physical Interpretation of Short-Term Precursors: M Ohnaka
1445 h S22A-06 Estimation of the Effective Stress at an Introductory Stage of Rupture Process: M Kikuchi

1510 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
1430 h SP22A-05 Computer Experiments on the Electrodynamics of High Potential Tethered Satellite: H Usui, H Matsumoto, Y Omura

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

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 Tsuno-mura, 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 Rhiometer 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 sc 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

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 Cisowski
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 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, I 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 Matsuoaka, A Taira

V22A SFK: Large Hall Tues 1330 h

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

1350 h V22A-02 INVITED The Fabric of Late Cenozoic Vitric Mount Rainier to Mount St Helens : E Takahashi, A Tomiya
1410 h V22A-03 INVITED Quaternary Volcanism and Regional Tectonic Stress Field in Japanese Islands: M Takahashi

WITHDRAWN
**Wednesday A.M.**

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

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**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:** Y Horibe, Tokai University

0835 h U31A-01 **INVITED** Thirty Years Crustal and Twenty Primordial: Fifty Years of $^3$He 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

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**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 Supertyphoons 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
0950 h A31A-05 Interannual Change of the Activity of the 30-60 Day Variation in the Tropics: N Nishi
1005 h A31A-06 Wave-CISK Mode With a Slow Phase Speed Appearing in a High-Resolution GCM and the Tropical Intraseasonal Oscillation: H Itoh

A31B  KNK: Horai  Wed 1045h
Coupled Ocean-Land-Atmosphere Interaction (joint with O)
Presiding: T Yasunari, Univ of Tsukuba; E W Chiou, NASA, Langley Res. Center
1045 h A31B-01 A Trans-Pacific Network of Wind Profilers—Progress and Plans: K S Gage, B B Balsley, W L Ecklund, R F Woodman, S Avery, J Sogijo
1100 h A31B-02 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
1115 h A31B-03 Influence of the Sea Surface Temperature Distribution on the Regional Scale Circulation Over the Northwestern Pacific Area: K Rikiishi, Y Sasaki, H Iida
1130 h A31B-04 Effects of Solar Activity and the Earth’s Pole Tide on Annual Mean Sea Level and Tree-Ring Growth Rate in Subarctic Zone: S Nakamura
1145 h A31B-05 Determining Large Scale Land Surface Processes for Climatic Models: J A Dracup

GP31A  SKC: 21  Wed 0830 h
Sedimentary Magnetism II
Presiding: R H Karlin, Univ of Nevada, Reno; M Torii, Kyoto Univ
0830 h GP31A-01 ABIC Analysis of Pass-Through Magnetometer Data of Sediment Cores: H Oda, H Shibuya
0845 h GP31A-02 INVITED High Resolution Geomagnetic Record in the Sedimentary Sequence in Boso Peninsula, Central Japan: N Niitsuma
0910 h GP31A-03 Magnetic Properties of Pleistocene Marine Sediments From the Boso Peninsula, Central Japan: M Torii, H Oda, J E T Channell
0925 h GP31A-04 Stalagmite (One of Speleothems) Magnetization and a Geomagnetic Reversal Record: H Morinaga, H Inokuchi, K Yasaki
0940 h GP31A-05 Paleomagnetic Study of Unconsolidated Sediments From Beppu Bay in Kyushu, Japan: M Ohno, Y Hamano, M Okamura, K Shimazaki
0955 h GP31A-06 Paleomagnetic Results of Lake Sediments From Central Mexico: B Ortega-Guerrero

1010 h  BREAK

1025 h GP31A-08 Spatial Dependence of the Declination and Inclination Inferred From a Model of Geomagnetic Secular Variation: Y Honkura, M Matsushima
1040 h GP31A-09 Separation of Clockwise and Counter-Clockwise Rotations of the Geomagnetic Vectors From Paleosecular Variation in Japan: C Itota, M Hyodo, K Yasaki
1055 h GP31A-10 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

1110 h GP31A-11 A Long-Term Geomagnetic Excursion Obtained From the Plio-Pleistocene Sediments in Java: M Hyodo, W Sunata
1125 h GP31A-12 INVITED Short Events and Long Intervals: Magnetostatigraphic Challenges: W Lowrie
1150 h GP31A-13 Lower Cretaceous Magnetostatigraphy 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

H31A  KNK: Fuyo B  Wed 0830 h
Water and Solute Transport in the Unsaturated Zone I
Presiding: M T van Genuchten, U.S. Salinity Lab; T Miyazaki, Univ of Tokyo
0830 h H31A-01 Water Path Flow Through the Unsaturated Glass-Bead Layer: Y Sakamoto
0845 h H31A-02 Refraction, Fingering and Lateral Flow of Water in Layered Slopes: T Miyazaki
0900 h H31A-03 On the Role of Characteristic Hysteresis in Vadose Soil Transport Dynamics: R E Smith, W E Niccoli
0915 h H31A-04 The Transmission Model: An Analytical Model of Unsaturated Downward Soil Water Flow: S Shiozawa
0930 h H31A-05 Ternary Heterovalent Cation Exchange During Unsteady, Unsaturated Soil Water Flow: W J Bond
0945 h H31A-06 Transport of Exchanging Na + and Ca 2+ During Evaporation From Ca-Bentonite: N Toride, K Kato, M Nakano
1000 h H31A-07 Nonequilibrium Models for Pesticide Transport and Degradation in Soils: M T van Genuchten, A P Gamezderger, R J Wagenet

1015 h  BREAK
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<td>0940 h</td>
<td>O31A-04</td>
<td>On the Driving Mechanism of the Shelf Circulation Southeast of China</td>
<td>P T Shaw</td>
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<td>1000 h</td>
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<td>1020 h</td>
<td>O31A-06</td>
<td>Role of Internal Tides in the Water Mass Exchange Between the Kuroshio and the Coastal Water of the East China Sea</td>
<td>T Matsuno</td>
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<tr>
<td>1040 h</td>
<td>O31A-07</td>
<td>INVITED Kuroshio-Induced Circulation in the South China Sea and the East China Sea</td>
<td>J L Su, H Nishizawa, K Kusunose, T Satoh, M Takahashi, R L Kranz</td>
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<td>1110 h</td>
<td>O31A-08</td>
<td>Circulation of the East China Sea, II: The Monsoon</td>
<td>S Y Chao</td>
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<td>1130 h</td>
<td>O31A-09</td>
<td>Interdisciplinary Study of the Tidal Front in the Bungo Channel</td>
<td>T Yanagi</td>
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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 Prototype 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, T 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 Terasawa, M Nambu, 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
0930 h  SP31B-03 A Quantitative Comparison of Imaging Riometer and All-Sky Camera Measurements at South Pole Station, Antarctica: F T Berkey, T J Rosenberg, Q Wu, H Miyaoa

0945 h  SP31B-04 Pulsating Auroral Activity and Energetic Electron Injections: N Nakamura, T Yamamoto, S Kokubun, T Oguti, D N Baker

1000 h  SP31B-05 Tether Observations of Auroral Electric Fields: S Watanabe, B A Wahlen, F Creutzberg, H G James

1015 h  SP31B-06 Analysis of Auroral Dynamics by Automatic Retrieval System for Auroral Data (ARSAD): T Hirasawa, T Ono

1030 h  BREAK

1105 h  SP31B-08 Auroral Substorm Observed at L = 1.56 During the Great Magnetic Storm of October 1989: K Yamoto, Y Tanaka, H Miyaoa, T Hirasawa, K Takahashi, R D Belian

1120 h  SP31B-09 Spectral Characteristics of Low Latitude Aurora on October 21, 1989: T Takahasi, B Saito, Y Kiyama

1135 h  SP31B-10 Ionospheric Disturbance Features Associated With Low-Latitude Aurora Observed in Northern Japan on October 21 and November 17, 1989: K Igarashi, A Otani, K Nishimuta, S Kainuma, T Maruyama, H Minakoshi, T Ogawa

1150 h  SP31B-11 Optical Characteristics and a Model of Low Latitude Aurora on October 21, 1989: B Saito, Y Kiyama, T Takahasi

SP31C  KKK: Large Assembly Wed 0830 h Aeronomy POSTERS (joint with A)

Presiding: K I Oyama, Inst. of Space and Astronaut. Sci.

0830 h  SP31C-01 POSTER Morphology of the Mid-Latitude Field-Aligned Irregularities Observed by the MU Radar: S Fukao, M D Kelley, T Takami, M Yamamoto, T Tsuda, S Kato

0830 h  SP31C-02 POSTER Seasonal Behavior of the Mid-Latitude Ionospheric F-Region Observed by the MU Radar: S Fukao, W L Oliver, T Takami, M Yamamoto, T Tsuda, S Kato

0830 h  SP31C-03 POSTER Mid-Latitude E-Region Field-Aligned Irregularities Observed With the MU Radar: M Yamamoto, S Fukao, T Tsuda, S Kato, T Ogawa

0830 h  SP31C-04 POSTER Dependence of Mid-Latitude Ionospheric Scintillation on Solar Activity: H Minakoshi, H Mitsudome

0830 h  SP31C-05 POSTER Ionospheric Disturbances at Mid-Latitudes Observed With the MU Radar: T Takami, S Fukao, S Kato, T Tsuda, M Yamamoto, T Nakamura, T Sato

0830 h  SP31C-06 POSTER Detailed Structure of the Large Scale Equatorial Plasma Bubbles and Blobs Observed by Hinotori-Satellite: T Takahashi, H Oya

0830 h  SP31C-07 POSTER Total Electron Content Measurements Using GPS and VLBI: T Kondo, M Imae, J Amagai, A Kaneko, S Matsuzaka, M Tobita

0830 h  SP31C-08 POSTER Nonthermal Electrons in the Focus of Sq Current Vortex: K I Oyama

0830 h  SP31C-09 POSTER Development of Fabry Perot Doppler ImagingSystem for Observation of the Thermospheric Dynamics: S Okano, H Nakajima, K Shiokawa, 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 Formationof the Mesospheric Proton 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: I 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 Fujii, T Nakano


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 Pahoehoe 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 Explosion: Their Flaws: A Rice
Pichon, J Erzinger, Univ of Giesen; H Kinoshita, Chiba Univ

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 Geochronologic Evidence: M Mikl, T Matsuda, Y Ototuji

0900 h V31B-03 The Electrical High Conductivity Layer Beneath the Northern Extension of the Okinawa Trough: S Handa, A Suzuki, Y Tanaka

0915 h V31B-04 Evolution of the Okinawa Backarc Rift System: H Kinoshita

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


1000 h V31B-07 Venting of CO2-Dominant Liquid and Gas Hydrate Formation at the Jade Hydrothermal Fields, Mid-Okinawa Trough Backarc Basin: H Sakai, T Gamo, E S Kim, M Tsutsumi, J Ishibashi, H Wakita, M Yamano, T Tanaka, T Oomori

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 Charlo

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 WITHDRAWN Jolivet, X Le Pichon,

**Wednesday P.M.**

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

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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-He 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 Erkan

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 Geomorphologic Surfaces: T E Cerling, H Craig

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**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
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

A32A-04 Speculations on the Origin of Circulargar Crop Damage: T Kikuchi, J T Snow, G T Meaden

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 Chieu, 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 R Movement: K Kodama, I Takeuchi, J Ozawa

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 Acambay Graben, Central Mexico, Paleomagnetic Study: A Soler-Arcehalde, 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

1600 h GP32A-11 Paleomagnetic Dating of Palaeoearthquake: 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 Maruyama

1450 h H32A-05 Effects of a Time-Variation of Wind Speed and Short Wave Radiation on the Evaporation in Bare Land: Y Kuzuh, 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

Presiding: A Gordon, LDGO; J L Su, Second Inst. of Oceanogr

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
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: I. 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 Eluzskiewicz, T J Ahrens

1445 h BREAK

1515 h P32A-06 Anomalous Nitrogen in Y74191 (L3) Chondrite: N Sugita, K Hashizume
1530 h P32A-07 Nitrogen Isotope Fractionation in Ordinary Chondrites: K Hashizume, N Sugita
1545 h P32A-08 The Rb-Sr Internal Isochron Age of E3 Chondrite, Qingzhen and Yamato-6901: N Torigoe, M Shima
1600 h P32A-09 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

1530 h S32A-06 INVITED Resonance and Non-Resonance Mechanism of MHD Waves in the Magnetosphere: Y Inoue

SP32A
KNK: Kaga Wed 1330 h
Global Structures of MHD Waves I
Presiding: T Kitamura, Kyushu Univ

1330 h SP32A-01 INVITED Kinetic Theory of Geomagnetic Pulsations I. Internal Excitations by Energetic Particles: L Chen, A Hasegawa
1355 h SP32A-02 INVITED Global Dynamics of MHD Waves—Ground Multi-Station Network: K Hayashi
1420 h SP32A-03 INVITED Global Mode Nature of Pi 2 Magnetic Pulsations: 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

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 Sugiuara, M C Maynard, J A Slavin

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

1555 h SP32B-11  A Study of Magnetic and Electric Fields Perturbations Associated With Field-Aligned Currents at Io: T Tamao, M Yamashita

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

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 Yagitanl, 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 toa Large Amplitude Monochromatic EM Wave Radiated From a Current Sheet Antenna: H Yashiro, 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 Diagnetical Cavity Formation and Related Plasma Dynamics: M E Jones, D Winske, C Barnes, V A Thomas

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

1330 h SP32D-09  POSTER  Numerical Simulations of the Beam-Excited UHR 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 Alfvren 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 Thomensen

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 Micro-Tremors at the Aso Volcano in 1989: Y Sudo

1520 h  BREAK

1555 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 North-Eastern Japan: A Yamamoto, A Hasagawa


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 Notu, 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>Tues.</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><strong>GP41A-01</strong> 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><strong>GP41A-02</strong> Stochastic Inversion of Magnetic Observatory Annual Means: M G McLeod</td>
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<td>0900 h</td>
<td><strong>GP41A-03</strong> Distributions of Amplitude of Marine Magnetic Anomalies and Crustal Magnetizations in the Pacific, Atlantic, and Indian Oceans: K Sayanagi, K Tamaki</td>
</tr>
<tr>
<td>0915 h</td>
<td><strong>GP41A-04</strong> Significantly Deflected Magnetic Fields Inside Fissure-Like Openings: Implications for Sea Floor Spreading Anomalies: C Baag, S Z Xu, C E Helsley</td>
</tr>
<tr>
<td>0930 h</td>
<td><strong>GP41A-05</strong> The Thickness of the Marine Magnetic Source Layer Is Obtained From Vector Anomalies of Marine Magnetic Field: N Seama, N Isezaki</td>
</tr>
<tr>
<td>0945 h</td>
<td><strong>GP41A-06</strong> 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><strong>GP41A-07</strong> Relation of Magnetic Anomalies to the Tanna Fault: Y Okubo</td>
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**1015 h** | **BREAK** |

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<tr>
<td>1030 h</td>
<td><strong>GP41A-09</strong> Analysis on Structure of the Variable Geomagnetic Fields at Middle and Low Latitudes: W Y Xu, M L Zhang, Y F Ling, X P Zeng</td>
</tr>
<tr>
<td>1045 h</td>
<td><strong>GP41A-10</strong> Simulation of the Electric Currents in the Ocean Induced by the Geomagnetic Sq Field: M Takeda</td>
</tr>
<tr>
<td>1100 h</td>
<td><strong>GP41A-11</strong> Wide Band Magnetotelluric Transects Across Northeast Japan Arc With Special Reference to Geothermal Fields: Y Ogawa, S Takakura</td>
</tr>
<tr>
<td>1115 h</td>
<td><strong>GP41A-12</strong> An Investigation of the Crustal Resistivity Structure Beneath Chugoku District in Southwestern Honshu, Japan: I Shiozaki, J Miyakoshi, T Ichikita, K Yaskawa, Y Ogawa, N Sumitomo</td>
</tr>
<tr>
<td>1130 h</td>
<td><strong>GP41A-13</strong> Magnetotelluric Modeling of the Shikoku District in Southwestern Japan: S Yamaguchi, I Shiozaki, A Okubo, T Ogawa, N Sumitomo, K Yaskawa</td>
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1145 h  O41A-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

0915 h  H41A-04  Use of P- and S-Wave Velocity Structure in and Around the NE Japan: D P Zhao, S Horiuichi, A Hasegawa

1110 h  O41A-08  Flow of Abyssal Water Into the Subantarctic and Antarctic 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

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 Subantarctic and Antarctic Circulation of the South Pacific: 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

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0945 h  O41A-04  INVITED  The HELIOS Helium 3 Section: Implications for the Deep Water Circulation in the North and South Pacific: H Craig

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1050 h  O41A-07  Flow of Abyssal Water Into the Subantarctic and Antarctic Circulation of the Western North Pacific Ocean: H Sudo
1015 h  BREAK

1030 h  S41A-09 Systematics of Focal Mechanisms in Wadati-Benioff Zones Along the Ryukyu-Kyushu and the Kurile-Kamchatka Arcs: A Comparative Study: M A Glennon, H Kao, W P Chen
1045 h  S41A-10 Thickness of the Low Velocity Layer in the Descending Oceanic Plate Estimated by Later Phases Observed in the Records of off-Fukushima-Earthquakes: S Mori
1100 h  S41A-11 Effects of the Distortion of the Olivine-Spinel Phase Boundary in the Subducting Slab on Body-Wave Amplitudes: T Ildaka, D Suetsugu
1115 h  S41A-12 Elastической Velocity Structures of Taiwan: Implications for the Evolution of an Arc-Continent Collision: S W Roescher, C H Lin, Y H Yeh, P A Friberg
1130 h  S41A-13 Strong Inhomogeneity in the Wedge Mantle Revealed From the Broadening of Seismogram Envelope: K Obara
1145 h  S41A-14 A Study of Upper Mantle Q Structure Beneath the Japan Arc Taking Into Account Slab-Induced Defocusing: D Suetsugu, T Ildaka

SP41A  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-Dimensional Sedimentary Basin Due to Plane S Wave Incidence: M Horike
0930 h  S41B-03 Large Amplitude Overtone Phase From Deep Earthquakes in Vertical Component Seismograms: 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 Determination of Fault Plane Solutions Using Real-Time First Motion Data: S Tsuboi, K Abe, K Takano
1045 h  S41B-08 Development of the IBOS (Integrated Borehole Observation System) and Observation by It: S Sakata
1100 h  S41B-09 Rheology Constants of Crustal Rock Obtained From Long-Term Observation by Borehole Three-Component Strainmeters: S Sakata, S Shimada
1115 h  S41B-10 Attenuation Property of Coda Amplitude in the Middle and Northern Part of Kinki District: M Kanao, K Ito
1130 h  S41B-11 Measurement of Q for S Wave in Mudrock at Chikura, Japan: Comparison of Incident and Reflected Phases of Borehole Seismograms: Y Fukushima, S Kinoshita, H Sato
1145 h  S41B-12 Detection of Crustal Stress by Brain Responses: T Tsunoda

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

1000 h  BREAK

1015 h  S41B-06 Solar Wind Speed and Coronal Properties: K Hakamada
1030 h  S41B-07 The Interplanetary Causes of Great (D_m) W D Gonzalez
1055 h  S41B-08 Influence of the Heliospheric Current Sheet on Interplanetary Disturbances: T Watanabe
1110 h  S41B-09 Substorm Activity Controlled by Rotation of the Solar Magnetic Fields: T Oki, T Saito, Y Kozuka
1125 h  S41B-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 Observed 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
0940 h SP41C-05 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
0955 h SP41C-02 Parametric Instability of Hydrostatic Waves: A Review of Recent Results: M D Yamanaka, S Fukao, G Kotani, T Yokota, Y Maekawa, T Sato, M Yamamoto, T Tsuda, S Kato
1100 h SP41B-09 Meteor Wind Observations with the MU Radar: T Tsuda, T Nakamura, M Tsutsumi, K Kita, M Yamamoto, S Kato, S Fukao
1115 h SP41B-10 Effects of Atmospheric Incidence on the MU Radar: T Tsuda, T Nakamura, M Tsutsumi, K Kita, S Kato, S Fukao, M Yamamoto
1130 h SP41B-11 A Comparison of Atmospheric Radar Techniques With the MU Radar: Doppler Beam Swinging vs Spaced Antenna FCA and Interferometry: J S Van Baalen, T Tsuda, A D Richmond, S K Avery, S Kato, S Fukao, M Yamamoto
1145 h SP41B-12 A Comparative Observation of Vertical Winds by Velocity-Azimuth-Display and Vertical Incidence Methods at the MU Radar: S Fukao, M F Larsen, M D Yamanaka, T Tsuda, S Kato, H Nakamura

SP41C KNK: Horai Thurs 0830 h
Plasma Waves, Instabilities, and Chaos
Presiding: B T Tsurutani, Jet Propulsion Lab
0830 h SP41C-01 INVITED Growth and Damping of Waves Below the Proton Gyrofrequencies During Storm Conditions: R M Thorne, R Horne
0855 h SP41C-02 Parametric Instability of Hydrodynamic Waves in Space Plasmas: T Hada, E Mjolhus
0910 h SP41C-03 A Review of Recent Results on Wave Amplification in a Magnetoplasma: D Summers, R M Thorne
0925 h SP41C-04 Mode Conversion Process From Z-Mode Waves to Free Space Electromagnetic Waves as the Source Mechanism of AKR: M Iizima, H Oya
0940 h SP41C-05 Chaos in Driven Alfvén Systems: T Hada, M Nambu, C F Kennel, B Buti, E Mjolhus
0955 h SP41C-06 On the Role of Energetic Proton Drift Induced Anisotropy in Generating Outer Magnetospheric Pc 1 Waves: B J Anderson, R E Erdlanson, K Takahashi, T A Potemra
1010 h SP41C-07 Proton Cyclotron Echoes and Absorption Bands in 3fH and 4fH Resonances: R E Horita, G M Chen
1025 h BREAK
1040 h SP41C-09 Mapping Results of Polar Electrostatic Ion Cyclotron Emissions Associated With Auroral Hiss by Satellites: T Yoshino
1055 h SP41C-10 Relationship Between Mid-Latitude Hiss and Auroral Hiss: T Ondoh
1110 h SP41C-11 Ray Tracing Studies for the Ducted Whistler at a Low Latitude: Y Nakamura, T Ondoh

1125 h SP41C-12 Electron Generation of Broadband Electrostatic Noise in the Earth's Magnetotail: T G Onsager, M F Thomsen, J T Gosling, R R Anderson
1140 h SP41C-13 Dispersion Relation of Electrostatic Noise Observed With ISEE-3 in the Deep Tail Boundary Layer: M Tsutsumi, R J Strangeway, B T Tsurutani, J L Phillips, E W Greenstadt, H Matsumoto
1155 h SP41C-14 AMPTE/IRM Studies of Broadband Electrostatic Noise in the Geomagnetic Tail: R R Anderson
1210 h SP41C-15 A Comparison of the Wide Band Polarization and Multi-Point Fixed Frequency Intensity of Jupiter's Decametric Radiation: K Imai

SP41D KKK: Large Assembly Thurs 0930 h
Global Structures of MHD Waves II Posters
Presiding: J V Olson, Univ of Alaska
0930 h SP41D-01 POSTER Structures of Large Amplitude Pc1 Waves Observed by DE-2 in the Ionsphere: T Iyemori, M Sugiuira, J A Slavin, L H Brace, G R Ludlow
0930 h SP41D-02 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
0930 h SP41D-03 POSTER Multistation Observations of Pc1-2 ULF Pulsations Between the Plasmapause and Polar Cap: F W Menk, B J Fraser, H J Hansen, P T Newell, C I Meng, R J Morris
0930 h SP41D-04 POSTER High Latitude Pc1 Bursts Originating Within the Low Latitude Boundary Layer: H J Hansen, F W Menk, B J Fraser, Y D Hu, P T Newell, C I Meng, R J Morris
0930 h SP41D-05 POSTER Correlations Between Cusp Pc3 Pulses and the Solar Wind: J V Olson, P Struckman, C P Price
0930 h SP41D-07 POSTER ULF Wave Structure Near the Plasmapause: B J Fraser, J C Samson, R L McPherron, C T Russell
0930 h SP41D-08 POSTER Multisatellite Studies of the Spatial Extent and Simultaneity of Pc 3-4 Harmonic Pulses in the Dayside Outer Magnetosphere: M J Engebretson, K N Erickson, N Lin, B J Anderson, L J Zenetti, T A Potemra, W Baumjohann, H Luehr
0930 h SP41D-09 POSTER Magnetospheric Oscillations Caused by a Sudden Impulse During the Great Magnetic Storm of February 1986: K Takahashi, K Yumoto, T Watanabe
0930 h SP41D-10 POSTER Eigenmode Analysis of Coupled Hydromagnetic Oscillations in the Dipole Magnetosphere: S Fujita, V L Patel
0930 h SP41D-11 POSTER Drift Mirror and Ballooning Instabilities in the Magnetosphere: C Z Cheng, K Takahashi, A T Y Lui
**T41A**  
**SFK: F**  
**Thurs 0930 h**  
**Rifting, Back Arc Basins, and Tectonics I**

*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 Nakanshi, 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 Koba, K Tamaki, H Fujimoto, T Furuta

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

1030 h **BREAK**

1045 h **T41A-06** Oblique Crustal Opening in the Bismarck Sea, and Its Dynamic Origin: T Eguchi

1100 h **T41A-07** Extensive Basion Model for the Yamato Basin, Japan Sea: T Seno, Y Hamano, K Tamaki, M Yamano

1115 h **T41A-08** High Resolution Mapping of the Mendana Fracture Zone and Its Relevance to Subduction Induced Rifting of the Nazca Plate Lithosphere: W E K Warsi, T W C Hilde

1130 h **T41A-09** Structural Evolution of Sumisu Rift, Izu-Bonin Arc: A Klaus, B Taylor, G Moore, M MacKay

1145 h **T41A-10** Submarine Canyon Development in the Izu-Bonin Forearc: A SeaMARC II Survey of Aoga Shima Canyon: A Klaus, B Taylor

1200 h **T41A-11** Eocene Crustal Accretion in the Western Pacific: Evidence From ODP Leg 125: J Pearce, B Murton, R Arculus, S van der Laan, M Thrillwall

**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

0950 h **BREAK**

1005 h **V41A-07** Importance of Volatiles on Activity Model of Izu-Oshima Volcano: Part 1. General Concept and Pre-Eruption Process: H Shinozaki, 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 Shinozaki

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

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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

1300 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
1445 h \textbf{H42A-04} Use of $^2$H and $^{18}$O in Defining Solute Balance in an Evaporating Lake-Groundwater System: W W Wood

1500 h \textbf{BREAK}


1540 h \textbf{H42A-07} \textit{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 \textbf{H42A-08} \textit{INVITED} Age Dating of Porowaters From Clayey Till Using Radiocarbon in DIC and DOC: M J Hendry, L I Wassenaar

\textbf{O42A} \textbf{KNK: Aioi} \textit{Thurs 1330 h}

Deep and Intermediate Water Circulation II

\textit{Presiding: W Schmitz, Woods Hole Oceanogr. Inst.; B Taft, WOCE IPO}

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

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

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

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

1450 h \textbf{O42A-05} \textit{INVITED} Abyssal Circulation Model of the Philippine Sea: M Kubota, K Ono

1510 h \textbf{BREAK}

1530 h \textbf{O42A-07} Performances of a World Ocean Model With Seasonal Change in Driving Forces: T Motoi, M Endoh

1550 h \textbf{O42A-08} Deep Circulation in the North Pacific Ocean: H Ishizaki

1610 h \textbf{O42A-09} \textit{INVITED} Long-Term Variations of SST and Subsurface Thermal Conditions in the North Pacific: K Hanawa

\textbf{S42A} \textbf{SKC: Large Hall} \textit{Thurs 1330 h}

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

\textit{Presiding: C Finn, USGS}

1330 h \textbf{S42A-01} A Kinematic Model for Evolution of Island Arc-Trench Systems: T Sato, M Matsu'ura

1345 h \textbf{S42A-02} Geophysical Models Across Pacific Convergent Margins: Implications for Subduction Erosion: C Finn

1400 h \textbf{S42A-03} Interpretation of in Situ Depth Gradient of Horizontal Stress: The Flexure Around Plate Boundaries: H Ogasawara

1415 h \textbf{S42A-04} Fissure Events and Tectonics in the Northeastern Margin of the Philippine Sea Plate: T Tada, M Hashimoto

1430 h \textbf{S42A-05} Seismotectonics Around the Izu Peninsula: Deformation of the Philippine Sea Plate: A Yoshida

1445 h \textbf{S42A-06} Underground Collision of the Philippine Sea Plate With the Pacific Plate: N Hurukawa, M Imoto

1500 h \textbf{BREAK}

1515 h \textbf{S42A-08} Interplate Coupling Along the Nankai Trough: S Yoshioka

1530 h \textbf{S42A-09} Extensional Stresses by the Hinge Faulting Between the Nankaido and the Tonankai-Segment of the Subducting Philippine Sea Plate in the Kii Peninsula, Southwest Japan: M Mizoue, M Nakamura, N Seto

1545 h \textbf{S42A-10} Extension of the Overriding Plate at Convergent Margins: Evidence From Shallow Earthquakes Beneath Active Volcanic Arcs: K D Apperson

1600 h \textbf{S42A-11} Evidence for Changing Plate Motions in the Eocene Shimanto Belt, Southwest Japan: T Byrne, A Taira, L DiTullio

1615 h \textbf{S42A-12} Ductile Extension as a Cause of Exhumation of the Sambagawa High P/T Metamorphic Belt, Japan: S R Wallis, S Banno

\textbf{S42B} \textbf{SKC: 32.33} \textit{Thurs 1330 h}

Seismicity and Magnitudes

\textit{Presiding: M Wysession, Northwestern Univ}

1330 h \textbf{S42B-01} Earthquake Swarm Activities Northwest of Chichijima, Bonin Islands in 1985: T Moriyma

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

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

1415 h \textbf{S42B-04} Intraplate Seismicity in the Pacific Basin, 1913-1988: M E Wysession, E A Okal, K Miller

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

1445 h \textbf{S42B-06} $M_s$: Application of Mantle Magnitudes to the Single-Station Estimation of the Seismic Moment of Large Historical Earthquakes: E A Okal

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

\textbf{SP42A} \textbf{KNK: Kaga} \textit{Thurs 1330 h}

Global Structures of MHD Waves III

\textit{Presiding: B J Fraser, Newcastle Univ}

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

1355 h \textbf{SP42A-02} \textit{INVITED} The Distributions of Shock-Related ULF Waves Outside the Magnetopause: E W Greenstadt

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**SP42B**

**KNK: Fuyo A**  **Thurs 1330 h**

**Dynamical Processes in the Middle Atmosphere II**

(*joint with A*)

**Presiding:** S Fukao, Kyoto Univ

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1430 h **SP42B-01**  **INVITED** Kelvin Waves in the Equatorial Middle Atmosphere: I Hirota, M Shiotani, T Sakurai, J C Gille

1440 h **SP42B-02** Comparative Radar Observations of the Mesospheric Gravity Waves in the Northern and Southern Hemispheres, Kyoto(35°N) and Adelaide(35°S): T Nakamura, T Tsuda, Y Tawara, Y Murayama, M Yama- moto, S Kato, S Fukao

1450 h **SP42B-03** Sources of Gravity Waves and Mesoscale Variability From Aircraft Studies in GASP: G D Nastrom, D C Fritts

1500 h **SP42B-04** Generation of Stratospheric Inertio-Gravity Waves as a Multiplication of Tropopause: M D Yamanaka

1510 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

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1615 h **SP42B-06** ULF Pulsa­tions Observed at the Polar Cusp: J V Olson, B J Fraser

1645 h **SP42B-09** -31 -

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**SP42C**

**KNK: Horai**  **Thurs 1330 h**

**Magnetic Storms and Magnetic Quiet Periods**

**Presiding:** T Saito, Tohoku Univ

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1330 h **SP42C-01**  **INVITED** The Space Weather Forecast Program of Japan: K Marubashi, T Kikuchi, M Tokumaru, F Tomita, T Ogawa

1440 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 Miyakoda, T Hirasaki, K Yumoto, 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 Kozuka, T Saito

1455 h **SP42C-06**  **INVITED** Forecasting Magnetically Quiet Periods: L A Joselyn
1600 h T42A-11 A New Model for the Formation of Back Arc Basins: A Nur, J Dvorkin, G Movko, Z Ben-Avraham

1615 h T42A-12 Changes in the Directions of Geomagnetic Anomaly Lineations in Enderby Basin, off Antarctica: Y Nogi, N Seama, N Isezaki, M Funaki, K Kaminuma


1645 h T42A-14 Contemporaneous Rotation of Southwest Japan: Kinematic and Mechanical Model for Past Rotations: S Altis, T W C Hilde

V42A SFK: Large Hall Thurs 1330 h Off-Ito Eruption 1989 and Long Valley Caldera (joint with S)

Presiding: Y Ida, Univ of Tokyo; D P Hill, USGS, Menlo Park

1330 h V42A-01 Tilt Changes Associated With Recent Volcanic Eruptions Around the Izu Peninsula, Central Japan: E Yamamoto, Y Okada, T Okubo, T Kumagai

1345 h V42A-02 INVITED Interpretation of 1989 off Ito Earthquake Swarm and Submarine Volcanic Activities in Central Japan: Y Okada, E Yamamoto

1410 h V42A-03 The Seismicity Accompanying the Eruption of a New Submarine Volcano off Izu Peninsula, Japan: S Ueki, Y Morita, T Nishimura, S Horiuchi, H Hamaguchi

1425 h V42A-04 INVITED Source Mechanism of Volcanic Ternor Estimated From Seismic Array Observations: K Yamaoka

1450 h V42A-05 Source Process of an Unusual Earthquake (M5.5) During the 1989 Ito-oki, Japan, Pre-Eruption Swarm Activity: E Fukuyama, S Kinoshita, F Yamamiz

1505 h V42A-06 Reflection Profiles of the Active Volcanic Region off the East Coast of Izu Peninsula: K Kasahara, F Yamamizu, A Takahashi, T Ikawa

1520 h V42A-07 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

1535 h BREAK

1550 h V42A-09 INVITED Possible Models of Long Valley Caldera From 3-D Raytracing of Teleseismic Waves: L K Steck, W A Prothero

1615 h V42A-10 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

V42B SFK: F Thurs 1330 h Magmatic Volatiles and Hydrothermal Processes Presiding: M Kusakabe, Okayama Univ; J W Hedenquist, Geological Survey of Japan

1330 h V42B-01 Ne Excess in Natural Glasses: K Matsubara, J Matsuda
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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**Friday A.M.**

**G51A** SKC: 21 Fri 0830 h
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 Sato-mura, 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: 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 Yosida, 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

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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 Rehfelt, 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

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1015 h BREAK

1030 h H51B-07 An Experimental Investigation of the Role of Scale and Heterogeneity on Fickian Dispersion: J S Haselow, R A Greenkorn

1045 h H51B-08 Difference of Dispersion Coefficient in Intrusion and Exclusion of Salt Water in Sand: S Sugio

1100 h H51B-09 INVITED The Energy Description of Dispersion in Geologic Media: G L Moltynan

1125 h H51B-10 An Evaluation of Contaminant Migrations at Two Waste Disposal Sites: C Tang

1140 h H51B-11 INVITED Stochastic Model of Ensemble-Average Concentration and Its Variance for Transport of Conservative and Reactive Solute in Heterogeneous Aquifers: Z J Kabala, G Sposito

1205 h H51B-12 Universal Scaling of Hydraulic Conductivities and Dispersivities on Geologic Media: S P Newman

1030 h BREAK

1045 h S51A-06 Seismicity Along the Southern Segment of the Pacific-Australian Plate Boundary: M E Wyssession, E A Okal

1100 h S51A-07 Means and Variances of Focal Mechanism Solutions: S Matsumura

1115 h S51A-08 Seismic Activity and Tectonic Stress in Kyushu, Southwest Japan: H Shimizu, N Matsuzo, K Umakoshi, S Kuwahara

1130 h S51A-09 Subsurface Structure Beneath Beppu Bay Inferred From Seismic Reflection Surveys by an Air-Gun Method: Y Yusa, A Kubotera, S Horie, I Nakagawa, Y Kobayashi, K kitaoka, K Kamiyama, K Takemura, Y Sudo, T Ikawa, M Onishi, M Asada

1145 h S51A-10 Recurrent Slip Pattern: Field Evidence in Beppu Bay, Japan: K Shimazaki, T Nakata, N Chida, M Okamura, T Miyatake

1030 h BREAK

1045 h S51A-05 Growth of Wind Waves With Fetch Observed by the GEOSAT Altimeter in the Japan Sea Under Winter Monsoon: N Ebuchi, H Kawamura, Y Toba

1045 h WITHDRAWN

1000 h S51A-07 Sea Surface Height, Wind Speed and Significant Waveheight Variability in the Western Pacific: E B Dobson, D L Porter

1015 h S51A-08 Tidal Current in the Coastal Waters: N Hayakawa, Y Matsuño

1030 h S51A-09 Tide-Induced Residual Currents Caused by the Horizontal Variation of the Tidal Currents in a Rotating Basin: H Yasuda

1045 h S51A-11 Directional Spectra Observations of Seafloor Microseisms and Gravity and Infragravity Water Waves From an Ocean Subbottom Sesimometer Array: T Yamamoto, T Nye, M Trevorrow, D Goodman

1115 h S51A-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 Glauconche 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-06 Seismicity Along the Southern Segment of the Pacific-Australian Plate Boundary: M E Wysesession, E A Okal

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1145 h S51A-10 Recurrent Slip Pattern: Field Evidence in Beppu Bay, Japan: K Shimazaki, T Nakata, N Chida, M Okamura, T Miyatake

1100 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 Haru, T Sato, T J Geller

1130 h S51B-07 Lateral Variation of Q From Singlet Modal Q Measurements of $O_{S_2}$: T Tanimoto
1145 h SPS1B-08 Thickenig 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

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-I Spacecraft: U S Inan, V S Sonwalkar, R A Helliewell
0925 h SP51A-03 INVITED Impulsive VLF Signals Observed on the DE 1 Satellite: R A Helliewell, 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, I 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 HO3 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 Ochiai, 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, M 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 Yoneda
1045 h T51A-09 Transformation Mechanism of Forsterite to Spinel Structures Under Distinctive Stress Conditions: K Fujino, T Irfune
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 SWJ9001—Philippine Sea Plate GPS: 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 Tabe

1530 h G52A-07 Preliminary Results of Crustal Motion Monitoring by GPS in Central Japan: F Kimita, 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 Kant0, Japan: T Kato

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

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

O52A SKC: 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 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 SP52A-03 Gravity Anomalies and Structure of the Ulleung Basin, East Sea (Sea of Japan): M Suh, B C Suk, S R Kim, K Y Kim
1415 h SP52A-04 Digital Broadband Borehole Seismometer System in ODP Hole 794D in the Japan Sea: K Suyehiro, T Kanazawa, N Hirata
1430 h SP52A-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 SP52A-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 SP52A-08 Network MT Measurement in the Eastern and Central Parts of Hokkaido, Northern Japan: M Uyeshima, H Utada, T Kawase, S Uyeda, Y Nishida
1530 h SP52A-09 Ongoing Ophiolite Emplacement—An Example of the Okushiri Ridge, off Northwestern Hokkaido, Japan: H Tokuyama, W Soh, S Kuramoto, S Miyashita, K Monna, T Tanaka, H Hotta
1545 h SP52A-10 Waveform Inversion for Vertical Velocity Structure of the Crust and Uppermost Mantle: T Shibutani, K Hirahara
1600 h SP52A-11 Reflection Survey on Osaka Basin Structure: Y Iwasaki, S Sawada, T Kagawa, N Matsuyama, K Ohsima

S52B SKC: 32.33 Fri 1330 h Dynamics and Structure of the Deep Interior II (joint with G,GP,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 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 Mulpitope Representation of the Geomagnetic Field: Y Sano, M Sugirua
1545 h S52B-10 Torque Balance of the Inner Core: A M K Szeto

SP52A 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 Koike, T Ogawa, K Suzuki
1345 h SP52B-02 Polar Stratospheric Aerosol Enhancement and Geochemical Cycle of Nitric Acid: Aerosol Effect on Ozone Hole: Y Iwasaki, M Hayashi, Y Kondoh, 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
1430 h SP52B-05 Year-to-Year Changes of the Tropopause Height at Syowa, Antarctica: K Kawahira, K Kondo, Y Iwasaka

1445 h SP52B-06 The Relationship Between Total Ozono and Stratospheric Temperature at Syowa Station, Antarctica: S Chubachi

1500 h BREAK

1515 h SP52B-08 Unmanned Aircraft: New Tools for Atmospheric Research in the 1990s: J G Anderson, J S Langford

1530 h SP52B-09 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

1545 h SP52B-10 Global Distribution of Atmospheric Ozone and Aerosol During the INSTAC Campaign: Y Makino, Y Tsutsumi, M Ikegami, K Okada, Y Zaizen, Y Nikaido

1600 h SP52B-11 Long-Term Trends and Seasonal Variations of Atmospheric Methane in Japan: H Tsuruta

1615 h SP52B-12 Stratospheric Sulfuric Acid Particles Transformed Into the Troposphere Through Tropopause Folding: M Yamato

1630 h SP52B-13 UV Photolysis and Microbial Reduction as Major Sinks of Thermal Ozono With Emphasis on Kinetic Nitrogen Isotope Discriminations: N Yoshida, H Morimoto, S Matsuo

SP52C KNK: Horai Fri 1330 h Solar Wind Interactions With Venus (joint with P) Presiding: H Fukunishi, Tohoku Univ

1330 h SP52C-01 INVITED Pickup Ions at Venus: Present Understanding and unanswered Questions: J G Luhmann

1355 h SP52C-02 Three-Dimensional Magnetohydrodynamic Simulations of the Interaction of the Solar Wind With the Venus Ionosphere: T Ogino, A Sakurai

1410 h SP52C-03 A Study of Interplanetary Magnetic Flux Ropes Using the PVO Magnetometer Data: K Marubashi

1425 h SP52C-04 INVITED Physics of the Venus Ionosphere: What We Think We Know and Don’t Know: T E Cravens

1450 h SP52C-05 Statistical Properties of Impulsive Signals Observed in the Nightside Ionosphere of Venus: R J Strangeeway, C M Ho, C T Russell

1505 h BREAK

1520 h SP52C-07 Plasma Waves Observed in the Electron and Ion Foreshock of Venus: G K Crawford, R J Strangeeway, C T Russell

1535 h SP52C-08 INVITED Venus Orbiter Program in Middle of 1990s Using Japanese Spacecraft: H Oya

1600 h SP52C-09 Development of EUV Spectrometer Equipped With Absorption Cells for D/H Ratio Measurement: T Kawahara, S Okano, H Fukunishi

1615 h SP52C-10 Venus Mantle—Mars Planetsphere: What are the Similarities?: A F Nagy, T I Gombosi, K Szego, R Z Sagdeev, V D Shapiro, V I Shevchenko

T52A SFK: F Fri 1330 h Rheology and Heat Flow Presiding: H Sato, Okayama Univ

1330 h T52A-01 Thermal Structure and Magma Generation in Island Arc Region From Laboratory and Seismic Anelasticity Studies: H Sato, I S Sacks

1345 h T52A-02 Lateral and Vertical Thermal Profiles in the Upper Mantle Determined From Seismic Anelasticity Structures: H Sato

1400 h T52A-03 Interpretation of Heat Flow vs. Curie Isotherm Depth Relationship by a Simple Three-Layer Thermal Model: O Matsubayashi, K Yasukawa, Y Yamada

1415 h T52A-04 Temperature Structure Under the Japan Arc and the Intraplate Tectonics: Y Furukawa

1430 h T52A-05 Geothermal Study of the Sengan-Hachimantai Area by Deep Drillholes and Geophysical Methods—Case of Large-Scale Volcanic Zone in the NE Japan Arc: O Matsubayashi, S Sato

1445 h BREAK

1500 h T52A-07 Stress Interpretation From Borehole Breakouts at Hijiori Hot Dry Rock Experiment Field, Yamagata, Japan: H Ito, C A Barton

1515 h T52A-08 The Power Source of Continental Drift: H Kin-no

V52A SFK: Large Hall Fri 1330 h Geodynamics and Evolution of the Earth II (joint with P,S,T) Presiding: E Ohtani, Tohoku Univ; C R Agee, Univ Bayreuth

1330 h V52A-01 INVITED High Pressure Geochemistry of Cr, V Mn and O: Implications for the Formation of Planetary Cores and Origin of the Moon: A E Ringwood, W Hibberson

1355 h V52A-02 Carbon as a Light Element in the Outer Core—High Pressure Melting Experiments in the System, Fe-C: Y Hirayama, T Fujii, K Kurita

1410 h V52A-03 INVITED Melting of the Allende CV3 Meteorite up to 25 GPa: Importance of Magnesiowustite in Earth Differentiation: C B Agee

1430 h V52A-04 INVITED Calcium Perovskite Controlling Fractionation of Basaltic Material and Chemical Heterogeneity of the Mantle: T Kato


1510 h BREAK

1525 h V52A-07 Phase Equilibria of Mantle Minerals up to 7.5 GPa: T Kawasaki

1540 h V52A-08 On the Formation of Carbon Reservoir in the Earth’s Mantle: K Kurita, T Fujii

1555 h V52A-09 Stabilities of Carbonate in the Peridotite at High Pressures: Implications for a Carbon Reservoir in the Mantle: T Katsura, E Ito, S Akimoto

1610 h V52A-10 INVITED Komatiite Genesis and Thermal State of the Early Earth: E Ohtani, J Moriya, N Yurimoto
### Saturday A.M.

**Paper Numbers.** A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T61A-01.

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Thus, T61A-01 = Tectonophysics, Saturday, AM, concurrent session A, first paper in that session.

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### G61A SFK: F Sat 0830 h

**Seismotectonic Studies I**

**Presiding:** T Tanaka, Kyoto Univ

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<td>0900 h</td>
<td>G61A-02</td>
<td>GPS Observation of Crustal Movements Associated With the 1989 Seismic Swarm and Volcanic Eruption Around Ito: Y Fujinawa, S Sekiguchi, S Ohmi, S Shimada, T Eguchi, Y Okada</td>
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<td>0915 h</td>
<td>G61A-03</td>
<td>Development of a Permanent GPS Geodetic Array in Southern California for Continuous Monitoring of Crustal Motion: U J Lindqwister, Y Bock</td>
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<td>0930 h</td>
<td>G61A-04</td>
<td>Application of Advanced GPS Monitoring System Techniques to Tectonic Studies: J W Ladd</td>
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<td>0945 h</td>
<td>G61A-05</td>
<td>Effects of Groundwater Flow on Strain Measurements: S Takemoto</td>
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<td>1000 h</td>
<td>G61A-07</td>
<td>High Precision EDM Observations Around the Imperial Fault and the Heber Geothermal Field, S, California, Using a ME300 Mekometer/CR204 Geomensor: P M Fleming, R G Mason</td>
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<td>1030 h</td>
<td>G61A-08</td>
<td>GPS Measurement of Crustal Deformation in the Northern Cascadia Subduction Zone: H Dragnet, J Kourba, M Lisowski</td>
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<td>G61A-09</td>
<td>GPS Solutions of Post-Seismic Crustal Strain Following the Loma Prieta, California Earthquake of October 1989: G Blewitt, K J Hurst</td>
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<td>1100 h</td>
<td>G61A-10</td>
<td>Comparison of Total Electron Content Between GPS Dual Frequency Method and Faraday Rotation Method: A Yamamoto, M Imai, C Miki, H Minakoshi, E Kawai, F Takahashi</td>
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<td>1130 h</td>
<td>G61A-12</td>
<td>An Estimation of Excess Path Delay Based on JMA Global Analysis Data: R Ichikawa, M Kasahara, I Naitoh</td>
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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 Kawai, 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 Molz
0850 h H61A-03 INVITED Hydraulic Conductivity Measurement as a Function of Vertical Position and Contaminant Transport Modeling: F J Molz, O Guven, J G Melville
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 Biotransformation Rates: R W Gillham
1205 h H61A-12 INVITED Bioavailability of Organically Bound Micropollutants: J T Novak, K G Robinson

O61A KNK: Aoi 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 Wallcraft

1000 h BREAK

1015 h O61A-06 Observations of Eddy Fields in the North-West Pacific by GEOSAT Altimetry: J Suwa, Y Okada, Y Sugimori
1045 h WITHDRAWN cc Height Variability
1105 h H61A-08 Anomalous Southward Intrusion of the Oyashio East of Japan: Y Sekine
1125 h H61A-09 Oceanic Circulations in the South Hemisphere: J Fukushima

561A 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 Yamamizu
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 Magntudes 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.
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<td>SP61A-03 Antenna Impedance Measurements by Akebono VLF Instruments: K Hashimoto, T Okada, I Nagano, M Yamamoto, I Kimura</td>
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<td>0915 h</td>
<td>SP61A-04 INVITED Structures and Origin of Small-Scale Field-Aligned Currents Observed by the Akebono (EXOS-D) Satellite: H Fukunishi, T Mikai</td>
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<td>SP61A-05 Triaxial Search Coil Measurements of ELF Waves With EXOS-D: S Kokubun, M Takami, K Hayashi, H Fukunishi</td>
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<td>SP61A-06 Field-Aligned Particle Acceleration in Upward Field-Aligned Currents: R Fujii, H Fukunishi, S Kokubun, M Sugura, T Mukai, N Kaya</td>
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<td>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</td>
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<td>SP61A-09 Irregular Electric Field Observed Near Midday Auroral Region: H Hayakawa, K Tsuruda, T Mukai, A Matsuoka, Y I Kono, T Okada</td>
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<td>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 Kono, K Tsuruda, A Nishida, N Kaya, T Okada</td>
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<td>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</td>
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### SP61B

**KNK: Fuyo A**

**Presiding:** Y Kamide, Kyoto Sangyo Univ; R L McPherron, Univ of California, LA

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<td>SP61B-02 INVITED Computer Simulation of Solar Wind-Magnetosphere-Ionosphere Interaction: K Watanabe</td>
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<td>0950 h</td>
<td>SP61B-03 A Macroscopic Study of Generation of Field-Aligned Currents in Height Integrated Plasma Sheet Coupled With Ionosphere: M Yamauchi</td>
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<td>SP61B-04 INVITED The Role of Birkeland Currents in Substorms: T A Potemra</td>
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<td>SP61B-05 Observation of Surge-Associated Field-Aligned Currents at Geosynchronous Orbit: N Nishitani, T Oguti</td>
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### V61A

**SKC: Large Hall**

**Presiding:** S Kirby, USGS, Menlo Park; T Shimamoto, Tokyo Univ

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<td>V61A-05 Kinetics of Dehydration, Fluid Flow and Reaction-Enhanced Ductility in a Subduction Zone: T Nishiyama</td>
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**SFK: Large Hall**

**Presiding:** A Zindler, LDGO; I Kaneoka, Univ of Tokyo

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### V61A

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**Presiding:** S Kirby, USGS, Menlo Park; T Shimamoto, Tokyo Univ

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Isotopic Evolution of an Earth With a Layered Mantle: An Internally Consistent Model: R S J Lambert

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B R E A K

N o b l e G a s e s in C a r b o n a t i t e s and Their Implications on the Subcontinental Upper Mantle: T. Sasada, H. Hiyagon

A n o m a l o u s N e o n and X e n o n Isotopes in Some Crustal Rocks: S. Azuma, M. Ozima, H. Hiyagon


M a n t l e P b I s o t o p e s : S u b-

duction of Continental Crust, a Geochemical Mystery Tour: E. Jagoutz

3.5 G a O c e a n i c - L i k e L i t h-


M a n t l e P l u m e s , M a n t l e S t i r r i n g and Hotspot Chemistry: G. Davies

DISCUSSION

S a t u r d a y 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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On-Going Distance Changes Between Japan and China From Geodetic Very Long Baseline Interferometry: K. Heki, S. Hama

Constraints From VLBI on Pacific-North America Motion and Deformation: D F. Argus, R G. Gordon

SLR and VLBI Results for Back Arc Stations: C G A. Harrison, S. Robaudo


The Main Station With 34 m Antenna at Kashima: Y. Koyama, H. Takaba, M. Imae, Y. Sugimoto

The Result of the First Experiment: S. Hama, F. Takahashi, C. Miki, J Amagai, H. Kiuchi, T. Kondo, K. Heki


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GSi's VLBI Observations: S. Matsuzaka, M. Tobita, Y. Nakahori

A New VLBI Data Acquisition System, K-4: H. Kiuchi, S. Hama, J. Amagai, Y. Abe, Y. Sugimoto
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-05 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 Kume kawa, 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 Hatsu shima Island, Sagami Bay: T Masuzawa, H Handa, H Kitagawa, 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 over 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 Kwantco Earthquake: I Kawabe

1545 h S62A-10 Time Series Analysis to Detect Co-seismic 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 Sagawa, I Iwamoto, S Watanabe, B A Whalen, A W Yau

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

1355 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 Fujii

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

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

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
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Cerling T E. (U32A-08)
Chen A T C (H22A-07)
Chang J S (A22A-03)
Channell J E T (GP31A-03, GP31A-13)
Chao S Y (O31A-08)
Charlou J L. (V31B-10)
Chen C T A (G62A-02,OS2A-04)
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Chen C Z (SP41D-11)
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Chiu L S (H22A-07)
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Clark W L. (A32A-03,SP41B-04)
Cleary R C (SP61B-01)
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Cravens T E (SP32C-01, SP32C-03,SP52C-04)
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Cui M (O61A-01)
Cushman J H (H32A-01)
Cynn H (T51A-02)

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