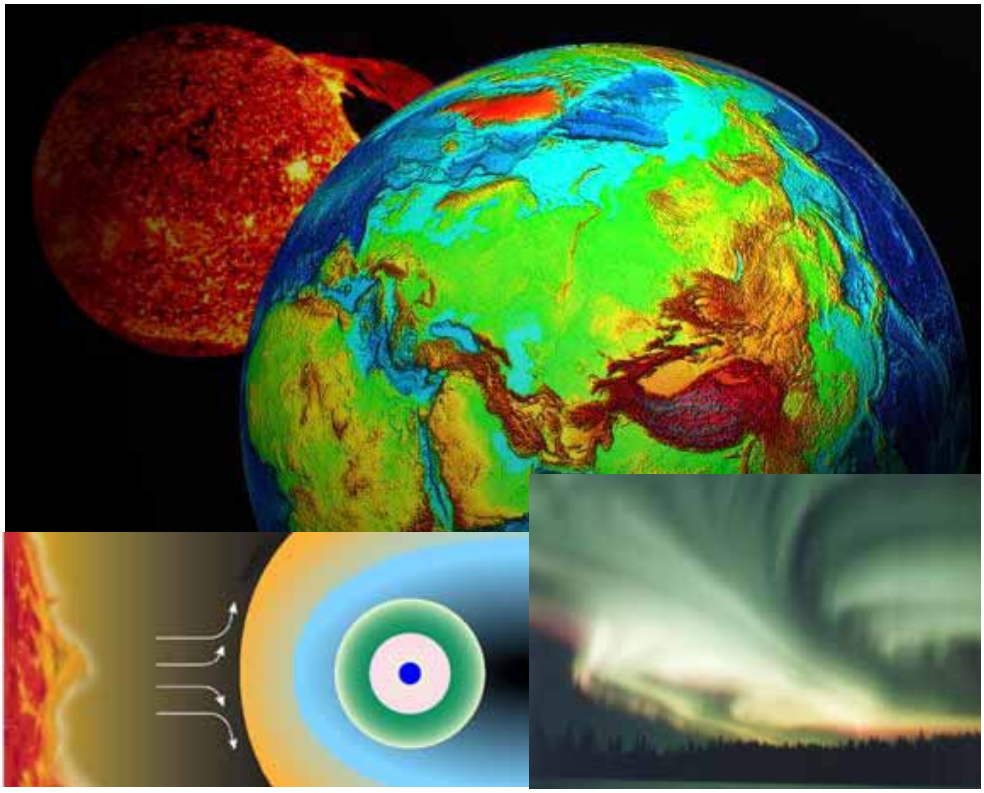
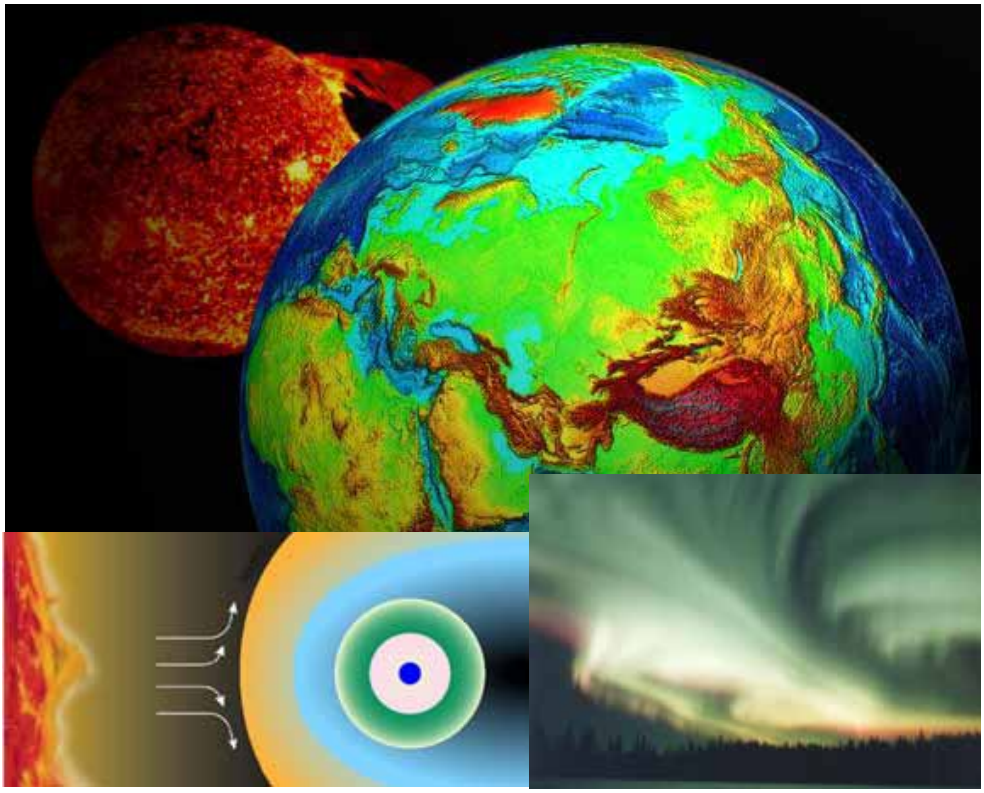
CAWSES Space Weather
International Collaborative Research Database in Japan
Data Catalog・Reference Manual



March/2007
CAWSES Space Weather International Collaborative Research Database
Committee in Japan

CAWSES Space Weather
International Collaborative Research Database in Japan
Data Catalog・Reference Manual



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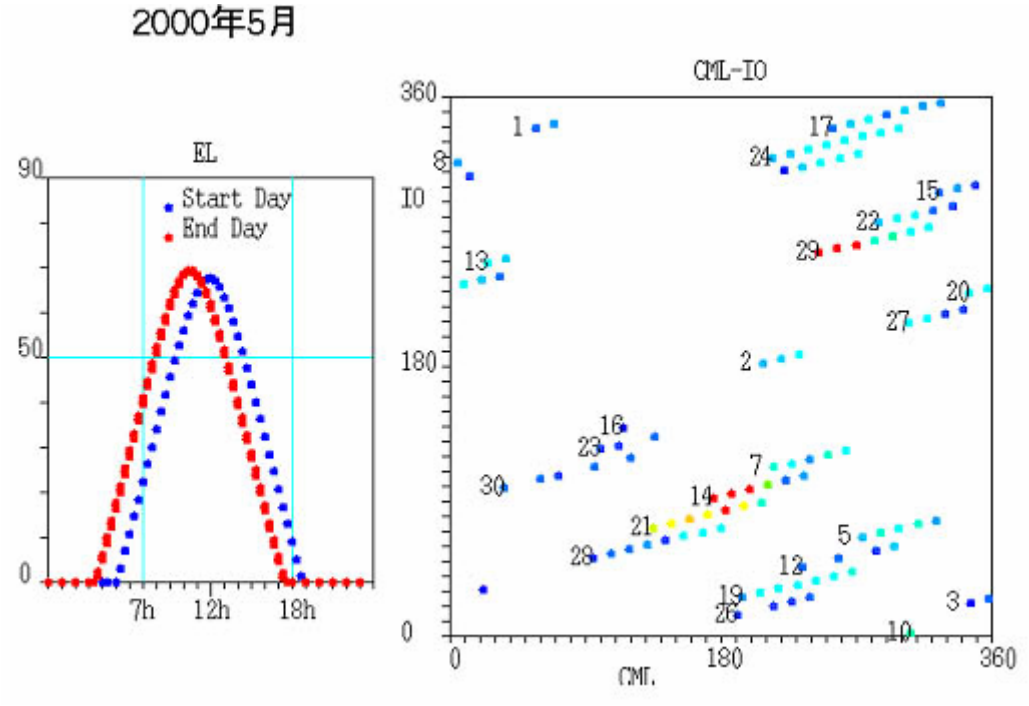
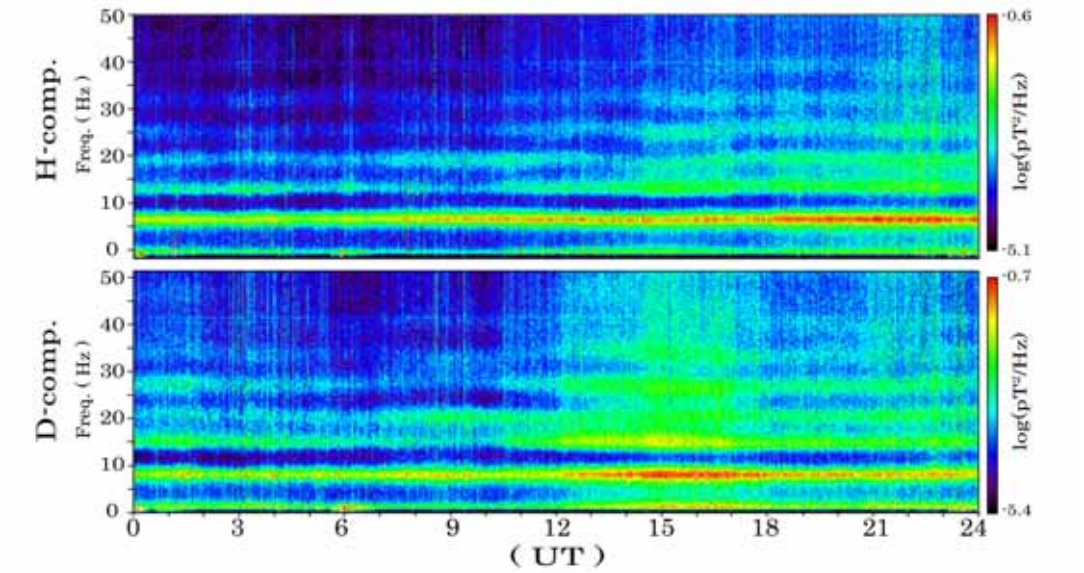


The appearance distribution of Jovian Decametric Radio

Jovian Decametric Radio Wave Data / 木星デカメータ電波観測データ

Takayuki Ono (Graduate School of Science, Tohoku University)

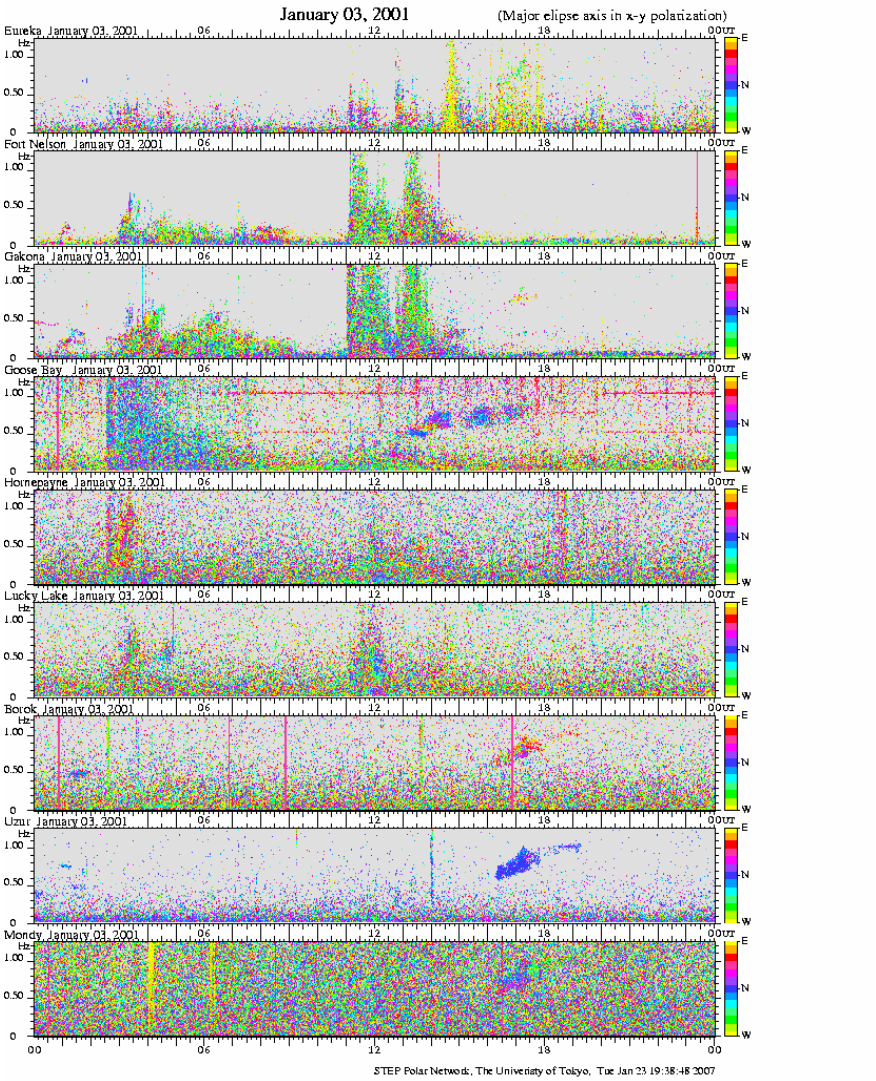


Example of one-day dynamic spectra of ELF waveform data obtained at Syowa station

Upper and lower panels represent the H- and D-component dynamic spectra, respectively. The harmonic structure of Schumann resonance waves up to the seventh are clearly seen at about 8, 14, 20, 26, 32, 39, and 45 Hz in both H- and D- component dynamic spectra. Spectral power enhancements are also seen in these spectra, which are strongly related with the global lightning activity.

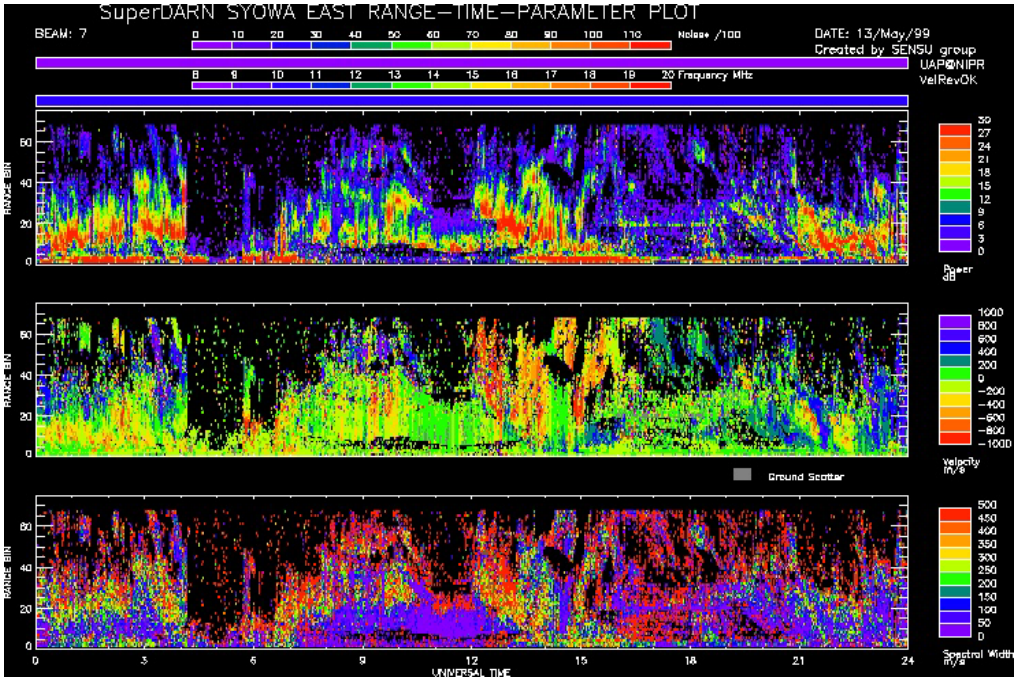
ELF radio wave Database / ELF 波動データベース

Hiroshi Fukunishi (Graduate School of Science, Tohoku University)

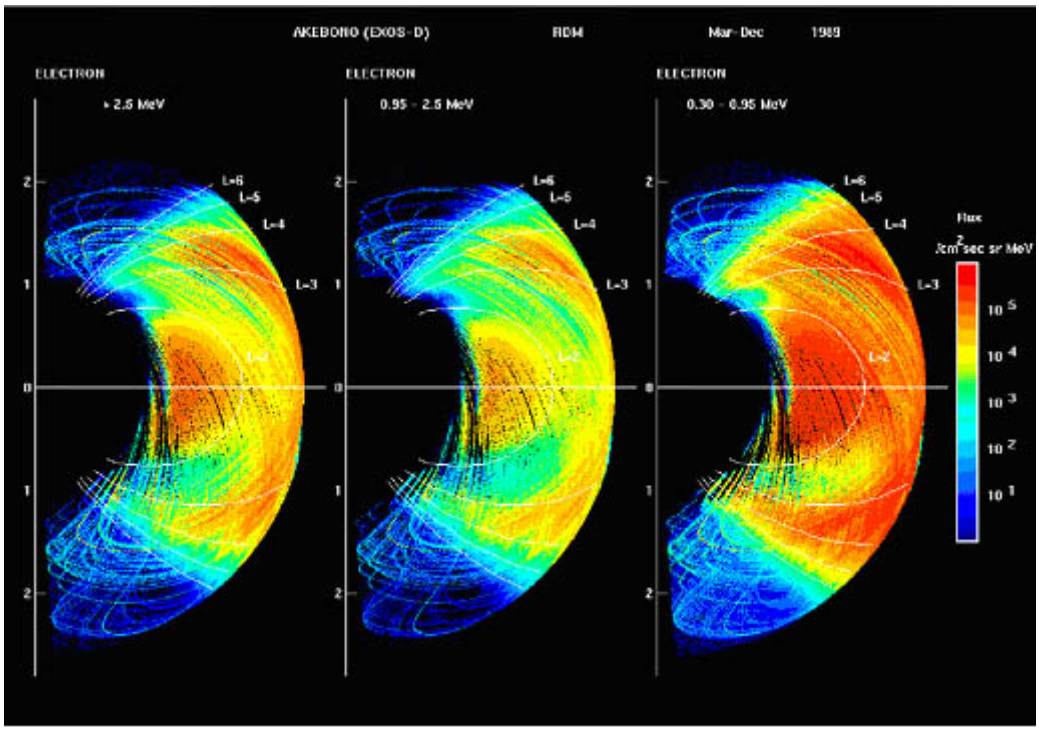


Magnetic Field Database from the STEP Polar Network / STEP 極域磁場データベース
Kanji Hayashi (Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo)

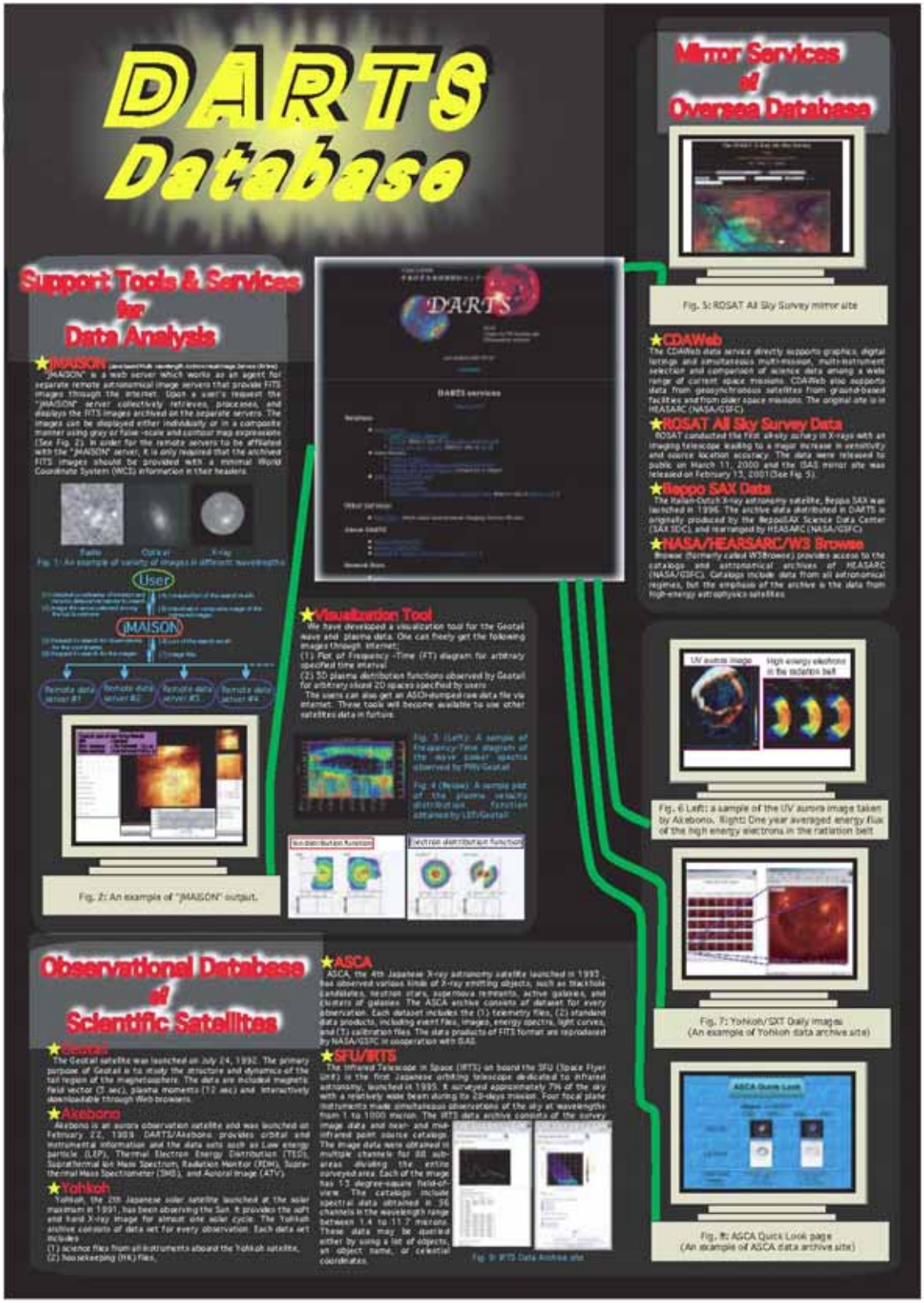
Aurora Image Data / オーロラ
Kanji Hayashi (Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo)



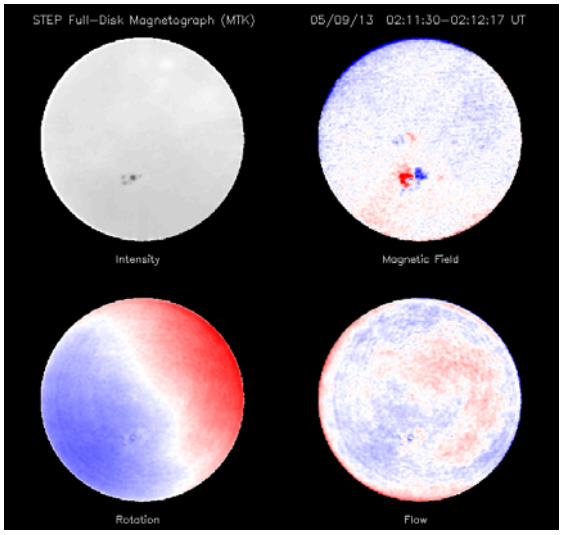
Syowa Station SuperDARN HF Radar Network Data / 昭和基地 SuperDARN 短波ﾚｰﾀﾞｰ網ﾃﾞｰﾀ
Natsuo Sato (National Institute of Polar Reserch)

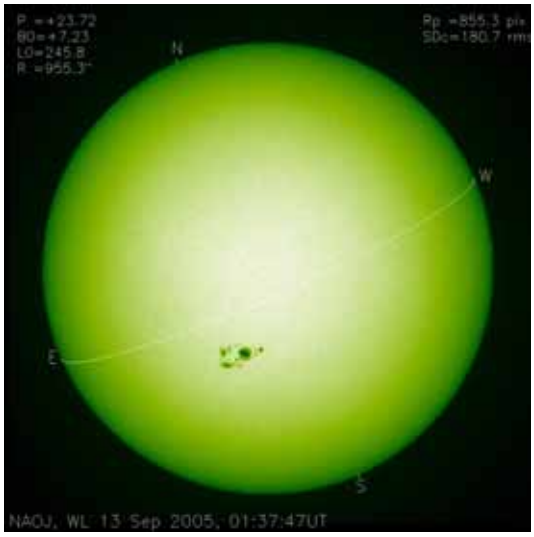


Akebono(EXOS-D) Science Data Base / あけぼのサイエンスデータベース
Ayako Matsuoka (Japan Aerospace Exploration Agency, Institute of Space and Astronautical Science)

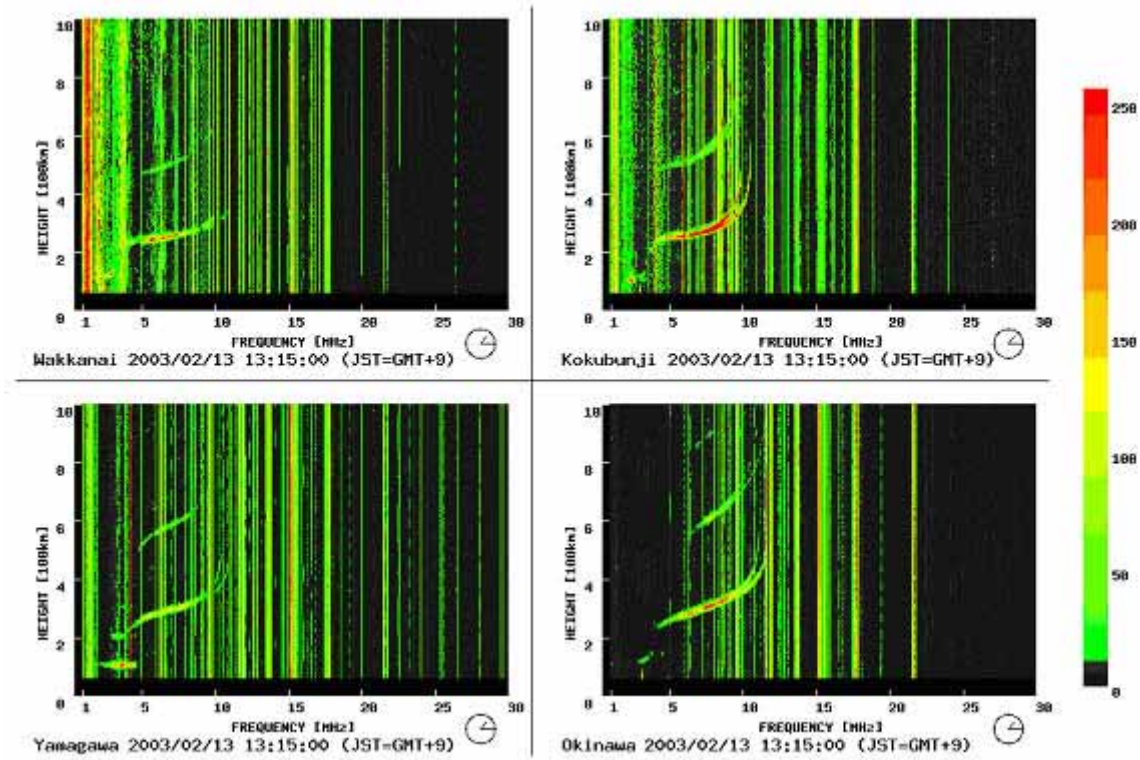


DARTS (Data ARchive and Transmission System)
Iku Shinohara (Institute of Space and Astronautical Science)

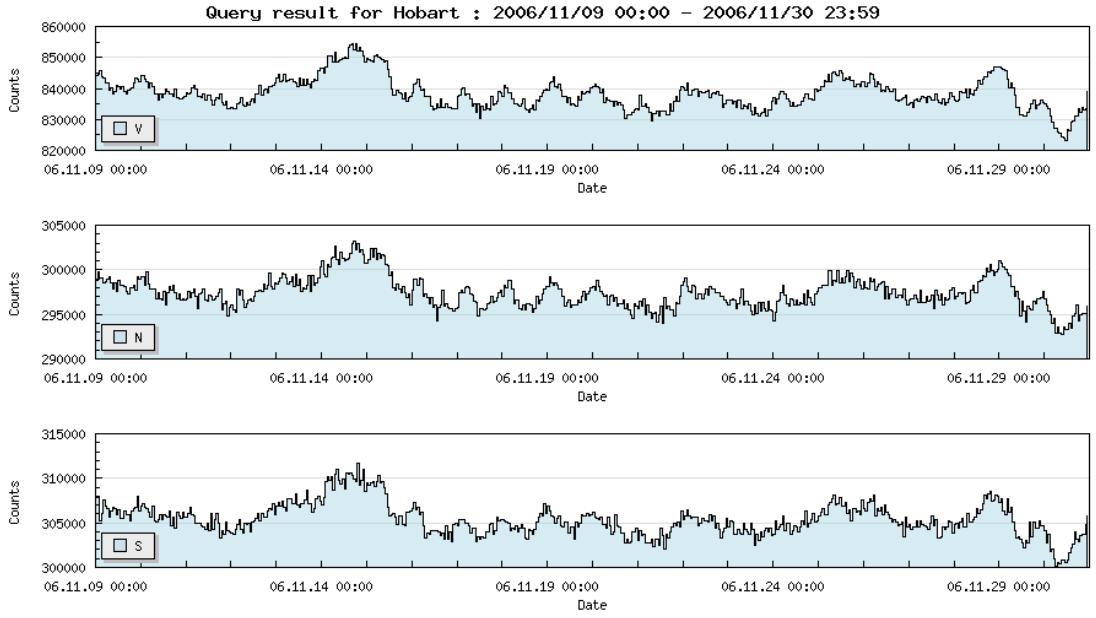




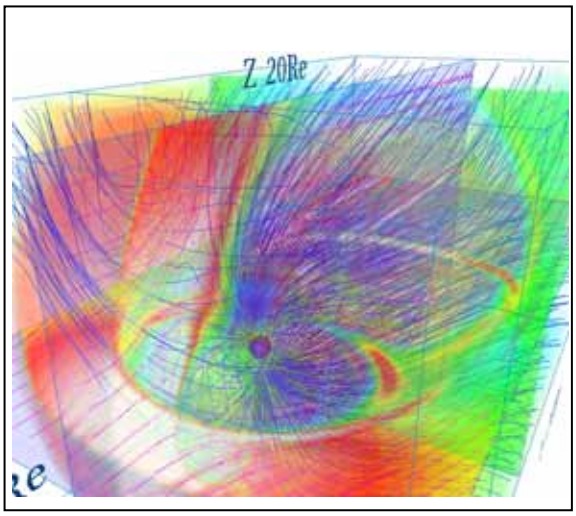
CAWSES Solar Optical Data On-Line, NAOJ / CAWSES 国立天文台・ｵﾝﾗｲﾝ太陽可視光ﾃﾞｰﾀ
Takashi Sakurai (Solar Observatory, National Astronomical Observatory of Japan)



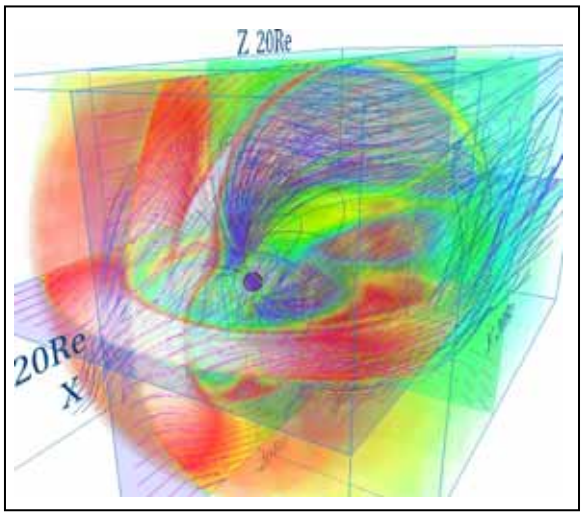
Ionosphere Database / 電離圏データベース
M. Ishii (National Institute of Information and Communications Technology)



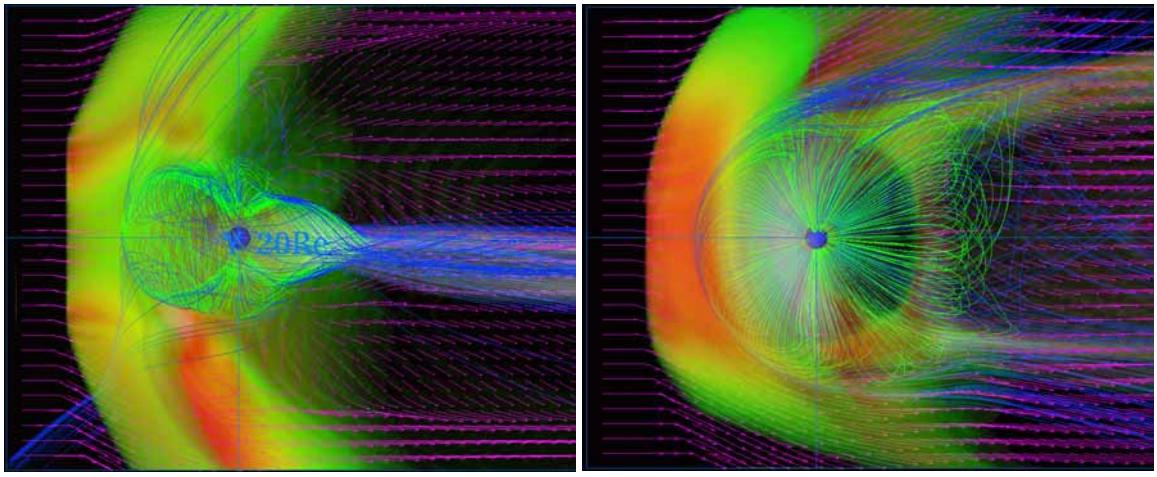
Cosmic Ray Muon Database / 宇宙線ミューオンデータベース
(Department of Physics, Faculty of Science, Shinshu University)



3-dimensional configuration of the magnetic field lines in the Earth's magnetosphere when the IMF is southward and the angle of dipole tilt is 30 degrees.

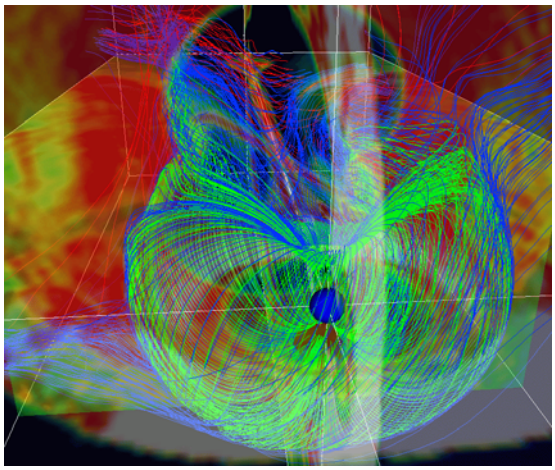


3-dimensional configuration of the magnetic field lines in the Earth's magnetosphere when the IMF is northward and the angle of dipole tilt is 30 degrees.

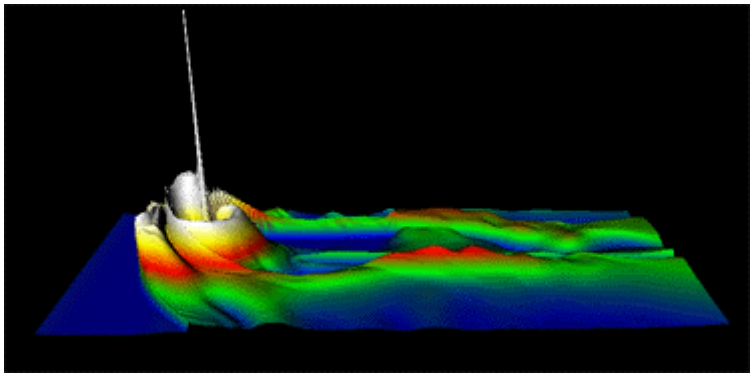


3-dimensional configuration of the magnetic field lines, plasma temperature and plasma flow in the Earth's magnetosphere shown by VRML when the IMF has a component in the sun-earth direction as known the Parker spiral as well as southward and duskward components.

Magnetosphere Simulation / 磁気圏シミュレーション
Tatsuki Ogino (Solar-Terrestrial Environment Laboratory, Nagoya University)

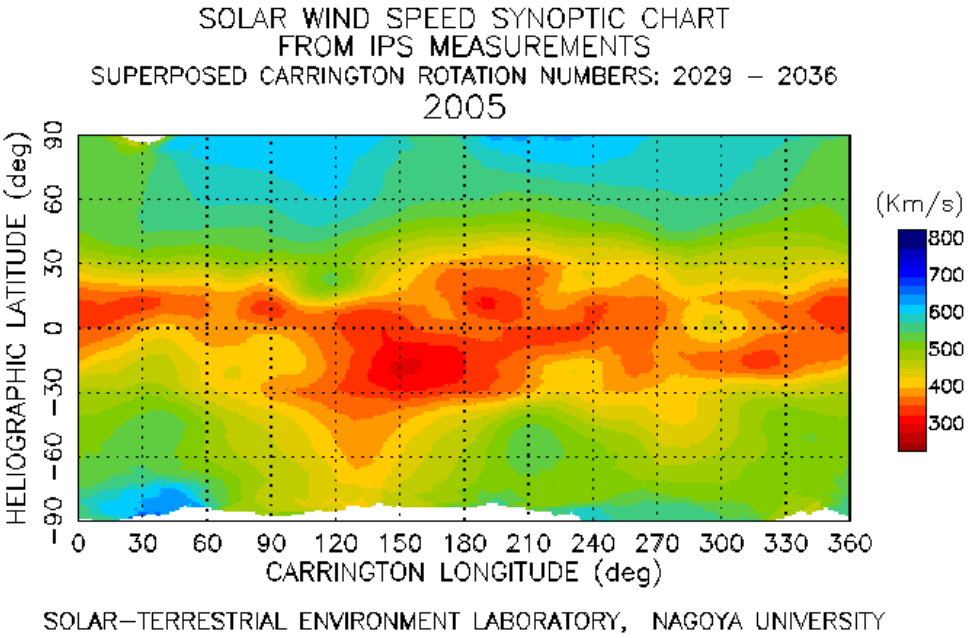


Characteristic structure of the earth's magnetosphere on October 24, 2003 after the shock wave arrival, which was obtained from 3-dimensional MHD simulation of the solar wind-magnetosphere interaction.



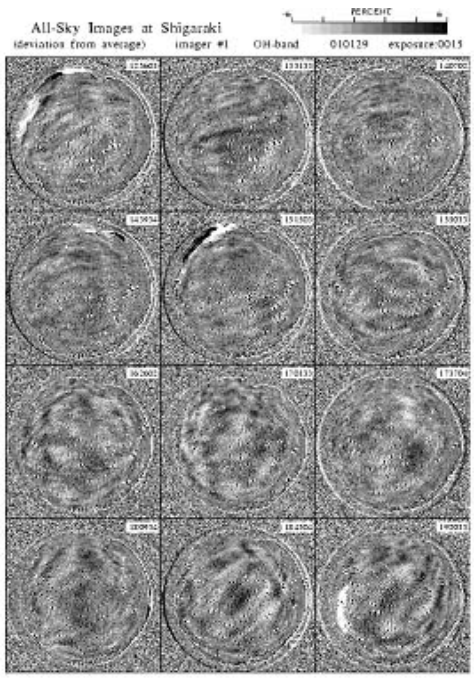
Three dimensional structure of the earth's magnetosphere on the equator shown by the triangular mesh for the 3-dimensional simulation data.

Three Dimensional Visualization Using VRML / VRML を用いた３次元可視化
Tatsuki Ogino (Solar-Terrestrial Environment Laboratory, Nagoya University)

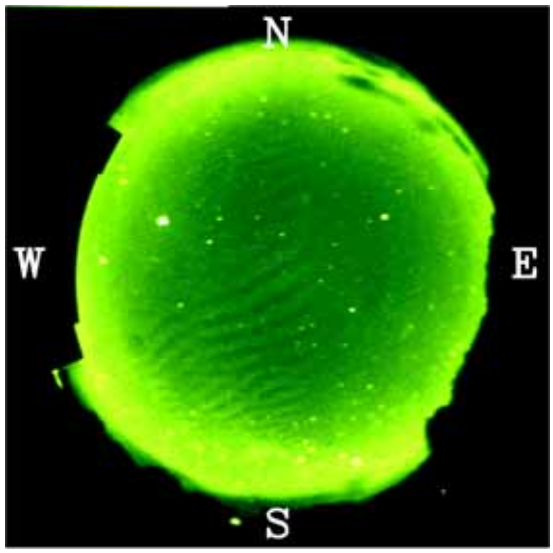


IPS Solar Wind Speed Database / IPS 太陽風速度データベース

Masayoshi Kojima (Solar-Terrestrial Environment Laboratory, Nagoya University)



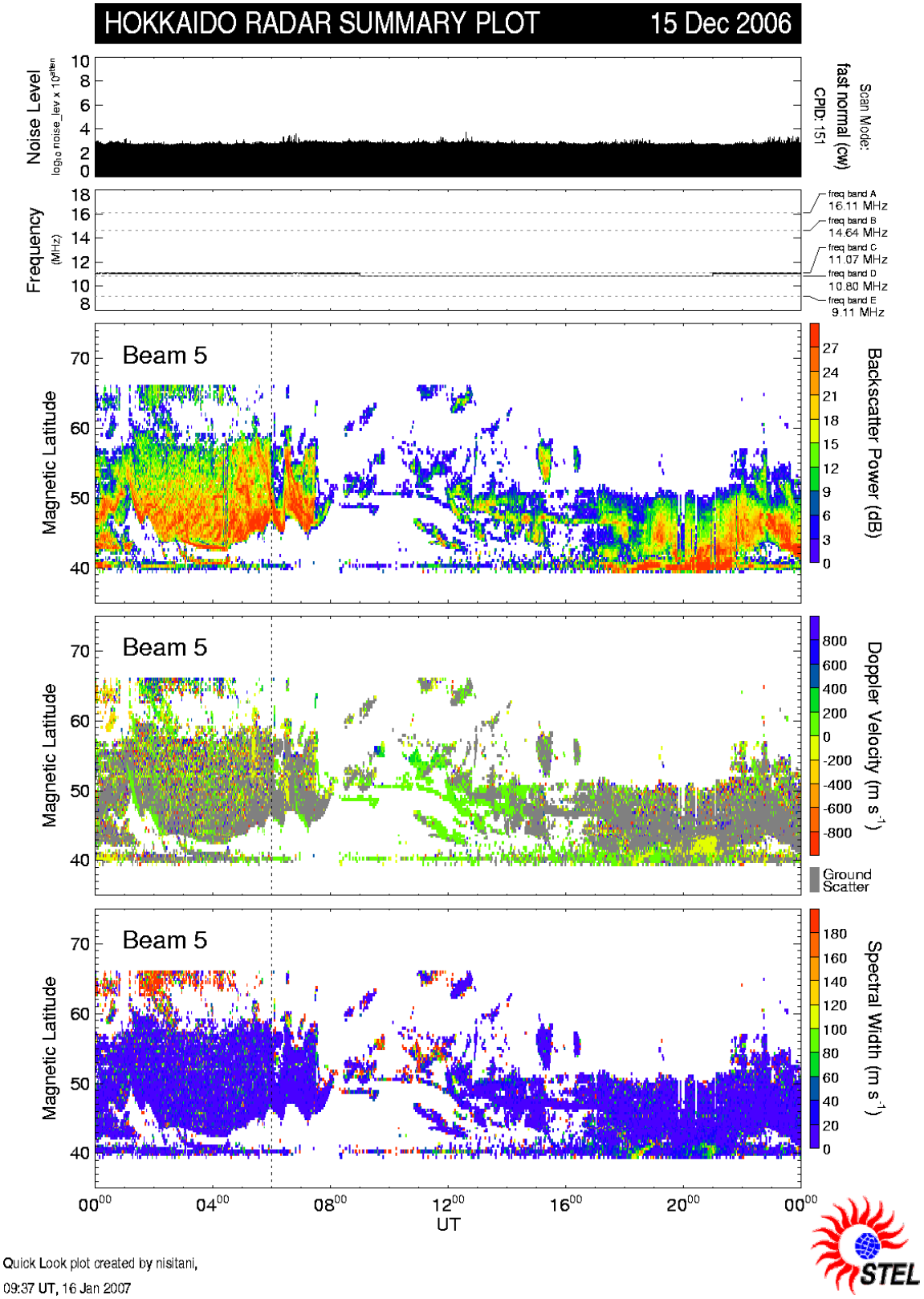
Example of all-sky image data (January 29, 2001, OH)



Atmospheric gravity waves observed by an airglow imager at Kototabang, Indonesia, on March 6, 2008 UT at a wavelength of 557.7 nm (atomic oxygen, emission altitude: 90-100 km). The scale size of the waves are 20-30 km.

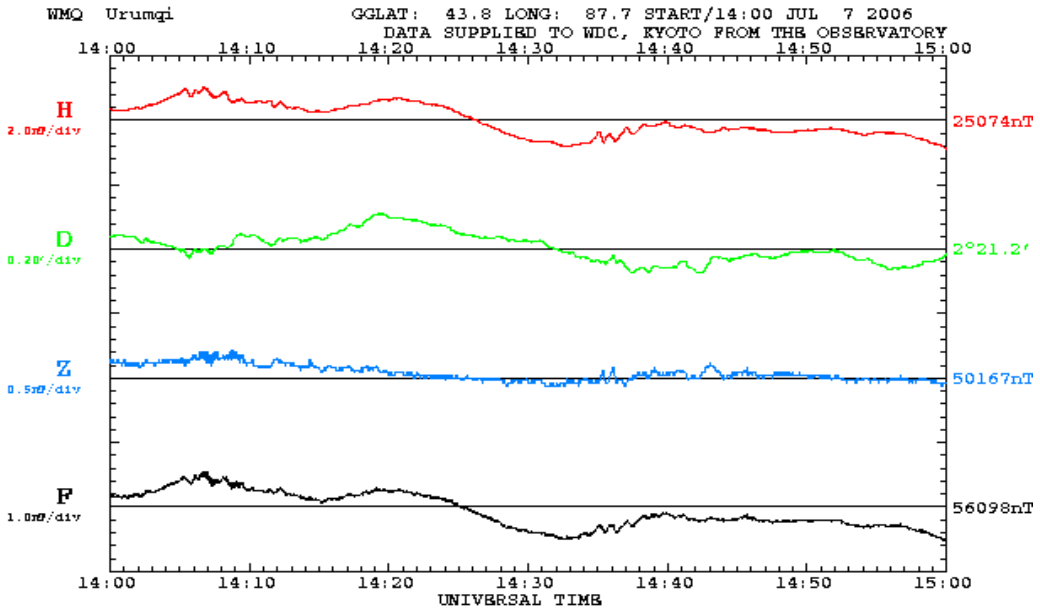
Database of the Optical Mesosphere Thermosphere Imagers (OMTIs) /
超高層大気イメージングデータ

Kazuo Shiokawa, Yuichi Otsuka, and Tadahiko Ogawa (Solar-Terrestrial Environment Laboratory, Nagoya University)



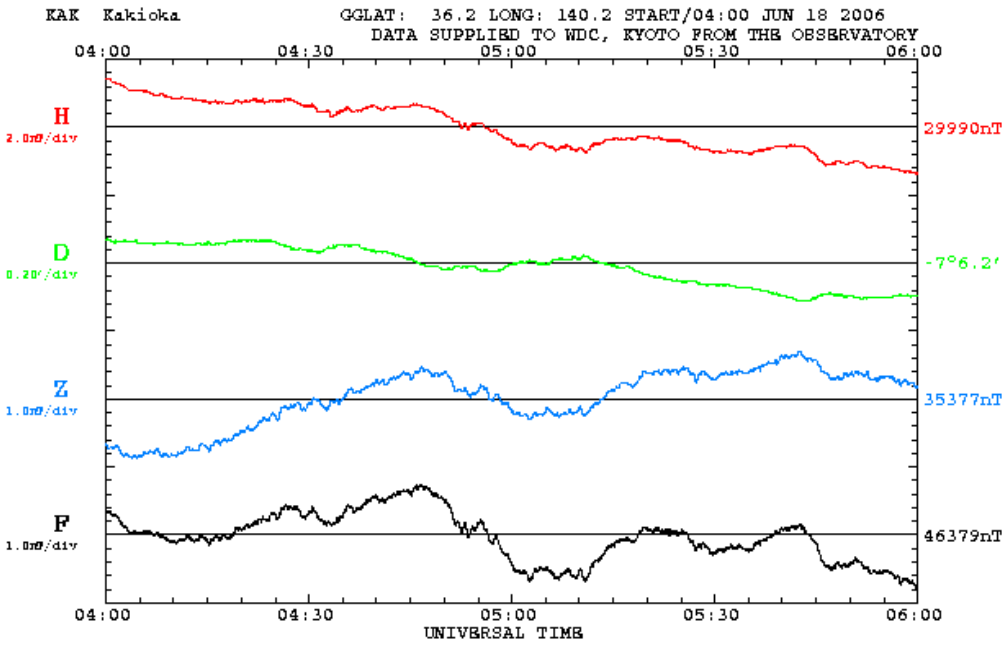
Hokkaido SuperDARN HF radar network data /
北海道―陸別 SuperDARN 短波レーダー網データ

Nozomu Nishitani (Solar-Terrestrial Environment Laboratory, Nagoya University)



High Temporal Resolution Geomagnetic Data / 高時間分解能地磁気

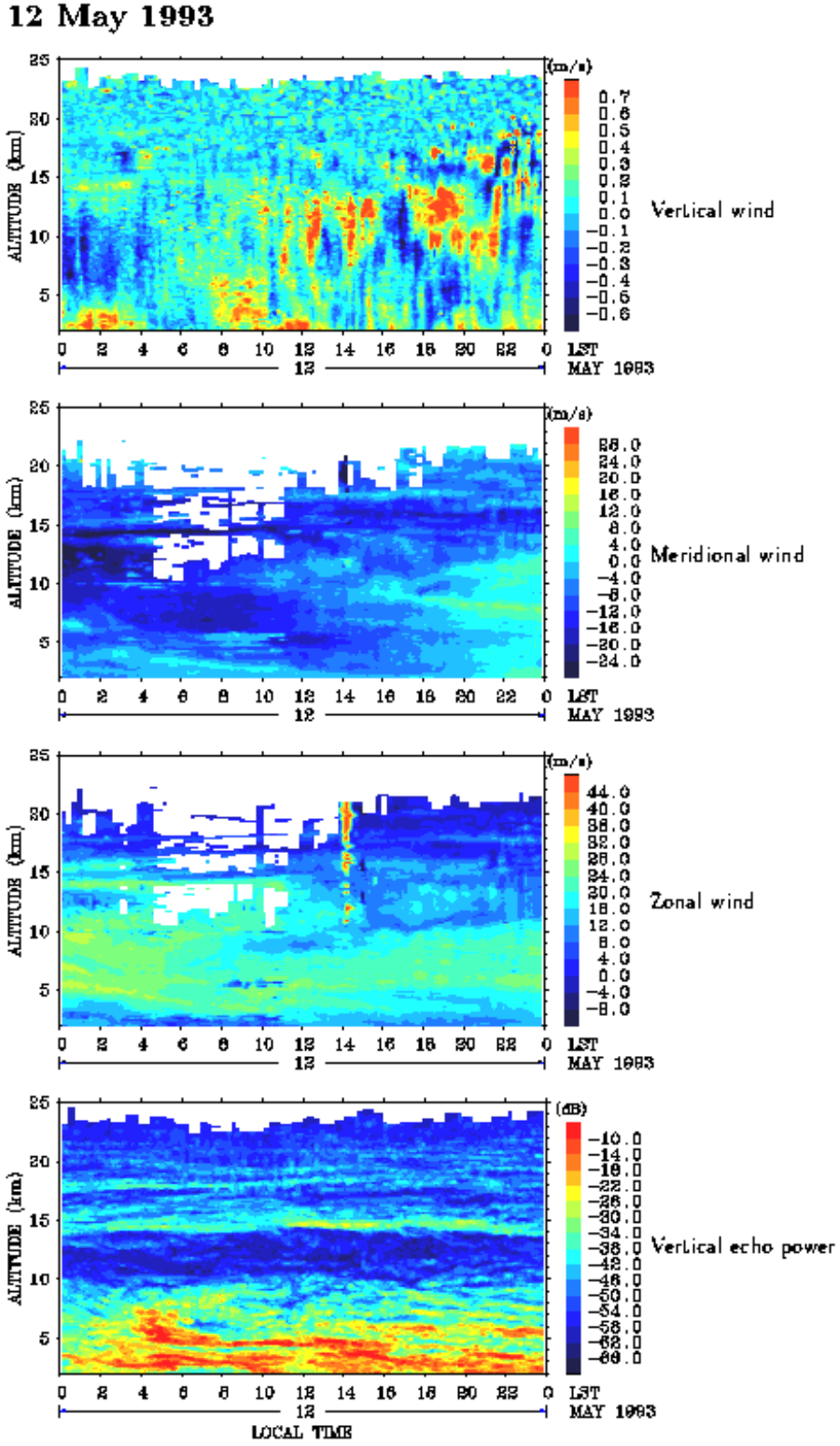
Toshihiko Iyemori (Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University)



Kakioka One-second Resolution Geomagnetic Data / 柿岡地磁気毎秒値

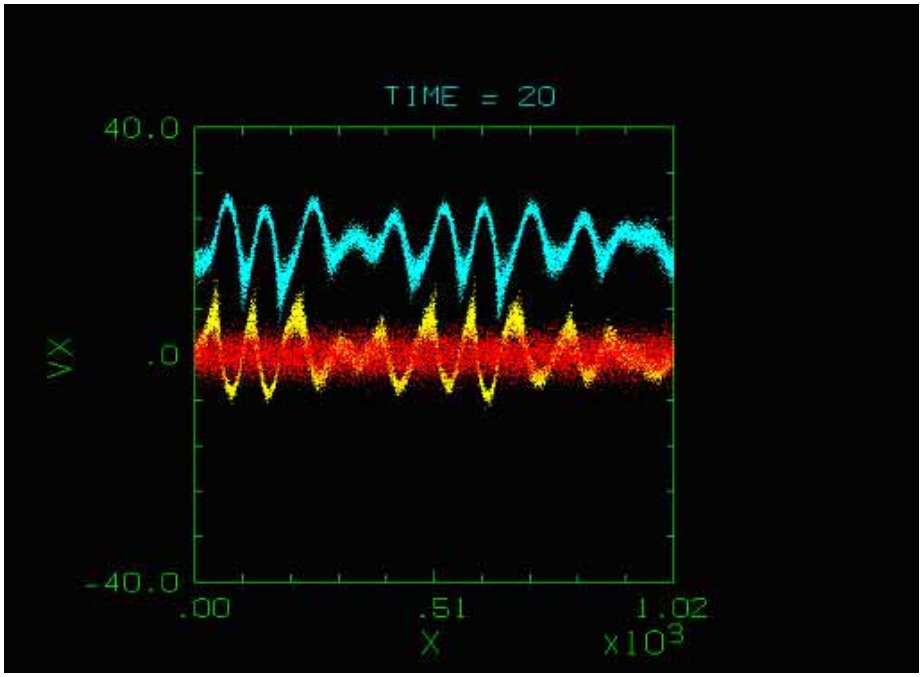
(Kakioka Magnetic Observatory, Japan Meteorological Agency / WDC for Geomagnetism, Kyoto)

Stratosphere-Troposphere observation

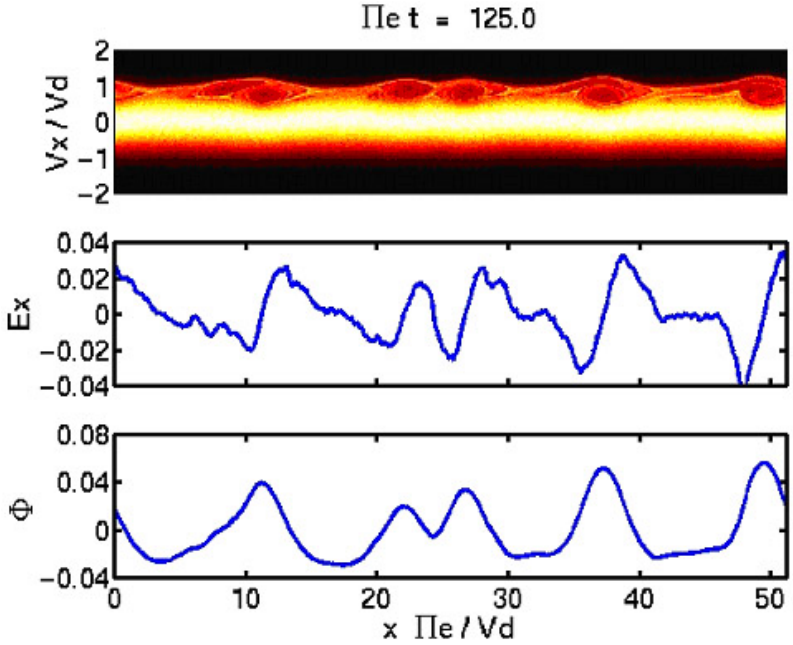


MU radar data base / MU レーダー観測データベース

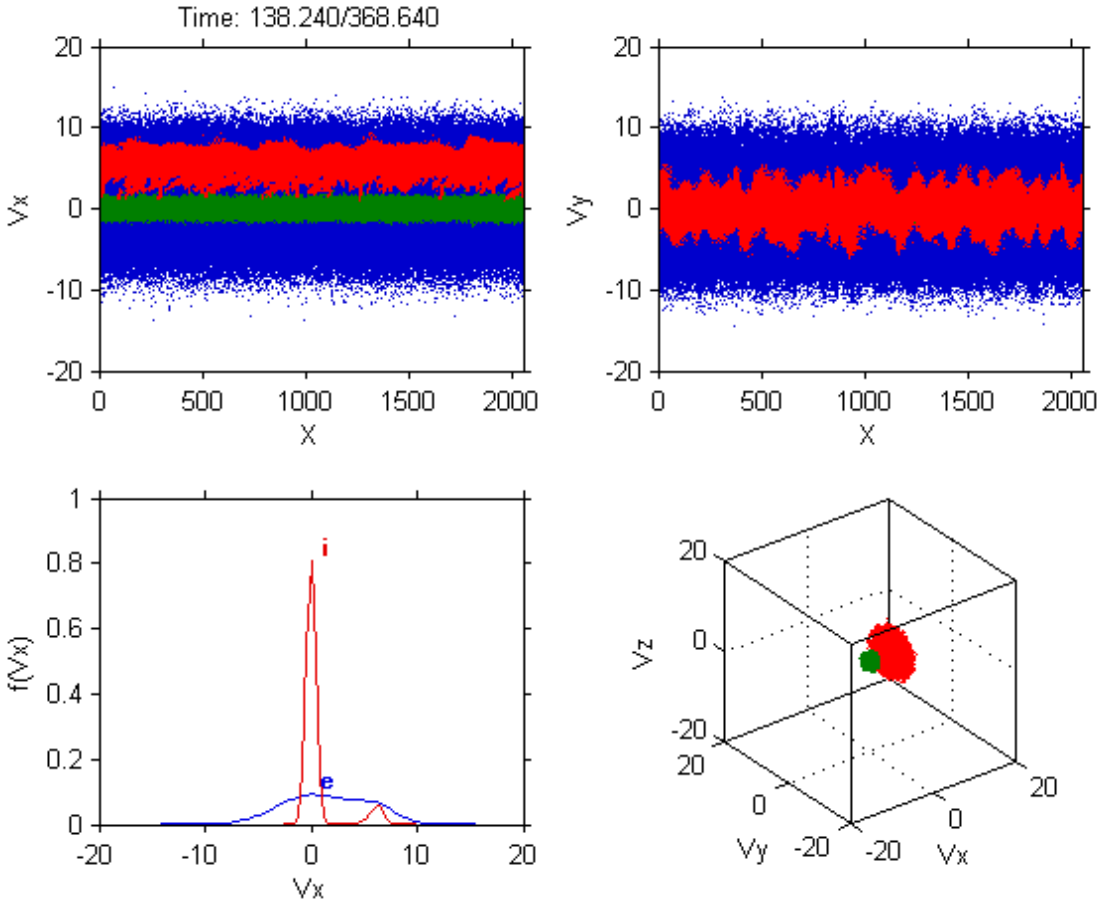
Research Institute for Sustainable Humanosphere, Kyoto University



Particle Simulations of Plasma Wave Instabilities I:
Computer Simulations of Electrostatic Solitary Waves in the Magnetotail /
プラズマ波動不安定性の粒子シミュレーション I
Yoshiharu Omura, Hirotsugu Kojima, Hiroshi Matsumoto
(Research Institute for Sustainable Humanosphere, Kyoto University)



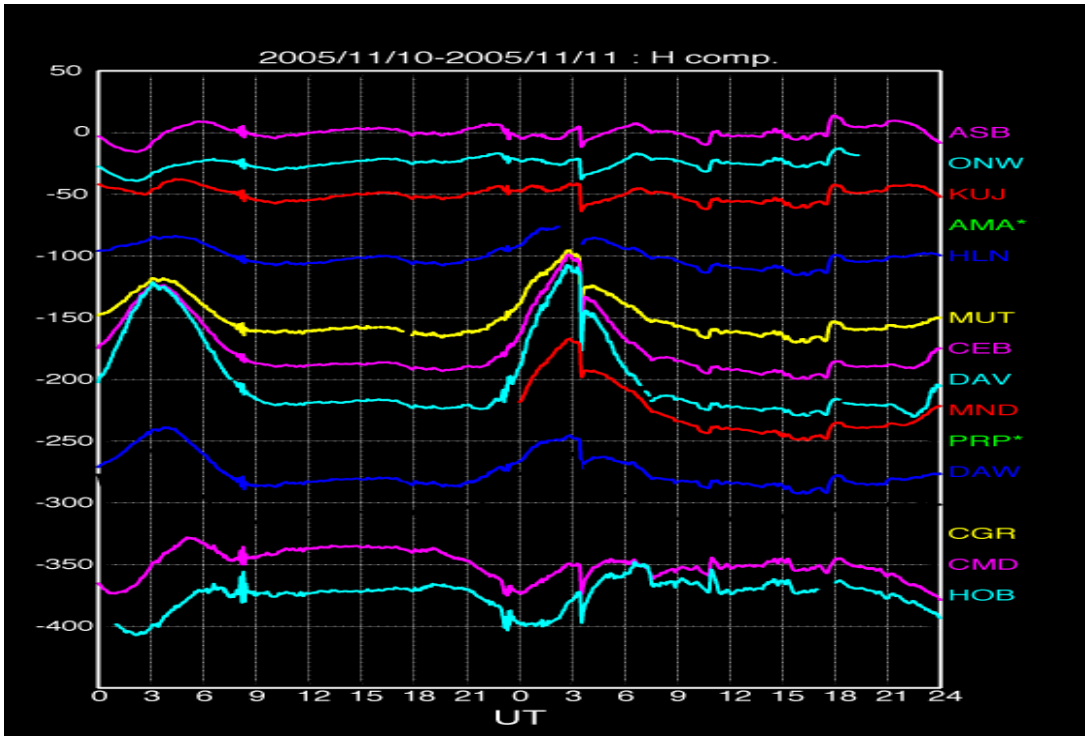
Particle Simulations of Plasma Wave Instabilities II:
Electron beam instability as generation mechanism of electrostatic solitary waves in the magnetotail /
プラズマ波動不安定性の粒子シミュレーション II
Yoshiharu Omura, Hiroshi Matsumoto, Taketoshi Miyake, Hirotsugu Kojima
(Research Institute for Sustainable Humanosphere, Kyoto University)

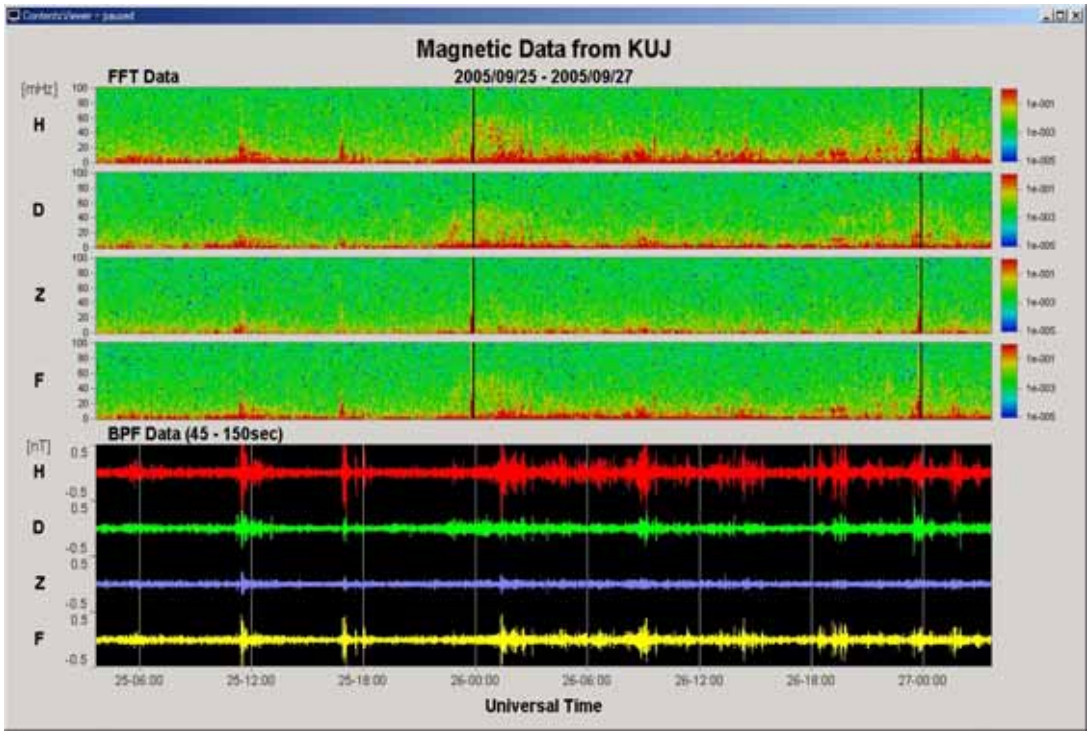


Ion beam instabilities in space plasmas / 宇宙プラズマ中のイオンビーム不安定性

Yoshiharu Omura and Koichi Shin

(Research Institute for Sustainable Humanosphere, Kyoto University)





MAGnetic Data Acqusition System/Circum-pan Pacific Magnetometer Network Data/
マグダス環太平洋地磁気ネットワークデータベース
Kiyohumi Yumoto (Space Environment Research Center, Kyushu University)

CONTENTS

CAWSES (Climate And Weather of the Sun-Earth System)
Space Weather International Collaborative Research Database in Japan

Outline of CAWSES Space Weather International Collaborative Research Database in Japan (Significance and Purpose of Construction)

The ICSU-SCOSTEP (International Council for Science-Scientific Committee on Solar-Terrestrial Physics) which carried out the STEP program (1990-1997) and the S-RAMP program (1998-2002), has determined to promote the CAWSES (Climate And Weather of the Sun-Earth System) program for 2004-2008 as an international collaborative research program of the beginning of 21st century to understand the short term (Space Weather) and long term (Space Climate) variability of the integrated solar-terrestrial environment, and for its societal applications.

The following items are carried out in CAWSES.

1. Observations research of short term variability (Space Weather) and long term variability (Space Climate) of solar-terrestrial environment
2. Integrated study among the observation, theory, and modeling/simulation

For the short term variability (Space Weather) of the CAWSES, "CAWSES Space Weather International Collaborative Research Database in Japan" is constructed as an infrastructure of national cooperative research as our country positively participates.

Concretely, database construction of the fiscal 2003 and S-RAMP periods develops. Then analysis software and the database which added the analytical results in the ground and satellite observations acquired in fiscal 2004-2008 as CAWSES Space Weather International Collaborative Research and the common database which added calculation result to the software of the modeling/simulation is made. That our country independently makes it and that it makes common use database of the Japan leaving as a common basis which the researcher of the world can utilize for the space weather research has the important significance as an international contribution.

Plans for CAWSES Program

In the STEP program (1990-1997) and the S-RAMP program (1998-2002), large data of sun image, solar radio emission, interplanetary space, magnetosphere, ionosphere and the atmosphere observations were acquired. The data of about 21TB was accumulated in the whole in today. In S-RAMP Database (1998-2002), analysis software, and the modeling/simulation data were added to observational data, and the following items were carried out.

- Data offer and public presentation on line. (http://center.stelab.nagoya-u.ac.jpweb1/sramp/index.html)
- CD-ROM creation and distribution. (as the S-RAMP database 46 volumes domestic 200 and foreign 250 distribution)
- Creation and distribution of the S-RAMP data catalog and use manual of English and Japanese which collected the whereabouts information on the data of a domestic solar terrestrial system.

As continuation and development of these Japan solar-terrestrial physics database creation, the database used as the base of CAWSES Space Weather International Collaborative Research (2004-2008) is created.

First, the data from which comprehension of a data donor was obtained by data with high use demand and use frequency is exhibited as an online database. Extensive data with many users and fundamental analysis software are dedicated to CD-ROM together, and they are distributed to main CAWSES international collaborative researchers in and outside the country (domestic distribution 200 and foreign distribution 250). About a lot of data with which the user was restricted, and especially the data changed into digital one from analogs, such as plot paper and a photograph, the CD-RAM/DVD-RAM original version is made and the electronization of data is measured. A lot of data which are solar picture, geomagnetism 1 second and an atmosphere optical observations, etc. are kept as source data to DVD-RAM.

In the 2004 fiscal year, while employing the making achievement and experience efficiently with S-RAMP database and the space weather database in the 2003 fiscal year, the CAWSES Space Weather International Collaborative Research Database which aims at the effective combination between an observations of short term variability (Space Weather) of the solar terrestrial system of the CAWSES done in a plan from 2004 for five years, and the modeling/simulation is started. Specifically the space weather research data is chosen from CAWSES data, and newer cosmic-ray and the optical observational data of the upper atmosphere are added, and a database is made.

There are the following as item.

1. Solar and Cosmic rays data (Solar pictures and Electric wave images): One image = 1000×1000 pixel×1byte = 1MB
2. Magnetosphere data (magnetic field, plasma, particles): One-day data = 86400×3×2bytes = 516KB
3. Ionosphere data (observations each point, geomagnetism 3 ingredient, an Aurora image) : One-day data = 864000×4×4byes×80points = 830MB
4. Atmosphere optical observational data : One-day data=500×500 pixel×1000×4×1byte = 1,000MB
5. Modeling / simulation data (Magnetic field model, Electron current, Kinetic simulation. etc.) : Sampling data = 400×100×100×8×4bytes = 128MB

These databases can be used for promotion of the space weather research of Japan and international contributions.

Public Disclosure of CAWSES Space Weather International Collaborative Research Database in Japan

Public disclosure of the CAWSES Space Weather International Collaborative Research Database as well as the case of S-RAMP database is classified into four kinds of categories shown below according to a user's number and amount of data, and exhibits a database.

Category1: The data with many users at until middle-scale is offered and exhibited on-line.

Category2: About a lot of data with many users, it is CD-ROM (DVD-ROM) original edition creation/press distribution.

Category3: About a lot of data with which the user was restricted, it is CD-RAM (DVD-RAM) original edition creation (number-of-volumes limitation), and it is a press and offer if required.

Category4: A lot of data kept as source data is kept with DVD-RAM, and is lent out if required.

It appropriates for the use as mentioned above.

The S-RAMP database catalog (in English and Japanese) is exhibited on the Internet from June, 1999 (http://center.stelab.nagoya-u.ac.jp/web1/sramp/index.html). The facilities of an international collaborative researcher are considered and the CAWSES Space Weather Research Database is

exhibited by Web (http://center.stelab.nagoya-u.ac.jp/cawses/index.html) with the Space Weather Database in the 2003 fiscal year. The CAWSES Space Weather Research Database offer and public disclosure on line will be started in 2004 fiscal year and moreover, the contents are enriched. CD-ROM (DVD-ROM) creation/press distribution of the CAWSES Space Weather Research Database is carried to both data of observations and simulation/modeling like S-RAMP.

About concrete method and use restrictions of data public presentation, it depens on a data donor's conditions. However, the open data in Web will not be restricted in particular, if used academically. CD-ROM is distributed to the Collaborative-Research person who represents a research consortium in principle, and is further distributed according to a demand.

About use of a CAWSES Space Weather International Collaborative Research Database in Japan

The collaborative researcher in and outside the country which participates in the CAWSES (Climate And Weather of the Sun-Earth System, 2004-2008) which solves a short-term variability (the space weather) and long term variability (space climate) of a solar terrestrial system is a subject of use. The remarkable researcher has overlapped also with the S-RAMP International Collaborative Researcher. In Japan, various observational data from solar to a terrestrial, analysis data, and a modeling/simulation result are gathered as space weather research, and the study group meeting of the space weather prediction is held several times every year. The participant in those meetings and study groups turns into a main use candidate. Moreover, since the space weather research is common to human beings, U.S., Europe, and China are also advanced systematically. The space weather researchers in the world are candidate users.

About the contents of use, it is indispensable to put in a database the data which the researcher of Japan observed at home. On the data analysis, the software of modeling/simulation and the calculation result which are developed and expanded by the Japanese researcher there is no method, except that we makes the database ourselves. By sending the space weather database of such Japanese original from our country, when a researcher in and outside the country carries out mutual use of many data by both international data and research information exchange, space weather international collaborative research common to human beings can be carried out more rationally. Thus, the use from a CAWSES international collaborative researcher in and outside the country is main. In addition, the space weather is interested in wider and larger communities in the world, and many open data in Web is referred to also from public general.

Regulation of CAWSES Space Weather International Collaborative Research Database (SPACEWDB-J)

1. This database is

(1) The ICSU-SCOSTEP carries out this database as the first international collaborative research program of the 21st century in response to the result of S-RAMP International Collaborative Research. It is "CAWSES Space Weather International Collaborative Research Database" which becomes a infrastructure of CAWSES (Climate And Weather of the Sun-Earth System, 2004-2008) which examines space weather and space climate of sun-earth system. The database which added analysis software and analysis result to the data of the ground and satellite observations acquired from the 2004 fiscal year as CAWSES Space Weather International Collaborative Research, following the S-RAMP period (1998-2002).

(2) The common database which added the data product obtained as a calculation result to the software of the Modeling/Simulation.

It consists of two above-mentioned items, and aims at appropriating for the use of the space weather collaborative researcher in and outside the country and a CAWSES international collaborative researcher.

2. Service of the database is the on-line search by WWW, the data transfer by FTP, and distribution of CD-ROM/DVD-ROM. About use of the CAWSES space weather database, the data use for the inspection of the data currently exhibited and a collaborative research is free as a principle like the case of S-RAMP database. When using for a dissertation or a publication as a collaborative research result, it may be required to ask a data acquisition organization for permission beforehand.

3. In use of this database, when there is a database acceptable regulation of each item which constitutes the CAWSES Space Weather International Collaborative Research Database, it is based on this. Also refer to the contents currently written to CAWSES Space Weather Database Catalog (English/Japanese) of CAWSES Space Weather International Collaborative Research Database homepage.

CAWSES Space Weather International Collaborative Research Database is supported based on CAWSES (Climiate And Weather of the Sun-Earth System, 2004-2008).
The URL of CAWSES Space Weather Database is as follows.

CAWSES Space Weather Database Catalog (English)
http://center.stelab.nagoya-u.ac.jp/cawses/cawsesdb_e.html

CAWSES Space Weather Database Catalog (Japanese)
http://center.stelab.nagoya-u.ac.jp/cawses/cawsesdb.html

CAWSES Database Production Organization

*Production representative

Tatsuki Ogino
Solar-Terrestrial Environment Laboratory, Nagoya University
Adjustment and generalization of STE data

*Production assignment person

Hiroshi Fukunishi
Graduate School of Science, Tohoku University
Ionosphere and atmosphere observational data

Akira Morioka
Graduate School of Science, Tohoku University
Magnetosphere particles and Jupiter observational data

Takashi Watanabe
Department of Environmental Sciences, Ibaraki University
Cosmic-ray and STP event analysis data

Masahiro Hoshino
Department of Earth and Planetary Science, University of Tokyo
Space simulation data

Takashi Sakurai
Solar Physics Division, National Astronomical Observatory
Observation data of sun

Natsuo Sato
National Institute of Polar Research
Polar symthesis observational data

Ayako Matsuoka
Institute of Space and Astronautical Science (ISAS/JAXA)
Akebono satellite observational data

Yohsuke Kamide
Solar-Terrestrial Environment Laboratory, Nagoya University
KRM modeling data

Toshihiko Iyemori
Graduate School of Science, Kyoto University
Integrated-studies software and data on geomagnetism

Reizaburo Kitai
Graduate school of Science, Kyoto University
Solar prominence activity data

Yoshiharu Omura
Research Institute for Sustainable Humanosphere, Kyoto University
Kinetic simulation data

Takeshi Murata
Center for Information Technology, Ehime University
System design of database

Kiyohumi Yumoto
Faculty of Science, Kyushu University
Global magnetic field and engineering observational data

Onagawa Geomagnetic Database

Shoichi Okano (Planetary Plasma and Atmospheric Research Center, Graduate School of Science, Tohoku University)

1. Name of Database: a. Onagawa PC3 Index
   b. Onagawa Fluxgate magnetometer data
   c. Onagawa Search Coil magnetometer data

2. Institution: Planetary Plasma and Atmospheric Research Center,
   Graduate School of Science, Tohoku University

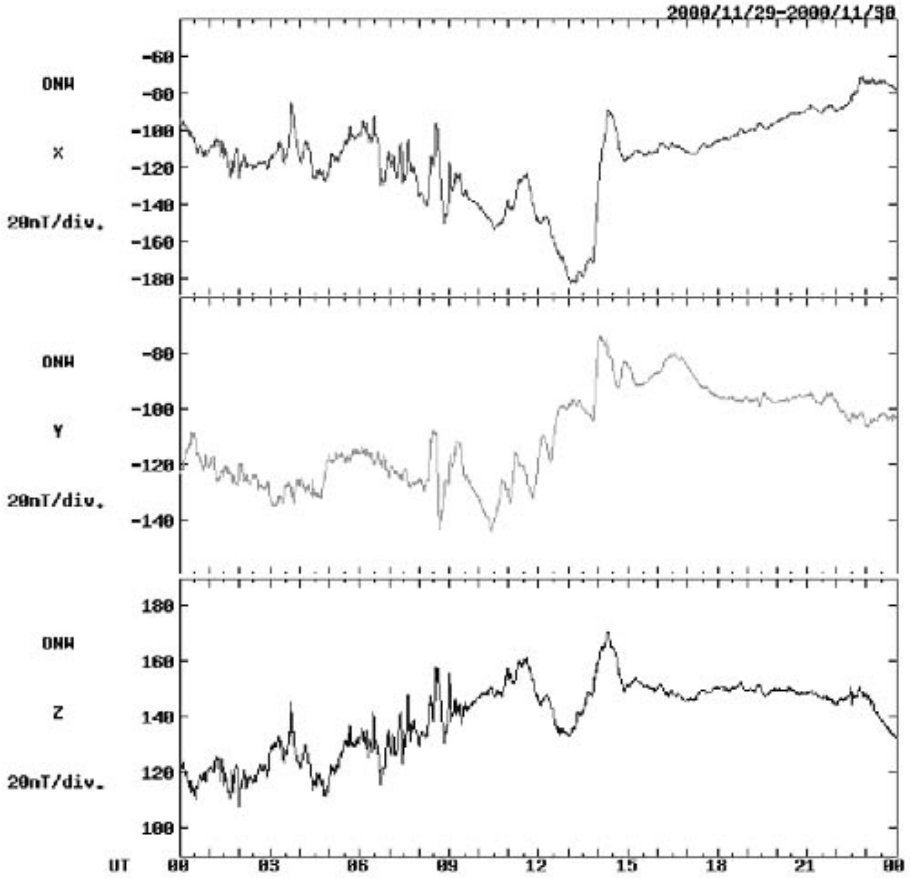
3. Contents of Database:

a. Using the induction magnetograms obtained at Onagawa（38° 26'N, 141° 29'E, 28.92° mlat., 08.64 mlon., L-value=1.31）the amplitude of Pc 3 magnetic pulsations is determined. The sum of these amplitudes over the dayside local time from 04 to 19 hours on each UT day is denoted as the daily PC3 index. This database covers the interval from 1970 to the present.

b. Geomagnetic data obtained by a fluxgate magnetometer at Onagawa. Three component geomagnetic variations with a sampling rate of 1 sec using CD-ROM, and real-time data plot and download using Web are now available. CD-ROM digital data covers the interval from 1991 to the present. Web data are available since 2000.

c. Geomagnetic variation data obtained by a search coil magnetometer at Onagawa. Three component geomagnetic variations with a sampling rate of 1 sec are available. CD-ROM digital data covers the interval from 1991 to the present.

4. Examples of Database:



5. Contact:

Planetary Plasma and Atmospheric Research Center,
Graduate School of Science, Tohoku University,
Sendai 980-8578, Japan
Takeshi Sakanoi
tel: +81-22-795-6609
fax: +81-22-795-6406
e-mail: tsakanoi@pparc.geophys.tohoku.ac.jp

6. Public Offering of Database:

* General information of the Onagawa geomagnetic observatory
  http://adelie.geophys.tohoku.ac.jp/~onagawa/
* For real-time 1-min digital data and quick-look plots, see
  http://adelie.geophys.tohoku.ac.jp/cgi-bin/geomag-interface/
  http://adelie.geophys.tohoku.ac.jp/cgi-bin/geomag-download/
* For 1-sec digital data, please contact T. Sakanoi.
* For use of the data at publications and/or presentation,
  please contact T.Sakanoi for authorship/acknowledgement.

Jovian Decametric Radio Wave Data

Takayuki Ono (Graduate School of Science, Tohoku University)

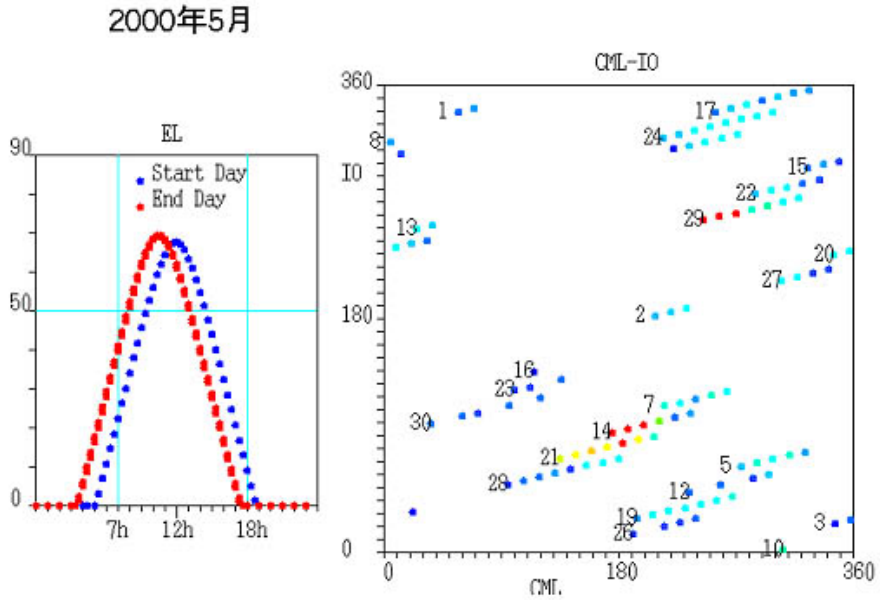
1. Name of Database: Jovian Decametric Radio Wave Data

2. Institution: Graduate School of Science, Tohoku University

3. Contents of Database:

The on-line database contains the occurrence list of Jovian decametric radio waves from 19MHz to 24MHz observed at Jovian decametric radio wave observatory of Tohoku University since 1974. The data are offered in a text format.

4. Examples of Database:



The appearance distribution of Jovian Decametric Radio

5. Contact:

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980-8578, Japan
Takayuki Ono
TEL:+81-22-795-6514 FAX:+81-22-795-6517
EMAIL: ono@stpp1.geophys.tohoky.ac.jp

6. Public Offering of Database:

The data will be available at
http://stpp1.geophys.tohoku.ac.jp/pub/JDR/

Dynamic Spectra of Jovian Decametric Radio Waves

Takayuki Ono (Graduate School of Science, Tohoku University)

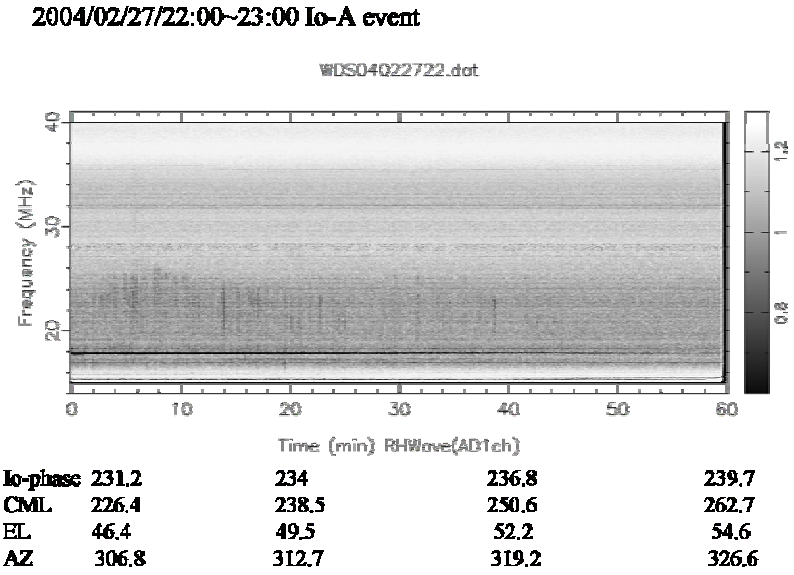
1. Name of Database: Dynamic Spectra of Jovian Decametric Radio Waves

2. Institution: Graduate School of Science, Tohoku University

3. Contents of Database:

The on-line database contains the dynamic spectra of Jovian decametric radio waves as well as solar radio burst waves from 20MHz to 40MHz observed at Jovian decametric radio wave observatory of Tohoku University since 2003. The data are offered in an image data format.

4. Examples of Database:



The appearance of Jovian Decametric Radio waves in RH component dynamic spectrum

5. Contact:

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980-8578, Japan
Takayuki Ono
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EMAIL: ono@stpp1.geophys.tohoky.ac.jp

6. Public Offering of Database:

The data will be available at
http://stpp1.geophys.tohoku.ac.jp/pub/JDR/

ELF Radio Wave Database

Hiroshi Fukunishi (Graduate School of Science, Tohoku University)

1. Name of Database: ELF Radio Wave Database

2. Institution: Graduate School of Science, Tohoku University

3. Contents of Database:

Tohoku University installed the ELF observation system at Syowa station, Antarctica in 2000 and carries out the continuous recording of 1-100 Hz waveforms in order to monitor the global lightning activity and to investigate the characteristics of lightning-related phenomena including high altitude discharges, such as sprites. Now we employ totally 4 sites for this purpose, namely, Onagawa (Japan), Kiruna (Sweden), California (US) and Syowa (Antarctica). This system is the only facility which records ELF waveforms continuously in the world. The data obtained provides essential information for environmental monitoring since it is recently pointed out that lightning activity would be a good quantitative proxy of atmospheric convections.

4. Examples of Database:

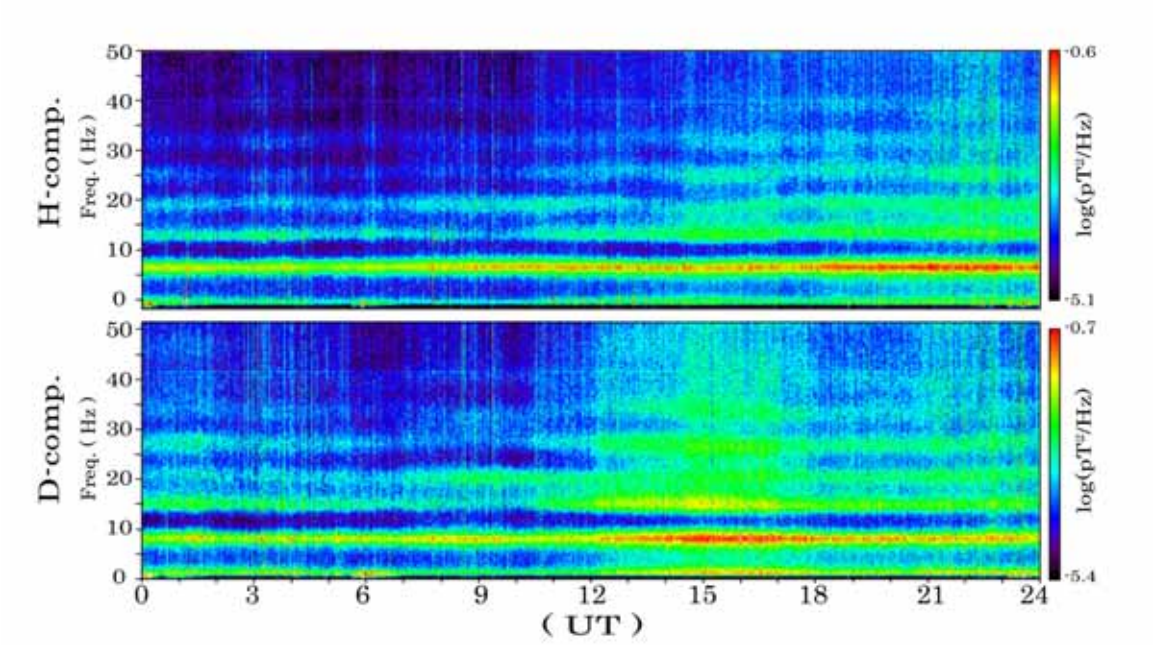

Figure 1. Example of one-day dynamic spectra of ELF waveform data obtained at Syowa station

Figure 1 shows an example of one-day dynamic spectra of magnetic field waveform data obtained at Syowa station in Antarctica on 14 January, 2003. Upper and lower panels represent the H- and D-component dynamic spectra, respectively. The harmonic structure of Schumann resonance waves up to the seventh are clearly seen at about 8, 14, 20, 26, 32, 39, and 45 Hz in both H- and D- component dynamic spectra. Spectral power enhancements are also seen in these spectra, which are strongly related with the global lightning activity.

5. Contact:

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Hiroshi Fukunishi
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EMAIL: fuku@pat.geophys.tohoku.ac.jp

6. Public Offering of Database:

As a trial manufacture edition of data plotting and database, the following web site is opened experimentally. Information such as the data acquisition day and simple plotting are added.

EDAC(ELF Data Archive Center) (http://edac.geophys.tohoku.ac.jp)

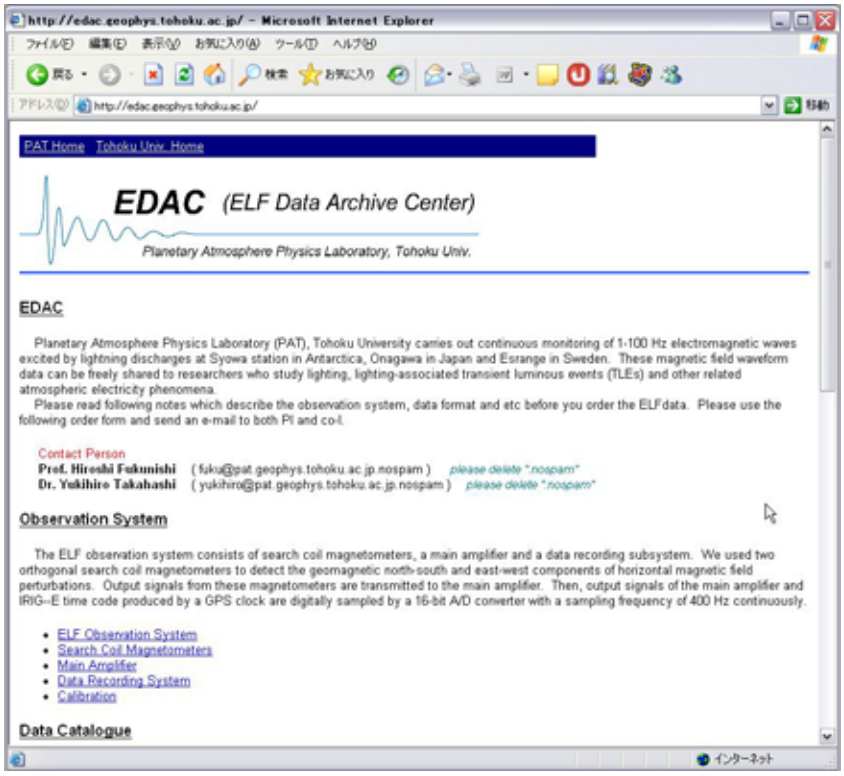


Figure 2. Entry page of the EDAC web site

Figure 2 shows a picture of the entry page of the EDAC web site. The outline of the ELF observation system is also shown not only in this web page but also in the following references.

Sato, M., and H. Fukunishi, Global sprite occurrence locations and rates derived from triangulation of transient Schumann resonance events, *Geophys. Res. Lett.*, **30**(16), 1859, 2003.

Sato, M., H. Fukunishi, M. Kikuchi, H. Yamagishi, and W.A. Lyons, Validation of sprite-inducing cloud-to-ground lightning based on ELF observations at Syowa station in Antarctica, *J. Atmos. Solar-Terr. Phys.*, **65**, 607-614, 2003.

Magnetic Field Database from the STEP Polar Network

Kanji Hayashi (Formerly, Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo)

1. Name of Database: Magnetic Field Database from the STEP Polar Network

2. Institution: Department of Earth and Planetary Science
Graduate School of Science
The University of Tokyo

3. Contents of Database:

This database provides or is expected to include information and data obtained at over forty locations from the magnetometer networks that we have conducted in the northern polar region since 1984.
The data before 1991 are those obtained in several limited periods that we had observation campaigns or those recorded at a few of sites which were operated in semi-routine base. The present network system which we call as "STEP Polar Network" started in 1991 and was yearly enhanced during the international coordinated program of Solar-Terrestrial Energy Program(STEP) that lasted until 1997.
We create and provide this database those data for public use in an order of priority composed of the following categories; (A)on type of data: (a1) Low time resolution (1 minute) data and (a2) high time resolution(1 second) data obtained by fluxgate magnetometgers; (a3) Induction magnetometer data which is sampled by 10Hz; (P) on data period: (p1) the STEP period, (p2) the post STEP period, and (p3) the pre-STEP period.
Data presently accessible from our web page are mainly for combined categories of (a1)&(p1), (a1)&(p2), and (a2)&(p1) as are shown in the matrix below;

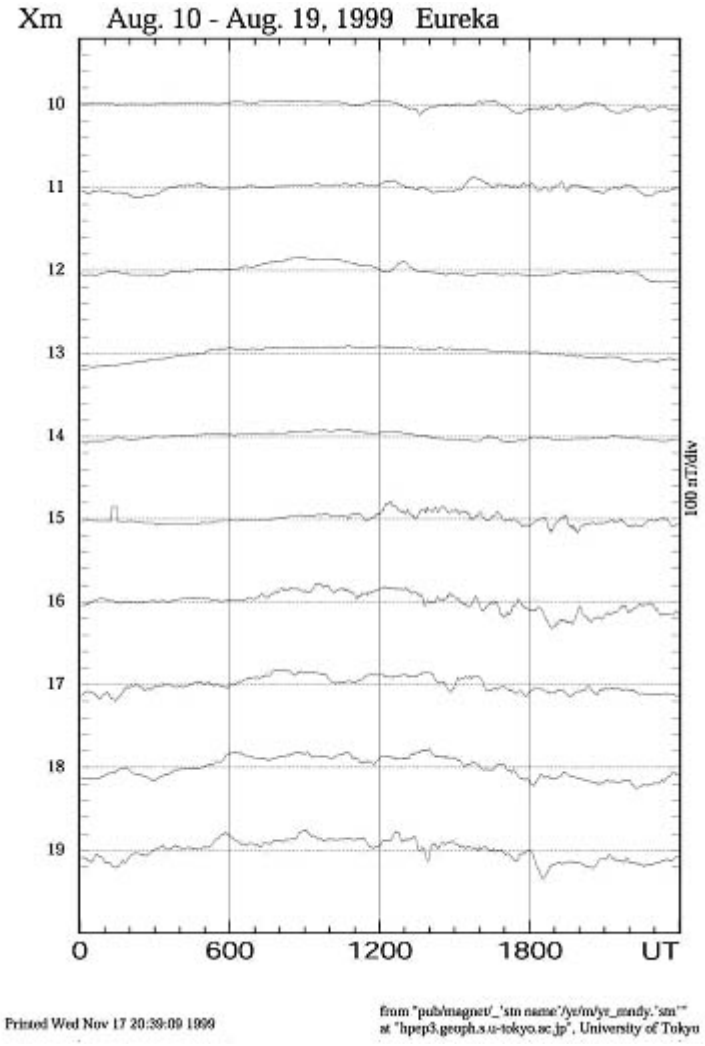
	(a1)	(a2)	(a3)
(p1)	Y	Y	Y--
(p2)	Y-	Y	Y--
(p3)	Y-	Y--	Y---

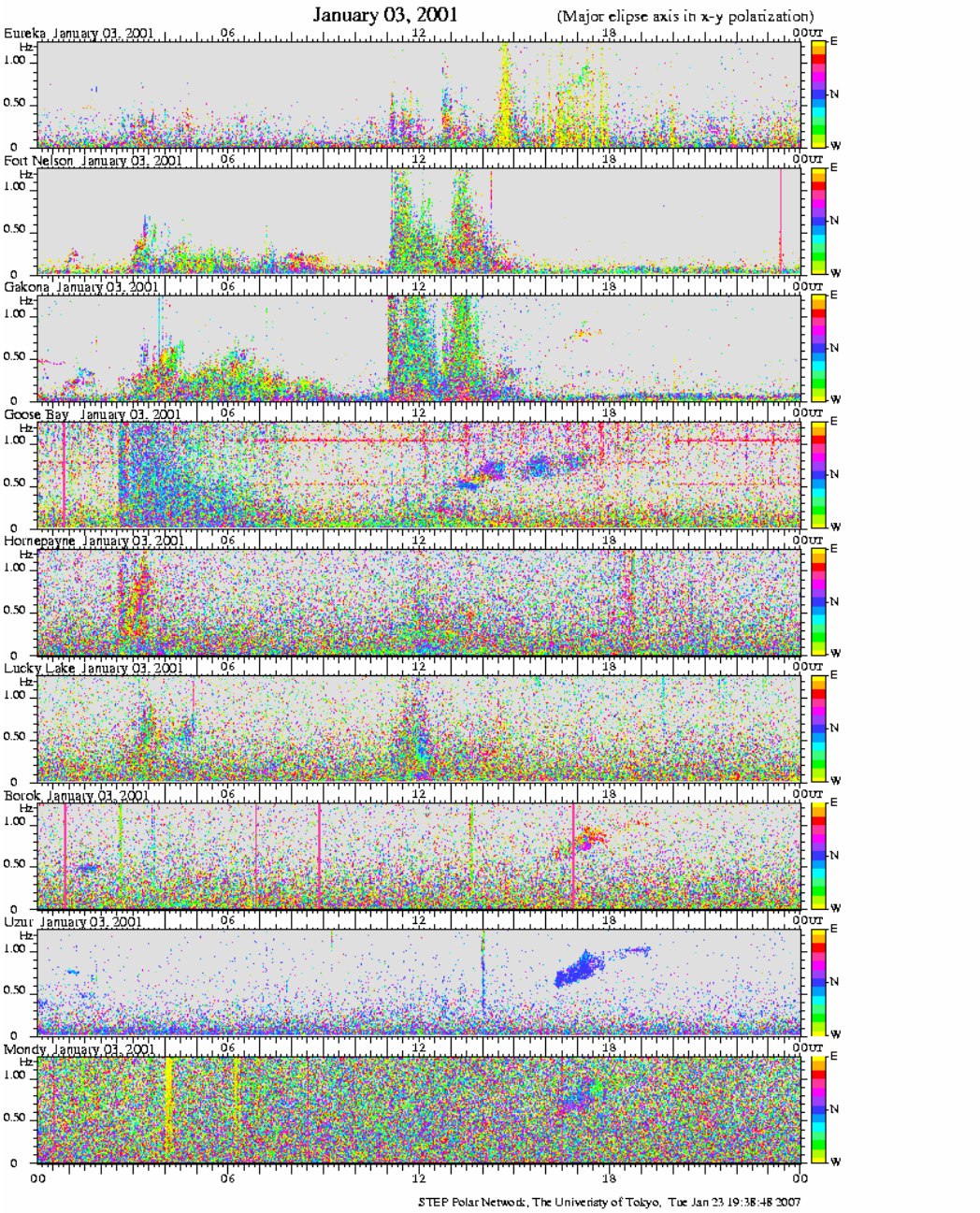
Y:fully accessible, Y-:most or major part is accessible,
Y--:only samples, Y---:data exist but no accessible yet.
2004, All data category of matrix elements became for public access.

On-line data collection were started from some sites by using internet links.
Gakona, July 1999— Search-coil magnetometer data, every 10 minutes
LaRonge, October 2001—Fluxgate and Search-coil magnetometer data, once a cay
Fort St John, October 2004—Fluxgate and Search-coil data, every 10 minutes
Lucky Lake, October— Fluxgate and Search-coil data, every 10 minutes
(Semi real-time plots are visible on the web page for data from Gakona, Fort St John, and Lucky Lake)

More detailed information, characteristics of data, policy on data usage, practical ways to access each data, and etc. are available by selection of menu items in the left side(*) window of the web page, such as "S&Pick/1min" (for searching and picking data files of 1 minute time resolution).
(*) This is the case if you use a window browser responsible to frame commands.

4. Examples of Database:





5. Contact:

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c/o
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Phone +81-3-5841-4585 Fax +81-3-5841-8321

6. Public Offering of Database:

http://www-space.eps.s.u-tokyo.ac.jp/~hayashi

Aurora Image Data

Kanji Hayashi (Formerly, Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo)

1. Name of Database: Aurora Image Data

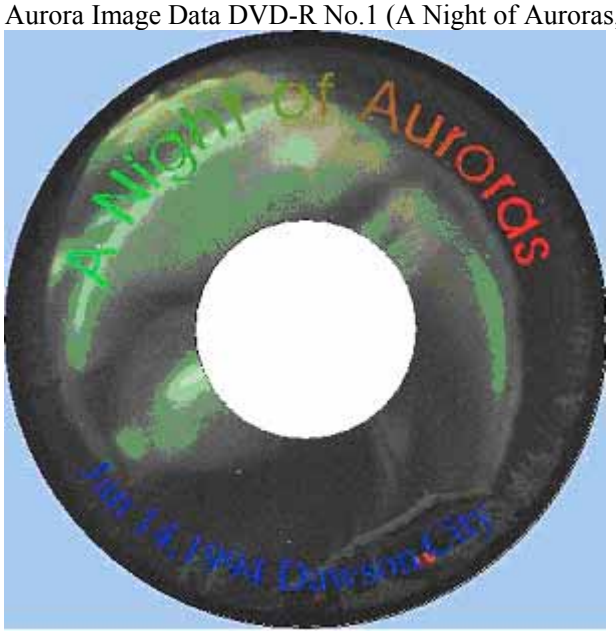
2. Institution: Department of Earth and Planetary Science, The University of Tokyo

3. Contents of Database:

Information and samples of data are collected about observation campaigns carried out in Canada and Svalbard during the STEP period and also on those before and after the STEP periods. Conversion of aurora video data into digital media (DVD-R) is under way for selected periods from three thousands of video tapes acquired in those campaign observations.

4. Examples of Database:

Aurora Image Data DVD-R No.1 (A Night of Auroras, March 2003)



5. Contact:

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6. Public Offering of Database:

http://www-space.eps.s.u-tokyo.ac.jp/~hayashi

Produced copies in DVD-ROM, seriatim.

Database of Radioactivity

Director, Atmospheric Environment Division, Global Environment and Marine Department, Japan Meteorological Agency

1. Name of Database: Database of Radioactivity

2. Institution: Atmospheric Environment Division, Global Environment and Marine Department, Japan Meteorological Agency

3. Contents of Database:

This database includes archives of environmental radiation data held by World Data Center (WDC) for Nuclear Radiation which was operated by the Japan Meteorological Agency in 1958-2006. It consists of environmental radiation data obtained in about 20 counties, particularly in the interval of IGY and ICY (1957-1959). After this interval, data coverage is mainly limited to environmental radiation data obtained in Japan. The WDC was closed in 2006, and the Japan Meteorological Agency keeps the dataset for data usage. The agency is also publishing environmental radiation data in Japan in a yearly base.

5. Contact:

Director of Atmospheric Environment Division
Global Environment and Marine Department,
Japan Meteorological Agency
1-3-4 Otemachi, Chiyoda-ku, Tokyo 100-8122 Japan
TEL: +81-3-3212-8341 FAX: +81-3-3211-4640

6. Public Offering of Database:

The list of datasets held by the WDC for Nuclear Radiation is under preparation by the Japan Meteorological Agency. For environmental radiation data in Japan, the agency is publishing the "Bulletin of the Radioactivity", which is a yearly report of environmental radiation data obtained by monitoring stations operated by the agency. The bulletin (a booklet or a CD-ROM) can be obtained upon request. Current environmental radiation data obtained by a variety of agencies in Japan, including the Japan Meteorological Agency, are assembled by the Ministry of Education, Culture, Sports, Science and Technology. The database is available via Web page (only in Japanese) shown below:
(http://search.kankyo-hoshano.go.jp/top.jsp).

Syowa Station SuperDARN HF Radar Network Data

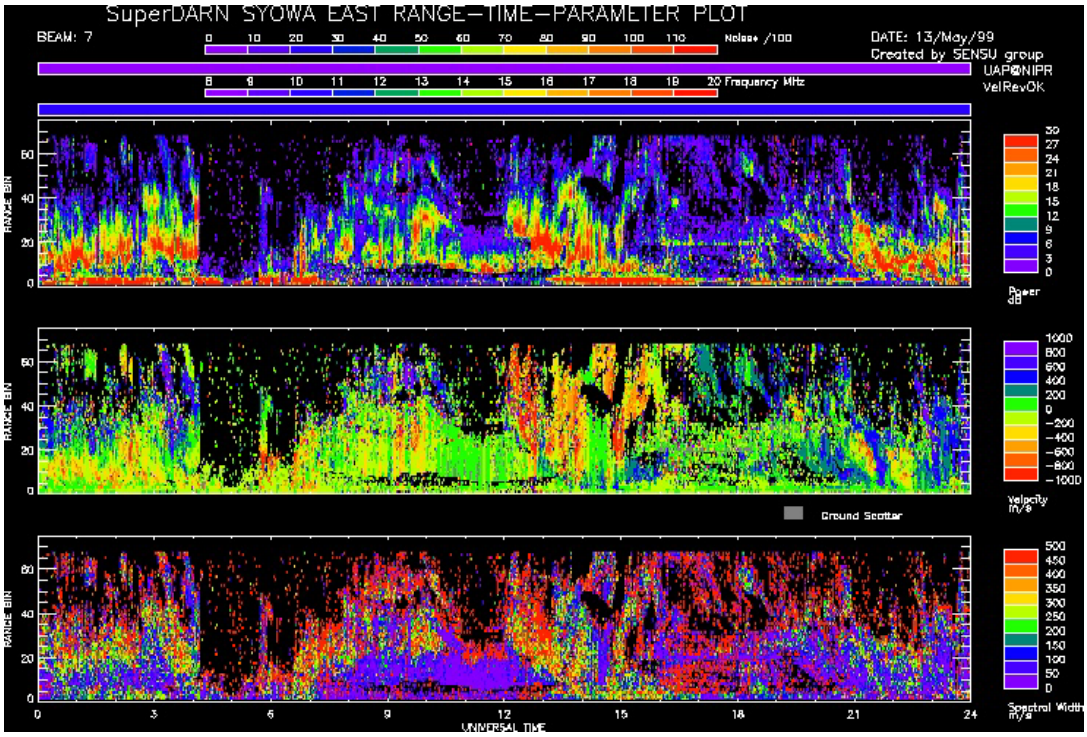
Natsuo Sato (National Institute of Polar Research)

1. Name of Database: Syowa Station SENSU SuperDARN HF radar network data

2. Institution: National Institute of Polar Research, Japan

3. Contents of Database: Summary plot of SENSU Syowa South and Syowa East SuperDARN radars

4. Examples of Database:



5. Contact:

Akira Sessai Yukimatu(SD06@uap. nipr. ac. jp) or Natsuo Sato(SD06@uap. nipr. ac. jp)

6. Public Offering of Database:

http://www.uap.nipr.ac.jp/SD/

Coordinated Data of WDC for Aurora

Akira Kadokura (National Institute of Polar Research)

1. Name of Database:

   a. Upper Atmosphere Physics Monitoring Data for Syowa-Iceland Geomagnetic Conjugate Pair Station

   b. Absolute Values of the Magnetic Elements at Syowa Station

   c. K-index at Syowa Station

   d. DMSP/NOAA Satellites Auroral Particle Data

   e. Auroral Optical Observation Data at Syowa Station and Iceland

2. Institution: National Institute of Polar Research

5. Contact:

Akira Kadokura
WDC for Aurora
National Institute of Polar Research
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tel & fax : +81-3-3962-6482
E-mail : kadokura@nipr.ac.jp

6. Public Offering of Database:

http://polaris.nipr.ac.jp/~aurora/

Akebono (EXOS-D) Science Data Base

Ayako Matsuoka (Japan Aerospace Exploration Agency, Institute of Space and Astronautical Science)

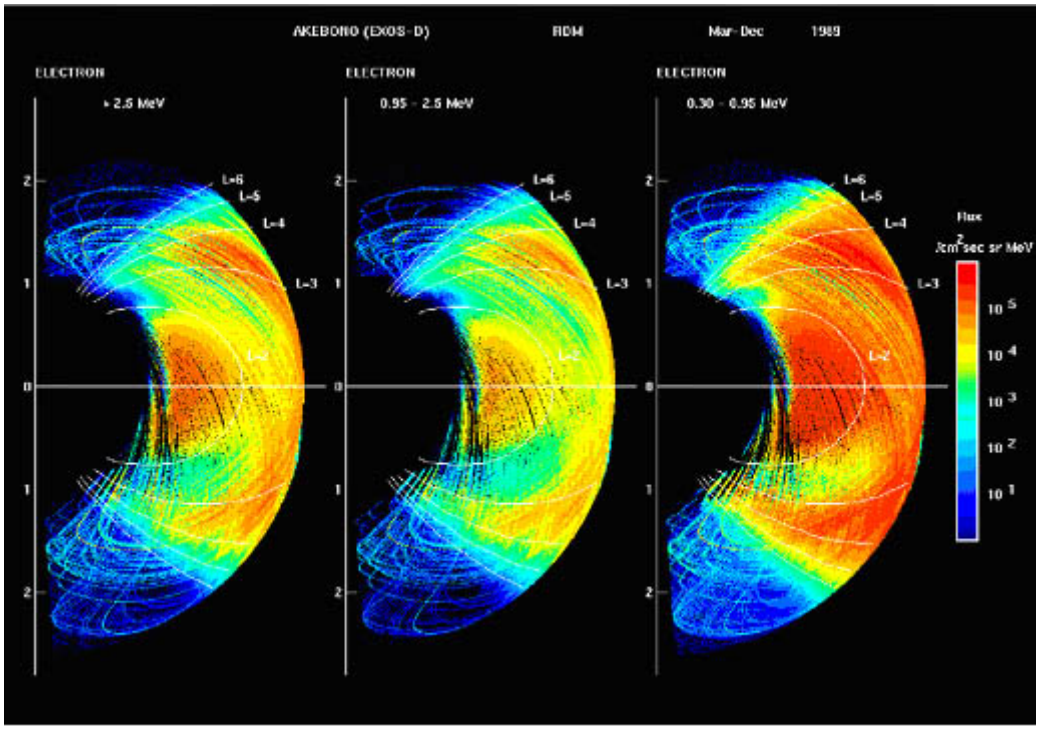
1. Name of Database: Akebono(EXOS-D) Science Data Base

2. Institution: Japan Aerospace Exploration Agency (JAXA), Institute of Space and Astronautical Science (ISAS)

3. Contents of Database:

This science data base (SDB) is produced by the Akebono science team and released through Japan Aerospace Exploration Agency (JAXA), Institute of Space and Astronautical Science (ISAS). The data base consists of processed data from all instruments onboard the Akebono (EXOS-D) satellite for every 8 seconds and the orbit information. Those who are interested in using the data base are strongly recommended to consult with the respective principal investigator(s) in order to assure the proper use of the data and to avoid confusion due to misunderstanding of the data.
On publishing scientific results obtained from this data base, the author(s) are required to include the reference listed in read_me for each instrumentation and the following acknowledgement; "This work has been carried out by the use of Akebono SDB released from JAXA ISAS, the sponsoring agency of the Akebono mission, with important support from the National Institute of Polar Research (NIPR) and the Canadian Space Agency (CSA)." Also requested for the author(s) is to send a copy of preprint to both the management of Akebono project and respective principal investigator(s).
Any comments or suggestions which arise on use of the data base are encouraged to send to "akebono.sdb@gtl.isas.ac.jp"

4. Examples of Database:



5. Contact:

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Tel: +81-42-759-8167 Fax: +81-42-759-8456
E-mail : matsuoka@ isas.jaxa.jp

6. Public Offering of Database:

CD-ROMs of the data in 1989 and 1990 are delivered by requests.(free)
The list of observational period between 1989 and 1998 (in English) is delivered by requests.

Orbit information, information on status of each instrument, and data of LEP, ATV, and RDM are open to public through DARTS operated by PLAIN center in the following URL.
http://www.darts.isas.jaxa.jp/akbn/

DARTS (Data ARchive and Transmission System)

Iku Shinohara (Japan Aerospace Exploration Agency, Institute of Space and Astronautical Science)

1. Name of Database: DARTS (Data ARchive and Transmission System)

2. Institution: Institute of Space and Astronautical Science / Japan Aerospace Exploration Agency

3. Contents of Database:

DARTS (Data ARchive and Transmission System) is a scientific database constructed mainly by the PLAIN Center at ISAS/JAXA to provide access for general researchers to the world's top level observation data in both terms of quality and quantity obtained by the scientific observation satellites of ISAS/JAXA. At present, the data obtained from Akebono, Geotail, Reimei (magnetospheric observation satellites), Yohkoh, Hinode (solar observatory), Ginga, ASCA, Suzaku (astronomical X-ray observatory), etc. are distributed from DARTS. Not only archiving ISAS/JAXA satellite data, we are also mirroring major international space science data sites, such as CDAWeb.

DARTS features:
- Observation data of the ISAS scientific satellites open to the general public
- Search/distribution of data via WWW
- Data analysis on the network
- Issue of analysis software

4. Examples of Database:

See the next page.

5. Contact:

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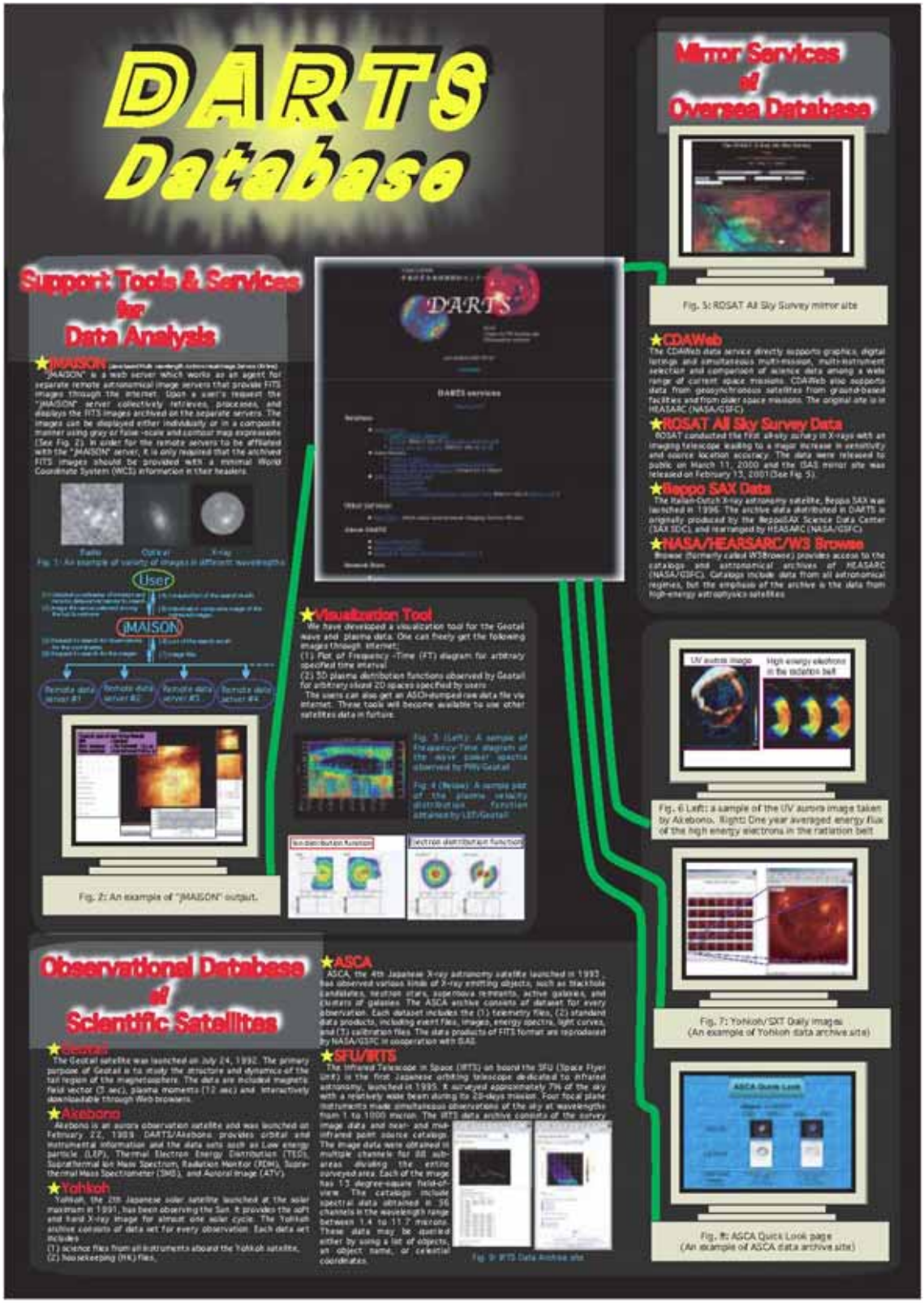
iku@stp.isas.jaxa.jp

6. Public Offering of Database:

http://darts.isas.jaxa.jp


DARTS
Database
Support Tools & Services for Data Analysis
MAISON
Fig. 1: An example of variety of images in different wavelengths
User
MAISON
Fig. 2: An example of "MAISON" output.
DARTS
DARTS services
Visualization Tool
We have developed a visualization tool for the Geotail wave and plasma data. One can freely get the following images through internet:
(1) Plot of Frequency -Time (FT) diagram for arbitrary specified time interval
(2) 3D plasma distribution functions observed by Geotail for arbitrary sliced 2D spaces specified by users
The users can also get an ASCII-dumped raw data file via internet. These tools will become available to use other satellites data in furture.
Fig. 3 (Left): A sample of Frequency-Time diagram of the wave power spectra observed by PWI/Geotail
Fig. 4 (Below): A sample pair of the plasma velocity distribution function obtained by LEP/Geotail
Mirror Services of Oversea Database
Fig. 5: ROSAT All Sky Survey mirror site
CDAWeb
The CDAWeb data service directly supports graphics, digital listings, and simultaneous multi-mission, multi-instrument selection and comparison of science data among a wide range of current space missions. CDAWeb also supports data from geosynchronous satellites from ground-based facilities and from older space missions. The original site is in HEASARC (NASA/GSFC)
ROSAT All Sky Survey Data
ROSAT conducted the first all-sky survey in X-rays with an imaging telescope leading to a major increase in sensitivity and source location accuracy. The data were released to public on March 11, 2000 and the ISAS mirror site was released on February 13, 2001(See Fig. 5).
Beppo SAX Data
The Italian-Dutch X-ray astronomy satellite, Beppo SAX was launched in 1996. The archive data distributed in DARTS is originally produced by the BeppoSAX Science Data Center (SAX SDC), and rearranged by HEASARC (NASA/GSFC)
NASA/HEASARC/WS Browse
Browse (formerly called WSBrowse) provides access to the catalogs and astronomical archives of HEASARC (NASA/GSFC). Catalogs include data from all astronomical regimes, but the emphasis of the archive is the data from high-energy astrophysics satellites
UV aurora image
High energy electrons in the radiation belt
Fig. 6 Left: a sample of the UV aurora image taken by Akebono. Right: One year averaged energy flux of the high energy electrons in the radiation belt
Fig. 7: Yohkoh/SXT Daily images (An example of Yohkoh data archive site)
Observational Database of Scientific Satellites
GEOTAIL
The Geotail satellite was launched on July 24, 1992. The primary purpose of Geotail is to study the structure and dynamics of the tail region of the magnetosphere. The data are included magnetic field vector (3 sec), plasma moments (12 sec) and interactively downloadable through Web browsers.
Akebono
Akebono is an aurora observation satellite and was launched on February 22, 1989. DARTS/Akebono provides orbital and instrumental information and the data sets such as Low energy particle (LEP), Thermal Electron Energy Distribution (TED), Suprathermal Ion Mass Spectrum, Radiation Monitor (RDM), Suprathermal Mass Spectrometer (SMS), and Auroral Image (ATV).
Yohkoh
Yohkoh, the 2th Japanese solar satellite launched at the solar maximum in 1991, has been observing the Sun. It provides the soft and hard X-ray image for almost one solar cycle. The Yohkoh archive consists of data set for every observation. Each data set includes
(1) science files from all instruments aboard the Yohkoh satellite,
(2) housekeeping (HK) files,
ASCA
ASCA, the 4th Japanese X-ray astronomy satellite launched in 1993, has observed various kinds of X-ray emitting objects, such as blackhole candidates, neutron stars, supernova remnants, active galaxies, and clusters of galaxies. The ASCA archive consists of dataset for every observation. Each dataset includes the (1) telemetry files, (2) standard data products, including event files, images, energy spectra, light curves, and (3) calibration files. The data products of FITS format are reproduced by NASA/GSFC in cooperation with ISAS.
SFU/IRTS
The Infrared Telescope in Space (IRTS) on board the SFU (Space Flyer Unit) is the first Japanese orbiting telescope dedicated to infrared astronomy, launched in 1995. It surveyed approximately 7% of the sky with a relatively wide beam during its 20-days mission. Four focal plane instruments made simultaneous observations of the sky at wavelengths from 1.4 to 1000 micron. The IRTS data archive consists of the survey image data and near- and mid-infrared point source catalogs. The image data were obtained in multiple channels for 88 sub-areas dividing the entire surveyed area. Each of the image has 1.5 degree-square field-of-view. The catalogs include spectral data obtained in 26 channels in the wavelength range between 1.4 to 11.7 microns. These data may be queried either by using a list of objects, an object name, or celestial coordinates.
Fig. 9: IRTS Data Archive site
ASCA Quick Look
Fig. 8: ASCA Quick Look page (An example of ASCA data archive site)

CAWSES NAOJ Solar Optical Data On-Line

Takashi Sakurai (Solar Observatory, National Astronomical Observatory of Japan)

1. Name of Database: CAWSES NAOJ Solar Optical Data On-Line

2. Institution: Solar Observatory, National Astronomical Observatory of Japan

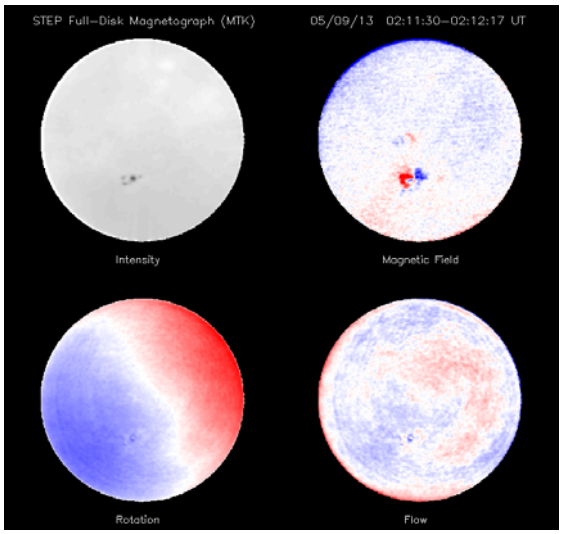
3. Contents of Database:

The on-line database contains the following items obtained at the National Astronomical Observatory of Japan during the CAWSES period, by means of optical observations.
Old data obtained at the Tokyo Astronomical Observatory, University of Tokyo, are also included. Image data are available in gif or jpeg format, and most of them are also provided as FITS-format digital data.

(1) Image Data
part of Mitaka H-alpha full-disk images (gif, FITS; 1991-2003)
part of Mitaka Flare Telescope vector magnetograms (gif, FITS; 1992-present)
part of Mitaka STEP full-disk magnetograms/Dopplergrams (gif; 1993-present)
part of Mitaka high resolution white light images (jpeg; 1998-present)
all of Norikura He 10830 Angstrom fill-disk heliograms (gif, FITS; 1991-1998)
part of Norikura coronal green line images (jpeg; 1998-present)
all of Okayama vector magnetograms (gif, FITS; 1982-1995)

(2) Numerical Tables
Mitaka sunspot positions (1943-present)
Mitaka sunspot numbers (1929-present)
Mitaka polar facular counts (1951-1998)
Mitaka H-alpha flare list (1992-2001)
Norikura green line intensities (1951-1997)

4. Examples of Database:



2005 September 13:

5. Contact:

Takashi Sakurai
Solar Observatory
National Astronomical Observatory of Japan
Mitaka, Tokyo 181-8588
Japan
FAX +81-422-34-3700
E-mail: sakurai@solar.mtk.nao.ac.jp

6. Public Offering of Database:

URL http://solarwww.mtk.nao.ac.jp/cawses.html (CAWSES period)
http://solarwww.mtk.nao.ac.jp/database.html (data before CAWSES period)
Data Policy: No restrictions apply for browsing the data.
When you intend to publish an article based on these data, you are requested to contact us in advance.

7. Data in Preparation and Future Prospects:

Not all the digital FITS-format files are online because of limitation in disk space. We are planning to expand the disk space.
In the future, we will digitize white-light full-disk images recorded on 4X6 inch sheet film and photographic plates.

Solar Radio Maps

Kiyoto Shibasaki (Nobeyama Radio Observatory, NAOJ)

1. Name of Database: Solar Radio Maps

2. Institution: Nobeyama Radio Observatory, NAOJ

3. Contents of Database:

1) Daily images of the Sun at 17 GHz around local noon in .PNG and .FITS formats.
Monthly Java movies of daily images are also available.

2) Radio images every 10 min. at 17 GHz in .PNG and .FITS formats.
Daily Java movies of 10 min. cadence images are also available.

5. Contact:

Nobeyama Radio Observatory, NAOJ
Minamimaki, Minamisaku, Nagano, 384-1305, Japan
FAX +81-267-98-2506

6. Public Offering of Database:

http://solar.nro.nao.ac.jp/index.html

Intensity of Solar Radio Wave

Kiyoto Shibasaki (Nobeyama Radio Observatory, NAOJ)

1.Name of Database: Intensity of Solar Radio Wave

2. Institution: Nobeyama Radio Observatory, NAOJ

3. Contents of Database:

1) Daily total flux light curves at 1.0, 2.0, 3.75, 9.4 and 17 GHz

2) Daily total flux values around local noon at 1.0, 2.0, 3.75, 9.4 and 17 GHz

5. Contact:

Nobeyama Radio Observatory, NAOJ
Minamimaki, Minamisaku, Nagano, 384-1305, Japan
FAX +81-267-98-2506

6. Public Offering of Database:

http://solar.nro.nao.ac.jp/index.html

Ionosphere Database

Mamoru Ishii (National Institute of Information and Communications Technology)

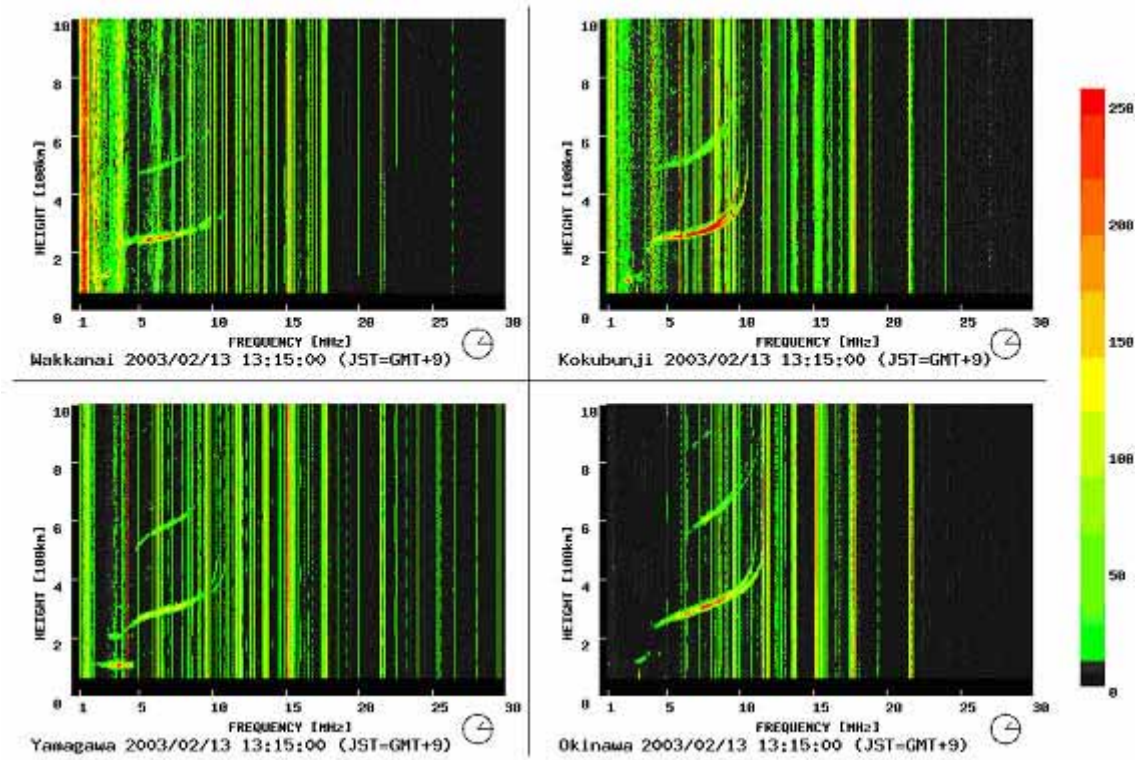
1. Name of Database: Ionosphere Database

2. Institution: World Data Center for Ionosphere,
National Institute of Information and Communications Technology

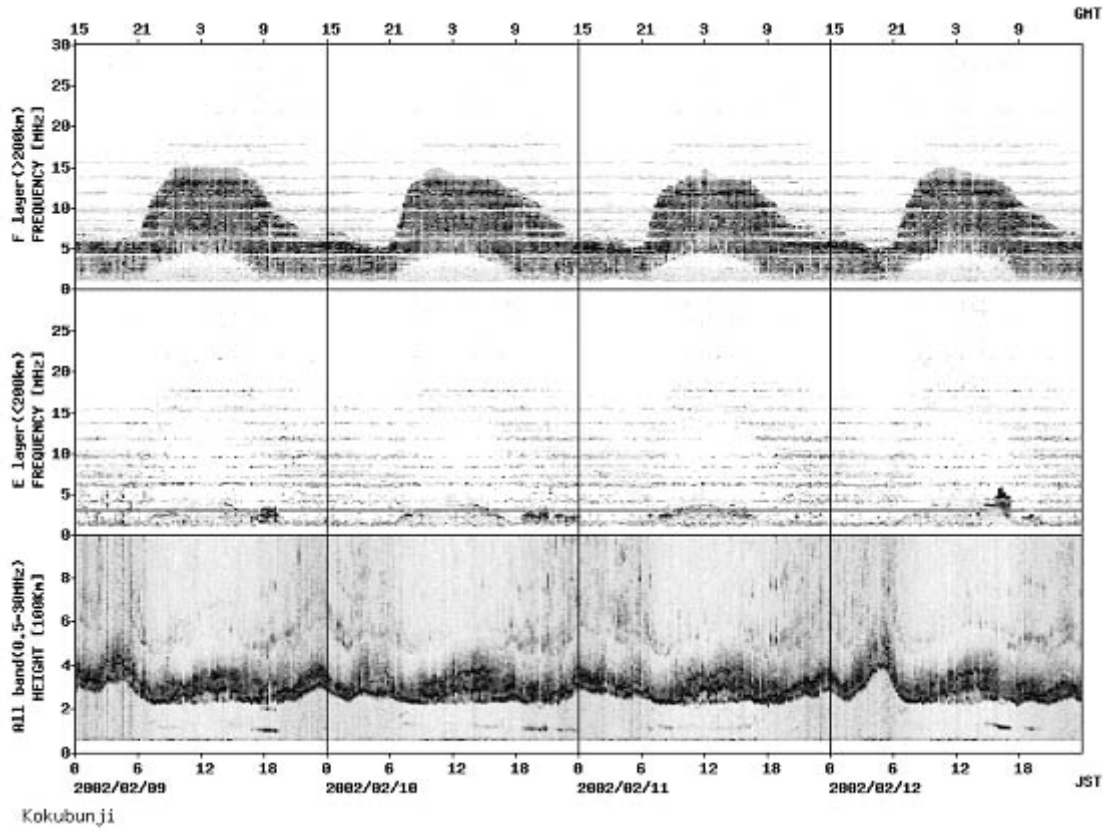
3. Contents of Database:

The ionosphere database is constructed with ionospheric data observed in Japan and ionospheric data obtained in various countries since IGY period.
Ionogram observed in Japan is provided in realtime by Web (http://wdc.nict.go.jp/IONO/index.html).
Data catalog and ionospehric data book are also published.

4. Examples of Database:



Example of ionogram at Wakkanai, Kokubunji, Yamagawa and Okinawa



Example of ionospheric variations (foF2, fEt, h'F and h'E) observed at Kokubunji

5. Contact:

M. Ishii
National Institute of Information and Communications Technology
TEL:+81-42-327-7540, FAX:+81-42-327-6163
E-mail: mishii@nict.go.jp

6. Public Offering of Database:

http://wdc.nict.go.jp/IONO/index.html

Cosmic Ray Muon Database

K. Munakata, S. Yasue*), M. Koyama and C. Kato (Department of Physics, Faculty of Science, Shinshu University, *) School of General Education, Shinshu University)

1. Name of Database: Quasi-real time cosmic ray muon data service.

2. Institution: Department of Physics,
Faculty of Science, Shinshu University

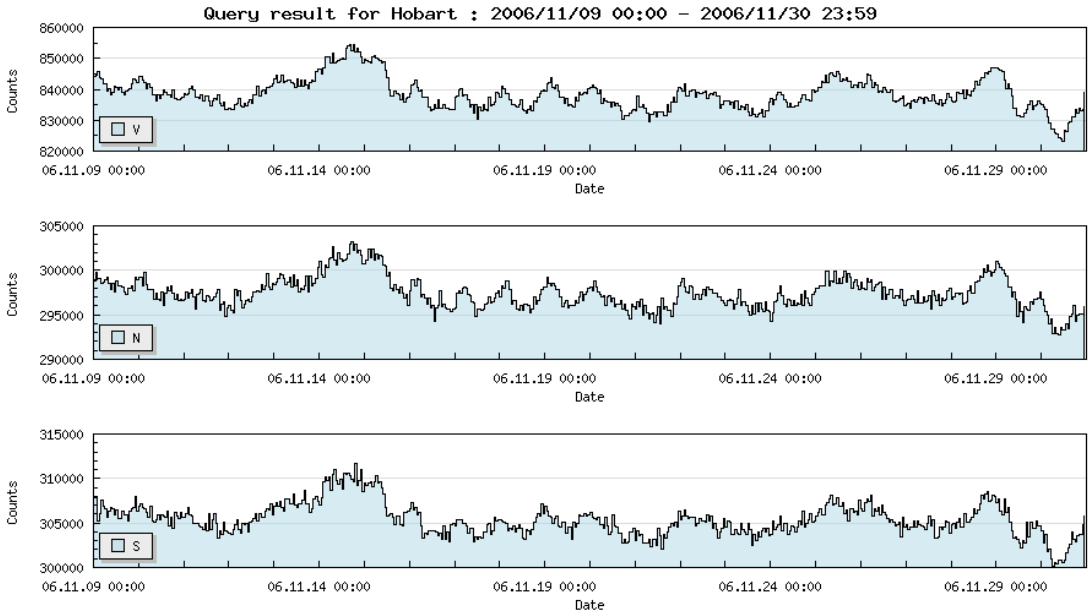
3. Contents of Database:

Six multi-directional telescopes are operating to observe CR muon intensity at four surface and two underground observatories. This database is supplying quasi-real time data as plots of hourly counts for each directional component. Location and type of observatory are listed below.

Surface obs.
- Nagoya Stn (Japan)
- Hobart Stn (Australia)
- SaoMartinho Stn (Brazil)
- Kuwait Stn (Kuwait)

Underground obs.
- Misato Stn (Japan)
- Zohzan Stn (Japan)
- Liapootah Stn (Australia) *)closed on March 2006.

4. Examples of Database:



5. Contact:

Cosmic Ray Research Group
Department of Physics, Faculty of Science,
Shinshu University,
3-1-1 Asahi, Matsumoto, Nagano 390-8621, Japan
TEL: +81-263-37-2514
FAX: +81-263-37-2562
E-mail: crest(at)shinshu-u.ac.jp

6. Public Offering of Database:

* Public address of CR muon database is
http://cosray.shinshu-u.ac.jp/crest
* For use of the data for publications and/or presentation, please contact Shinshu University CR Research Group (REP. Prof. Munakata) for authorship/acknowledgment.

Data Analysis of STE Events

Takashi Watanabe (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Solar-Terrestrial Data

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University
College of Science, Ibaraki University

3. Contents of Database:

The Data Analysis Center on STE (Solar-Terrestrial Environment) Events, Ibaraki University collects the solar-terrestrial environment observations from the domestic universities and research institutes and assembles them to use STE event analysis meeting and the coordinated data analysis workshop. This project is operated through the collaboration of Ibaraki University, Kyushu University, Solar-Terrestrial Environment Laboratory, Nagoya University, and National Institute of Information and Communications Technology.

5. Contact:

Solar-Terrestrial Environment Laboratory
Nagoya University
Honohara 3-13, Toyokawa, Aichi 442-8507, Japan
Takashi Watanabe
TEL: +81-533-89-5189 FAX: +81-533-84-8806
E-mail: wdccr@env.sci.ibaraki.ac.jp

6. Public Offering of Database:

http://www.env.sci.ibaraki.ac.jp/database/html/STE/index.html

Database of Cosmic-Ray Neutron Monitor

Takashi Watanabe (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Database of Cosmic-Ray Neutron Monitor

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University
College of Science, Ibaraki University

3. Contents of Database:

This database includes world-wide neutron observations since 1953 in unified formats. The WDC-C2 has been operated by the Department of Environmental Sciences, Ibaraki University through the support of Solar-Terrestrial Environment Laboratory, Nagoya University.

5. Contact:

Solar-Terrestrial Environment Laboratory
Nagoya University
Honohara 3-13, Toyokawa, Aichi 442-8507, Japan
Takashi Watanabe
TEL: +81-533-89-5189 FAX: +81-533-84-8806
E-mail: wdccr@env.sci.ibaraki.ac.jp

6. Public Offering of Database:

http://www.env.sci.ibaraki.ac.jp/database/html/WDCCR/index.html

Magnetic Storms Events

Yohsuke Kamide (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Magnetic Storms Events

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

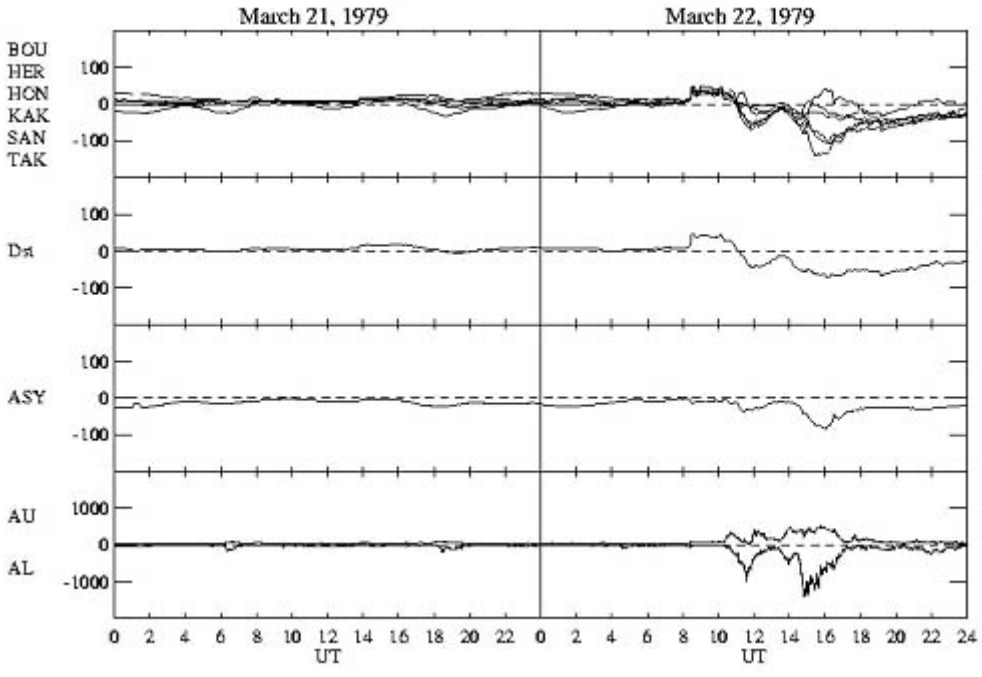
3. Contents of Database:

The Magnetic Storm Events Database includes various types of data (e.g., geomagnetic field data, geomagnetic indices, solar wind, and IMF) during special magnetic storm periods (e.g., a period in which a number of magnetic storms took place, and a period in which various types of high-quality data were available).

The aim of this database is to analyze magnetic storms in detail from various points of view. Some parts of this database, such as "1979 Magnetic Storm Data" and "1994 Substorm/Storm Data," have been used for several research topics, and many papers have been published.

4. Examples of Database:

Geomagnetic activity on 21 - 22 March 1979. From top to bottom, H-components observed at six low-latitude geomagnetic stations, Dst index, ASY index, AU index, and AL index, are shown.



5. Contact:

Solar-Terrestrial Environment Laboratory
Nagoya University
Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8601, Japan

6. Public Offering of Database:

http://gedas.stelab.nagoya-u.ac.jp/STEISD/steisd.html

(This database is only available for collaborative researchers. For detail, please contact us.)

Long Duration Recovery Phase of Magnetic Storms

Yohsuke Kamide (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Long Duration Recovery Phase of Magnetic Storms

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

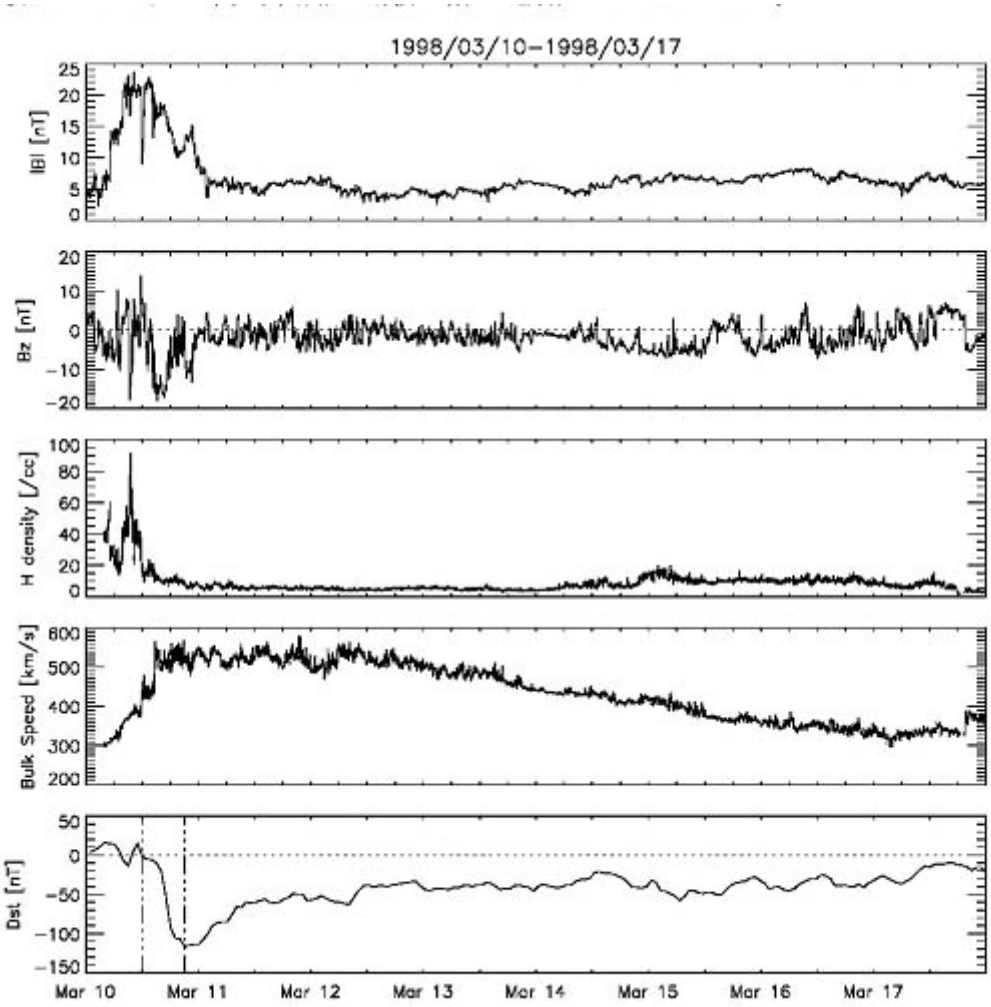
A geomagnetic storm lasts usually a few to several days in duration. However, sometimes the recovery phase of a geomagnetic storm lasts one to two weeks or even longer. According to Tsurutani and Gonzalez (1987), this type of long-duration geomagnetic storms is called HILDCAAs (High-Intensity Long-Duration Continuous AE Activity). It was suggested that continuous particle injections to the ring current take place such that the ring current does not, or cannot, decay rapidly.

The aim of this database is to analyze in detail the following eight HILDCAAs events that occurred in 1998:

March 11-17
April 24-28
May 7-12
June 3-11
July 22-25
August 22-25
August 28-September 01
October 20-25

4. Example of Database:

Geomagnetic activity and the corresponding solar wind conditions on March 10-17, 1998. From top to bottom, interplanetary magnetic field (magnitude and the north-south component), proton density, and bulk speed of the solar wind, and the Dst index. The two vertical lines on Dst indicate the beginning and peak times of the geomagnetic storm.



5. Contact:

Solar-Terrestrial Environment Laboratory
Nagoya University
Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8601, Japan

6. Public Offering of Database:

http://gedas.stelab.nagoya-u.ac.jp/STEISD/steisd.html

(This database is only available for collaborative researchers. For detail, please contact us.)

Magnetosphere Simulation

Tatsuki Ogino (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Magnetosphere Simulation

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

3-Dimensional MHD Simulation of Solar Wind-Magnetosphere Interaction

Computer simulation codes, simulation data of the solar wind-magnetosphere interaction obtained by a 3-dimensional global MHD model, and information on use of the supercomputer.

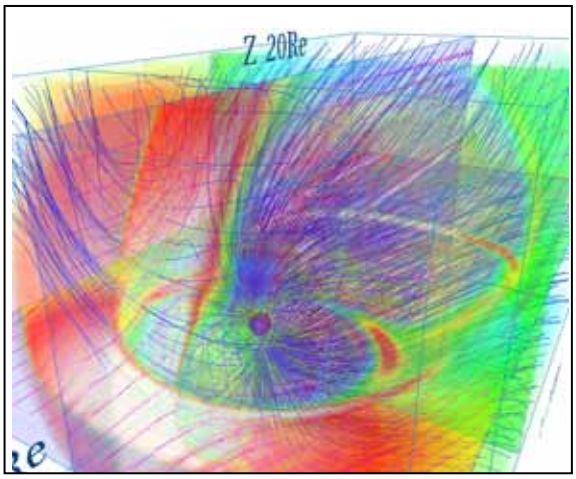
As contents, three dimensional magnetohydrodynamic (MHD) codes (codes for the computer with small memory, vector parallel codes and scalar parallel codes for the scalar parallel supercomputer), graphic data of the three dimensional global MHD simulation of the solar wind-magnetosphere interaction, animation movie, three dimensional visualization (VRML: Virtual Reality Modeling Language), computer processing capability for the MHD simulation model, methods and example to use HPF (High Performance Fortran) and MPI (Message Passing Interface) in the MHD model.

A three-dimensional global magnetohydrodynamic (MHD) simulation of the interaction between the solar wind and the Earth's magnetosphere was presented for several solar wind and interplanetary magnetic field (IMF) conditions, such as a high density of the solar wind, large values of the IMF, IMF turns from northward to southward or from southward to northward.

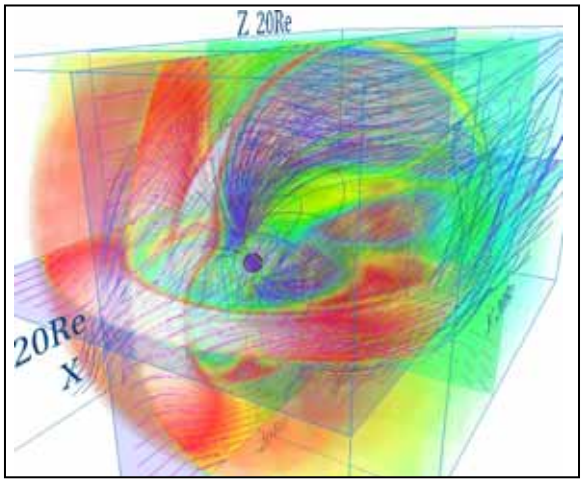
The three-dimensional MHD simulation for the IMF rotation is also presented in a format of polar plot, structure of the three-dimensional magnetic field lines, cross sectional patterns, and reconnection sites in the magnetosphere. Moreover, the MHD simulation results with high spatial resolution are demonstrated every 30 seconds when the IMF changes its orientation to the north-south direction.

The Earth's magnetospheric structure with no symmetric plane is shown for the dipole tilt when the IMF By and Bz components exist. Response of the earth's magnetosphere is also demonstrated when the satellite observation is used as input of simulation. It gives a physical simulation model and contributes to a fundamental research of the international space weather program.

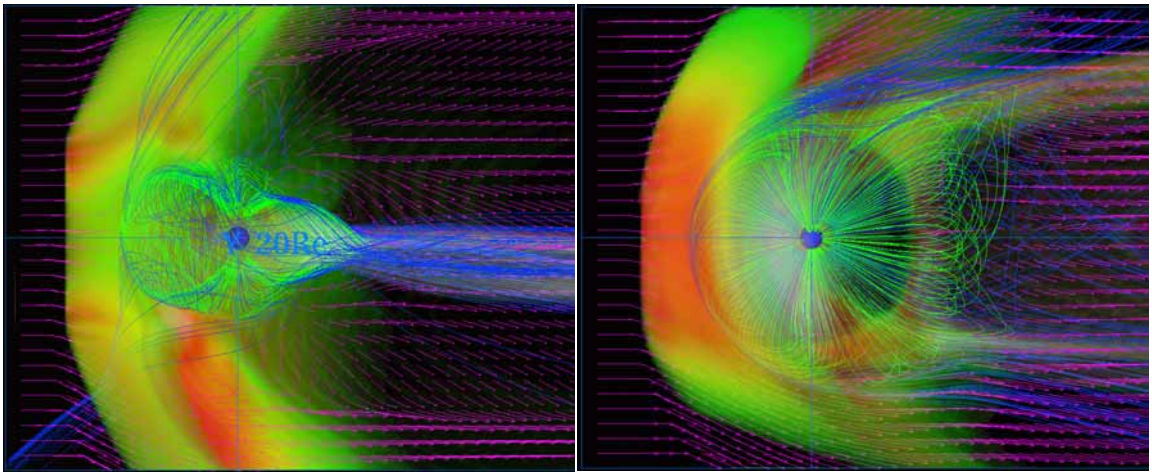
4. Examples of Database:



3-dimensional configuration of the magnetic field lines in the Earth's magnetosphere when the IMF is southward and the angle of dipole tilt is 30 degrees.



3-dimensional configuration of the magnetic field lines in the Earth's magnetosphere when the IMF is northward and the angle of dipole tilt is 30 degrees.



3-dimensional configuration of the magnetic field lines, plasma temperature and plasma flow in the Earth's magnetosphere shown by VRML when the IMF has a component in the sun-earth direction as known the Parker spiral as well as southward and duskward components.

5. Contact:

Solar-Terrestrial Environment Laboratory
Nagoya University
Tatsuki Ogino
Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8601, Japan
E-mail: ogino@stelab.nagoya-u.ac.jp
TEL: +81-52-747-6348 FAX: +81-52-789-5891

6. Public Offering of Database:

Homepage of Computer Simulation
http://center.stelab.nagoya-u.ac.jp/web1/simulation/index.html
http://center.stelab.nagoya-u.ac.jp/web1/simulation/index_j.html
Homepage of Magnetosphere (Global): Data site
http://center.stelab.nagoya-u.ac.jp/web1/simulation/global/jikiken.html
http://center.stelab.nagoya-u.ac.jp/jst/jikiken.html
Homepage of the Center for Joint Observations and Data Processing
http://center.stelab.nagoya-u.ac.jp/english/index-e.html
http://center.stelab.nagoya-u.ac.jp/index.html

Three Dimensional Visualization Using VRML

Tatsuki Ogino (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Three Dimensional Visualization Using VRML

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

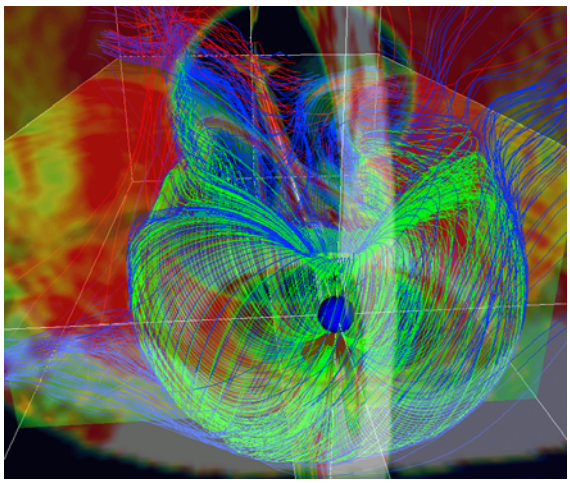
This database presents the method of three dimensional visualization to use VRML (Virtual Reality Modeling Language) by Fortran and C language, and many examples of 3-dimensional visualization obtained from the computer simulation of the solar wind-magnetosphere interaction.

Three-dimensional visualization is indispensable in order to understand 3-dimensional simulation results such as the earth's magnetosphere better. By appearance of the VRML which is only the international standard language for the Internet's 3-dimensional visualization, it would be possible to watch the 3-dimensional image as VRML file by the VRML viewer, even if people does not have 3-dimensional image processing special computers and 3-dimensional image processing special software. However, utilization and popularization of the VRML do not advance very much in present state, because there is no a convenient tool which easily makes the VRML file and also it is not easy to make the complicated VRML file.

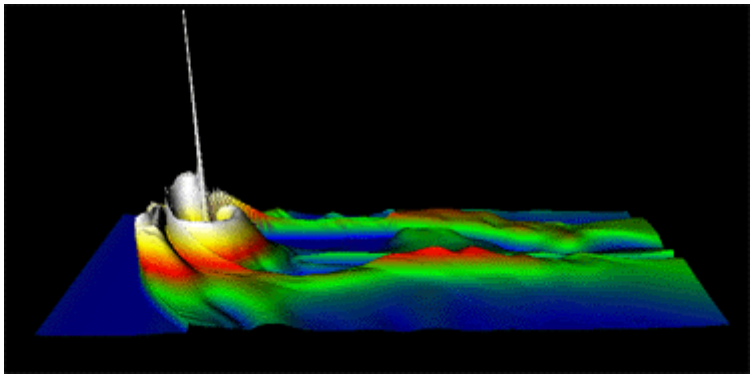
In order to develop the method for visualizing 3-dimensional simulation result of the magnetosphere by using the VRML, we have wrestled in making the VRML file earlier by utilizing experience and knowledge cultivated for a long time for the image processing using Fortran and C language. In the computer science and technology project as the extension, we have made this manual "How to Use VRML" for the purpose of the 3-dimensional visualization of the simulation results by presenting interface subroutine packages for the VRML contents preparation by Fortran and C language.

This database presents all main Fortran programs and subroutine packages shown in this manual as a source program format and demonstrates many examples of 3-dimensional visualization obtained from the computer simulation of the solar wind-magnetosphere interaction. We are happy if it is useful for the simulation and data analysis scientists.

4. Examples of Database:



Characteristic structure of the earth's magnetosphere on October 24, 2003 after the shock wave arrival, which was obtained from 3-dimensional MHD simulation of the solar wind-magnetosphere interaction.



Three dimensional structure of the earth's magnetosphere on the equator shown by the triangular mesh for the 3-dimensional simulation data.

5. Contact:

Solar-Terrestrial Environment Laboratory
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Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8601, Japan
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TEL: +81-52-747-6348 FAX: +81-52-789-5891

6. Public Offering of Database:

Homepage of 3-Dimensional Visualization Using VRML
http://center.stelab.nagoya-u.ac.jp/cawses/cddvd/sm0012.html
Homepage of Magnetosphere (Global): Data site
http://center.stelab.nagoya-u.ac.jp/jst/jikiken.html
Homepage of the Center for Joint Observations and Data Processing
http://center.stelab.nagoya-u.ac.jp/index.html

IPS Solar Wind Speed Database

Masayoshi Kojima (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: IPS Solar Wind Speed Database

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

This database includes solar wind speed data obtained from interplanetary scintillation (IPS) measurements with the multi-station system of the Solar-Terrestrial Environment Laboratory of the Nagoya University. IPS measurements allow us to probe the solar winds near the sun or at high latitudes, which are inaccessible to in situ measurements, in a relatively short time. This database covers the period from 1983 to 2005 (at the present). Users can make various kinds of graphic plot on a WWW browser using the IPS solar wind speed database system.

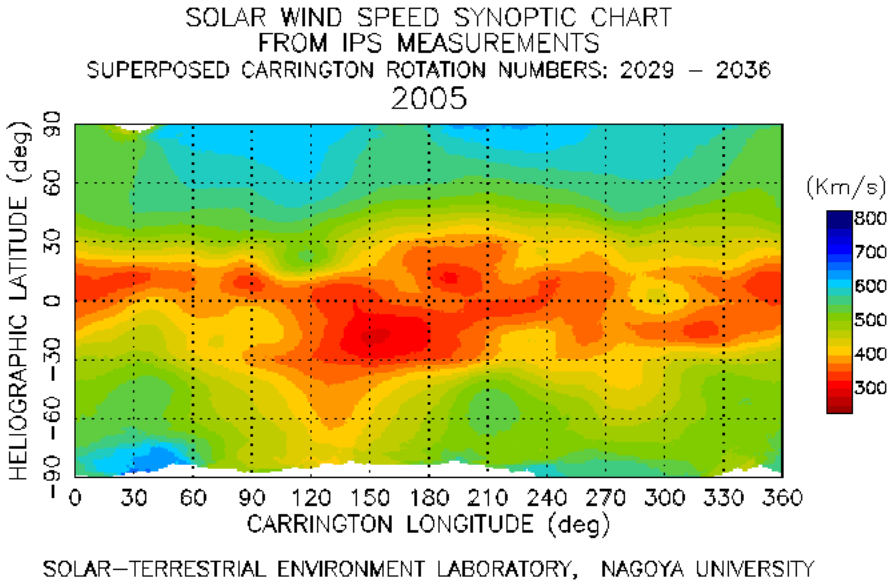
4. Examples of Database:

IPS solar wind speed data taken in 1999 (in text format)

```
-------------------------------------------------------------------------------------------------
HLA, HLO: Heliocentric latitude and longitude
GLA, GLO: Heliographic latitude and longitude
Longitude and Carrington rotation number are not
on the source surface but at the P-point
An error of -999 means
only two stations could be used to calculate the speed

SOURCE    YRMNDY    UT DIST HLA  HLO GLA  GLO CARR    V  ER SC-INDX
CTA21     990408  4.85 0.56  -2  -56  -9  248 1948  131-999 0.411E+03
3C84      990408  5.07 0.71  21  -39  14  265 1948  126-999 0.131E+03
2251+16   990409  0.35 0.56  32   48  31  338 1948  620  39 0.129E+04
3C454.3   990409  0.58 0.56  32   48  31  337 1948  558  11 0.141E+04
0116+31   990409  3.02 0.42  53  -44  46  249 1948  116   1 0.485E+03
3C49      990409  3.65 0.18  18  -79  13  214 1948   99-999 0.172E+04
0202+15   990409  3.82 0.27   8  -74   3  218 1948   96-999 0.109E+04
3C67      990409  4.07 0.45  25  -59  19  233 1948  105   1 0.333E+03
3C84      990409  4.98 0.70  22  -40  15  251 1948  113   3 0.100E+03
.......................
-------------------------------------------------------------------------
```

Graphic plot (vmap05.gif)



5. Contact:

Solar-Terrestrial Environment Laboratory,
Nagoya University
Masayoshi Kojima
Phone: +81-52-747-6331, Fax: +81-52-747-6326
E-mail: kojima@stelab.nagoya-u.ac.jp

6. Public Offering of Database:

URL: http://stesun5.stelab.nagoya-u.ac.jp/ips_data.html
ftp://stesun5.stelab.nagoya-u.ac.jp/pub

210 (deg) Magnetic Meridian Magnetic Field Data

Kiyohumi Yumoto (Space Environment Research Center, Kyushu University)
Kazuo Shiokawa (Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: 210 (deg) magnetic meridian magnetic field data

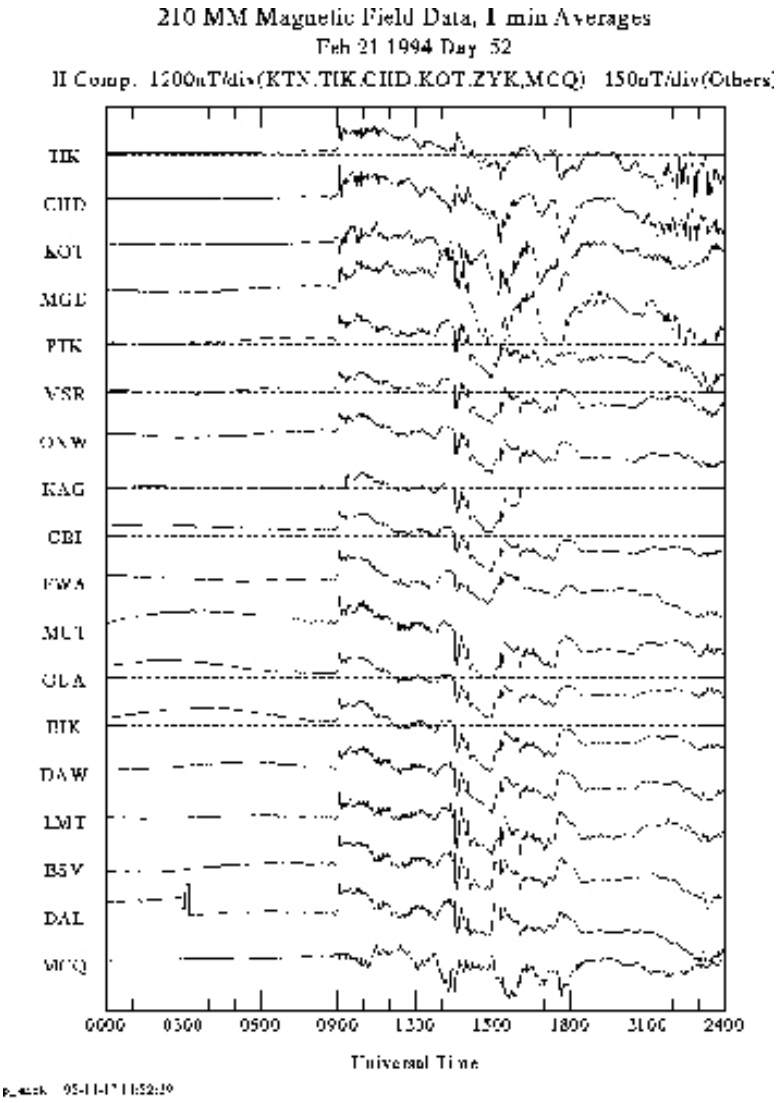
2. Institution: Space Environment Research Center, Kyushu University
Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

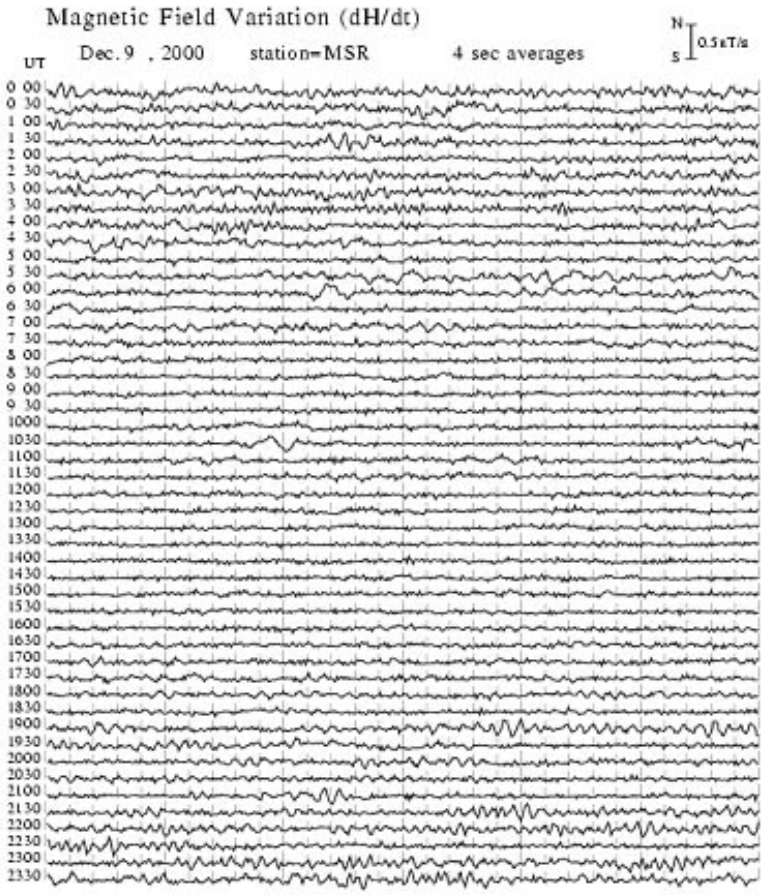
The 210 MM database is the data of geomagnetic field variations obtained at about 30 ground-based stations along the 210 (deg) magnetic meridian. The database contains three component magnetic field variations with a sampling rate of 1 sec and 1 min. Data are available since 1990.

4. Examples of Database:

Example of 1-min plot (February 21, 1994)



Example of 4-sec plot (December 9, 2000)



5. Contact:

Principal Investigator: Kiyohumi Yumoto
Space Environment Research Center, Kyushu University 53
6-10-1, Hakozaki, Higashi-ku, Fukuoka 812-8581, Japan
tel/fax: +81-92-642-2673
e-mail: yumoto@serc.kyushu-u.ac.jp

Database construction: Kazuo Shiokawa
Solar-Terrestrial Environment Laboratory
Nagoya University
3-13, Honohara, Toyokawa, Aichi 442-8507, Japan
tel: 81-533-89-5166 fax: 81-533-89-1539
e-mail: shiokawa@stelab.nagoya-u.ac.jp

6. Public Offering of Database:

* For 1-min digital data and quick-look plots, see
http://stdb2.stelab.nagoya-u.ac.jp/mm210/
ftp://stdb2.stelab.nagoya-u.ac.jp/pub/mm210/
* For 1-sec digital data, please contact K. Shiokawa.
* For use of the data at some publications and/or presentations,
please contact K. Yumoto for authorship/acknowledgement.

Database of the Optical Mesosphere Thermosphere Imagers (OMTIs)

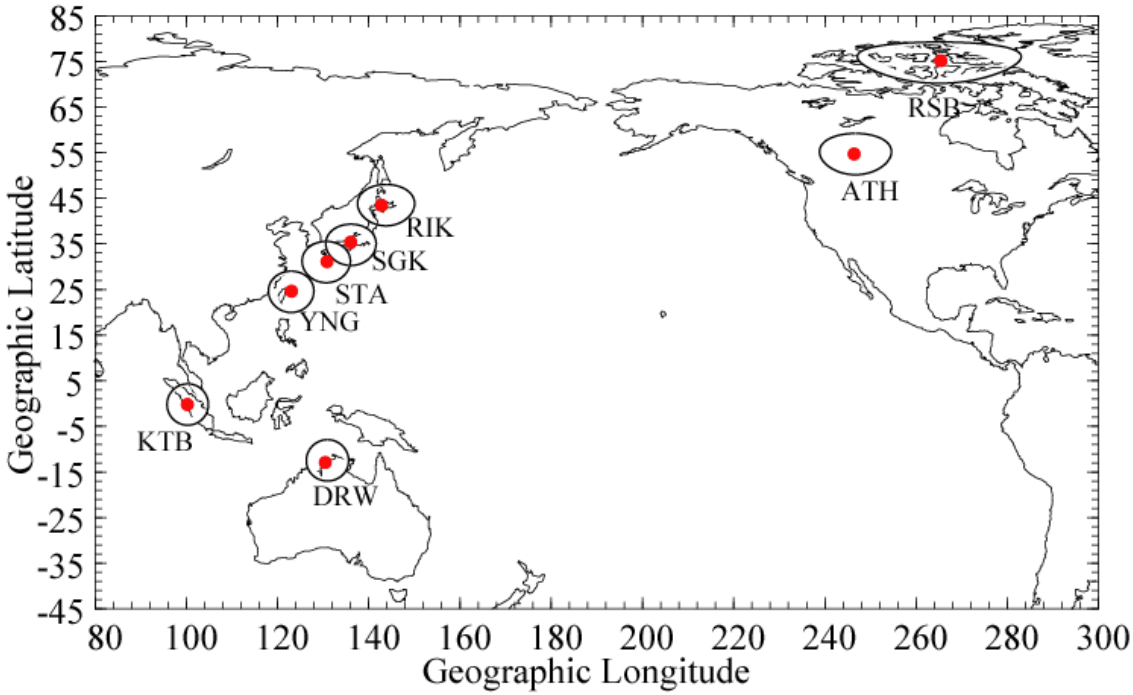
Kazuo Shiokawa, Yuichi Otsuka, and Tadahiko Ogawa
(Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Database of the Optical Mesosphere Thermosphere Imagers

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

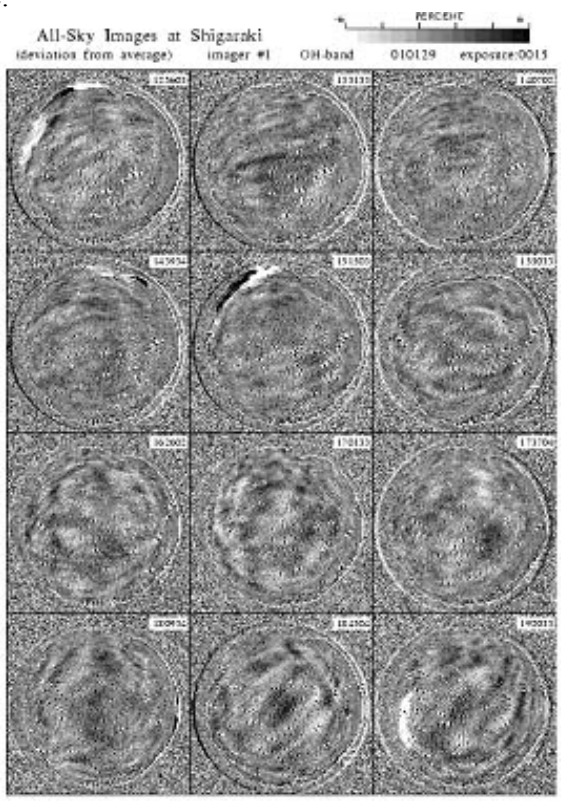
3. Contents of Database:

Database of two-dimensional airglow images, intensity, and Doppler wind and temperature obtained by all-sky airglow imagers, a Fabry-Perot interferometer, meridian-scanning photometers, and airglow temperature photometers at Rikubetsu, Shigaraki, Sata, Yonaguni (Japan), Darwin (Australia), Kototabang (Indonesia), Athabasca (Canada), and Resolute Bay (Canada).

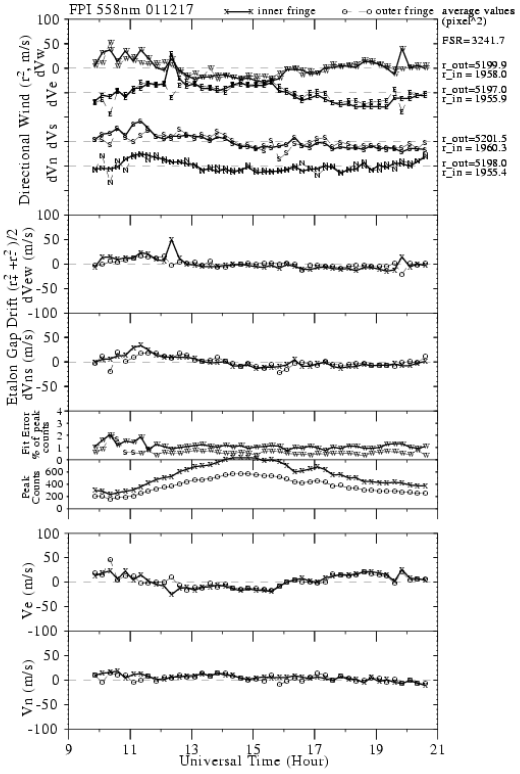


Stations of the Optical Mesosphere Thermosphere Imagers (OMTIs)

4. Examples of Database:



Example of all-sky image data (January 29, 2001, OH)



Example of Fabry-Perot Interferometer data (December 17, 2001)

5. Contact:

Kazuo Shiokawa, Yuichi Otsuka, and Tadahiko Ogawa
Solar-Terrestrial Environment Laboratory
Nagoya University
3-13, Honohara, Toyokawa, Aichi 442-8507, Japan
tel: 81-533-89-5166 fax: 81-533-89-1539
e-mail: shiokawa@stelab.nagoya-u.ac.jp
otsuka@stelab.nagoya-u.ac.jp
ogawa@stelab.nagoya-u.ac.jp

6. Public Offering of Database:

* For quick-look plots, see http://stdb2.stelab.nagoya-u.ac.jp/omti/
* For digital data, please contact K. Shiokawa.
* For use of the data at some publications and/or presentations, please contact K. Shiokawa for authorship/acknowledgement.

Polar Region imaging Riometer Database

Masanori Nishino (Solar-Terrestrial Environment Laboratory, Nagoya University)

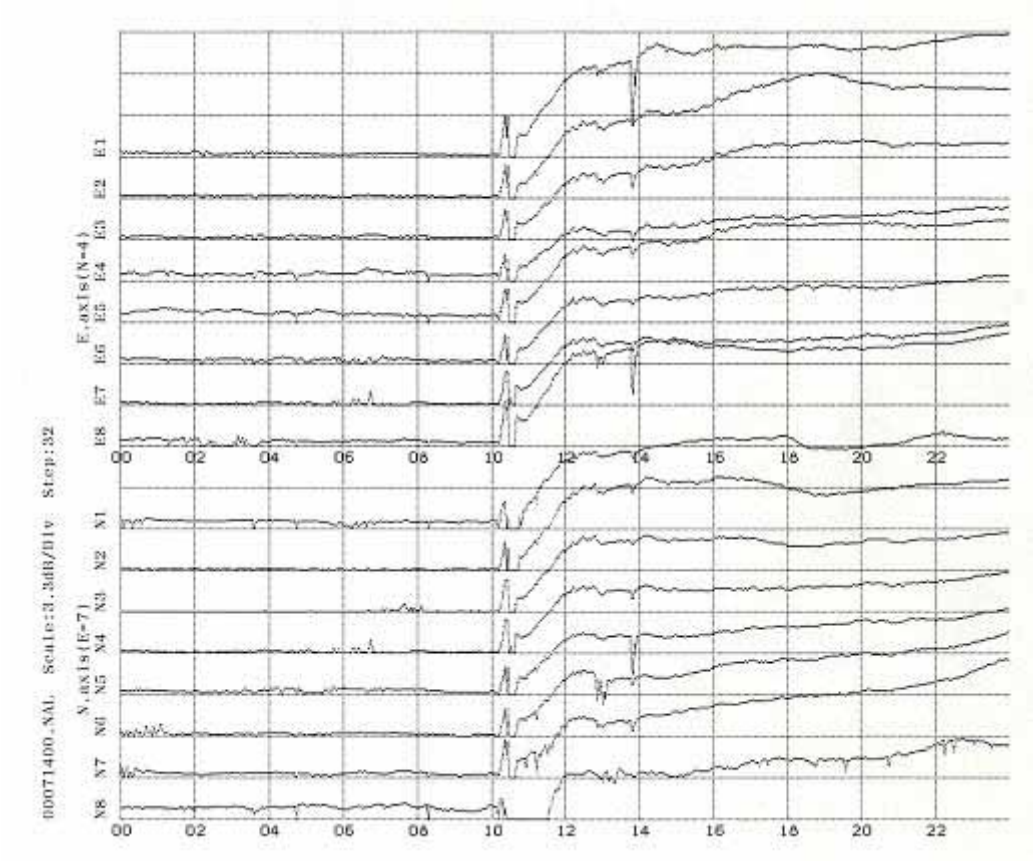
1. Name of Database: Polar Region Imaging Riometer Database

2. Institution: Solar-Terrestrial Environment Laboratory
Nagoya University

3. Contents of Database:

This database provides ionospheric absorption data obtained by the imaging riometer (IRIS) observation at Ny Ålesund, Svalbard since 1991. By coordinated analysis of this database with the same IRIS data obtained at Greenland and Iceland, the study of dynamics of auroral particle precipitations in the Arctic region is performed, and also by combining the data obtained at Chinese Zhongshan Station, Japanese Syowa Station in Antarctica the study of inter-hemispherical conjugacy and non-conjugacy of auroral particle precipitations is performed. The database is also available for studying polar-cap absorption caused by precipitation of very high energetic protons.
Original IRIS data consist of two-dimensional cosmic noise intensities with 8x8 channels sampled every 4 seconds. 64-channels quiet-day curves (QDCs) are reduced from original one-month IRIS data, and thus real ionospheric absorption data are obtained by subtraction between original data and QDCs.
24-hour absorption data composed from 8-channels on the north-south and east-west beams centered at N4E7 beam are plotted as a quick look, and the absorption data in the period from September 1991 to September 2003 are opened by a CD as a database.

4. Examples of Database:



5. Contact :

Masanori Nishino
TEL/FAX: +81-561-31-0239
E-mail: stel_nishino@jahoo.co.jp

6. Public Offering of Database:

CD database ;:
SPACE-W Database in Japan
Observation (SPACEWDB-J-OB0040)
Data of the Imaging Riometer for Ionospheric Studies (IRIS)
1991/9-2003/9
Version 1.0 March 2004
Solar-Terrestrial Environment Laboratory
Nagoya University

Nagoya Multi-Directional Cosmic Ray Muon Telescope Data

Cosmic-Ray Group, Solar-Terrestrial Environment Laboratory, Nagoya University

1. Name of Database: Nagoya Multi-Directional Cosmic Ray Muon Telescope Data

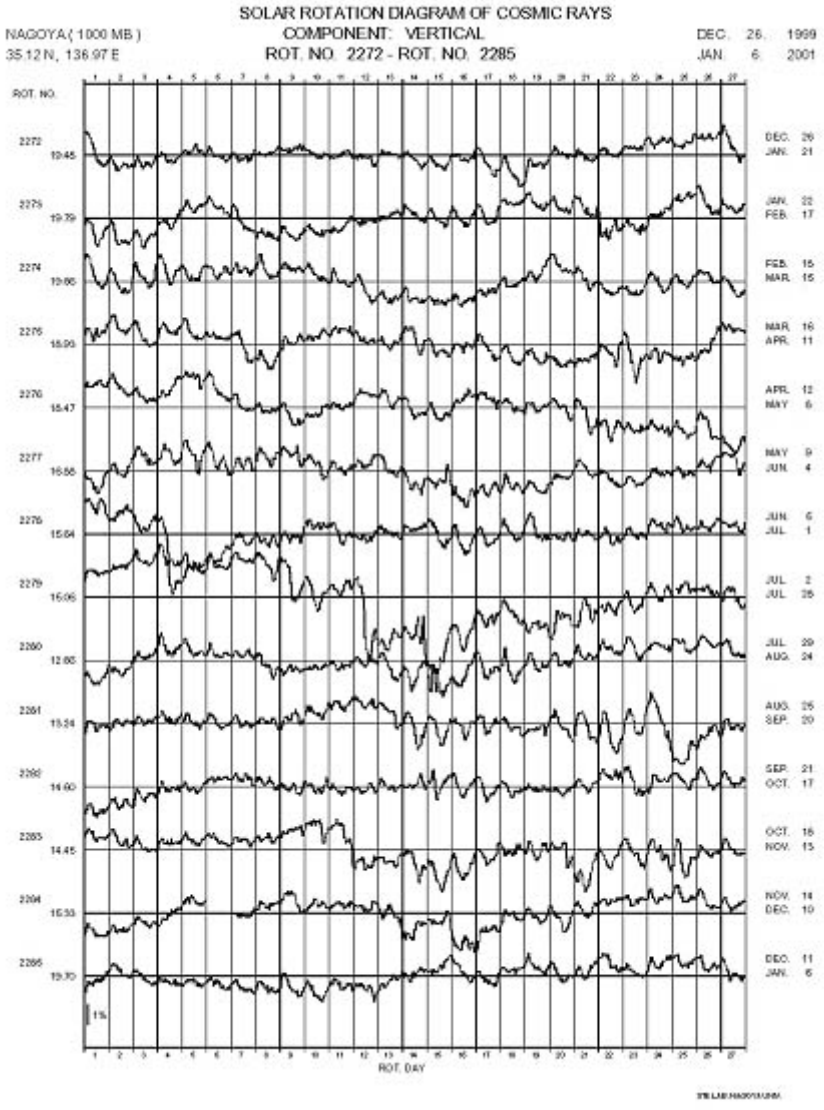
2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University

3. Contents of Database:

Hourly values of 17 directional cosmic ray muon intensities observed by Nagoya Multi-Directional Muon Telescope since 1970, and graphs of the intensities.

4. Examples of Database:

Hourly muon intensities of Vertical telescope, grouped on 14-solar-rotation basis for the period of December 26, 1999 - January 6, 2001 (Solar Rotation Nos. 2272 - 2285).



5. Contact:

Cosmic-Ray Group,
Solar-Terrestrial Environment Laboratory,
Nagoya University,
Chikusa-ku, Nagoya 464-8601 Japan
Tel.: +81-52-789-4330 Fax: +81-52-789-4313
E-mail: fujii@stelab.nagoya-u.ac.jp

6. Public Offering of Database:

URL: http://stelab.nagoya-u.ac.jp
Data book published every 3 - 5 years.

EISCAT data base

Satonori Nozawa (Solar-Terrestrial Environment Laboratory, Nagoya University)
Yasunobu Ogawa (NIPR)

1. Name of Database: EISCAT data base

2. Institution: STEL, Nagoya University / NIPR

3. Contents of Database:

The EISCAT radar systems are located at Tromsoe (70 deg N) and Longyearbyen (78 deg N). You can access data sets obtained by EISCAT radars.
Elecron density, electron temperature, ion temperature, and ion velicity are available. In addition, electric field, ionospheric conductivity, ion velocity vector and neutral wind velocity are available.

4. Examples of Database:

EISCAT CP1 Data (Electric Field)

CP-1-H CP-1-I CP-1-J CP-1-K
1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

CP-1-H

1987			
YYYY/MM/DD	Electric field		
	1 min	2 min	5 min
1987/01/13		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/02/10			ASCII file , GIF , PDF , PS
1987/02/24			ASCII file , GIF , PDF , PS
1987/03/24		ASCII file , GIF , PDF , PS	
1987/04/14		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/05/12		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/06/16		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/07/10		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/07/10			ASCII file , GIF , PDF ,

			PS
1987/09/21		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1987/11/10		ASCII file , GIF , PDF , PS	
1987/11/17		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1988			
YYYY/MM/DD	**Electric field**		
	1 min	**2 min**	**5 min**
1988/03/16		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1988/04/05		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1988/05/03		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1988/08/30		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1988/09/20		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

CP-1-I

1989			
YYYY/MM/DD	**Electric field**		
	1 min	**2 min**	**5 min**
1989/01/10	ASCII file , GIF , PDF , PS		
1989/02/07	ASCII file , GIF , PDF , PS		
1989/03/28	ASCII file , GIF , PDF , PS		
1989/05/02	ASCII file , GIF , PDF , PS		
1989/08/01	ASCII file , GIF , PDF , PS		
1989/09/05	ASCII file , GIF , PDF , PS		
1989/11/14	ASCII file , GIF , PDF ,		

	PS		
1990			
YYYY/MM/DD	Electric field		
	1 min	2 min	5 min
1990/01/24	ASCII file , GIF , PDF , PS		
1990/04/09	ASCII file , GIF , PDF , PS		
1990/06/05	ASCII file , GIF , PDF , PS		
1990/06/12	ASCII file , GIF , PDF , PS		
1990/07/02	ASCII file , GIF , PDF , PS		
1990/07/30	ASCII file , GIF , PDF , PS		
1990/09/25	ASCII file , GIF , PDF , PS		
1990/11/27	ASCII file , GIF , PDF , PS		
1991			
YYYY/MM/DD	Electric field		
	1 min	2 min	5 min
1991/02/12	ASCII file , GIF , PDF , PS		
1991/02/20	ASCII file , GIF , PDF , PS		
1991/05/02	ASCII file , GIF , PDF , PS		
1991/07/10	ASCII file , GIF , PDF , PS		
1991/09/10	ASCII file , GIF , PDF , PS		
1991/12/08	ASCII file , GIF , PDF , PS		

CP-1-J

1992

YYYY/MM/DD	Electric field		
	1 min	2 min	5 min
1992/03/30	ASCII file , GIF , PDF , PS		
1992/07/30	ASCII file , GIF , PDF , PS		

CP-1-K

1993

YYYY/MM/DD	Electric field			
	1 min	2 min	5 min	10 min
1993/02/16	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1993/04/20	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1993/07/20	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1993/10/18	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1994

YYYY/MM/DD	Electric field			
	1 min	2 min	5 min	10 min
1994/03/15	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1994/04/12	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1994/06/08	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1995

YYYY/MM/DD	Electric field			
	1 min	2 min	5 min	10 min
1995/02/28	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1995/03/28		ASCII file , GIF , PDF , PS		ASCII file , GIF , PDF , PS
1995/06/20	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1995/07/13		ASCII file , GIF ,		ASCII file , GIF ,

		PDF , PS		PDF , PS
1995/09/27	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1995/12/21	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1995/12/28		ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1996

YYYY/MM/DD	**Electric field**			
	1 min	**2 min**	**5 min**	**10 min**
1996/02/13	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1996/06/17	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1997

YYYY/MM/DD	**Electric field**			
	1 min	**2 min**	**5 min**	**10 min**
1997/02/10	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1997/04/09	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1997/05/14	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1997/06/23	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1997/10/30	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1998

YYYY/MM/DD	**Electric field**			
	1 min	**2 min**	**5 min**	**10 min**
1998/01/20	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1998/03/13		ASCII file , GIF , PDF , PS		ASCII file , GIF , PDF , PS
1998/04/08		ASCII file , GIF , PDF , PS		ASCII file , GIF , PDF , PS
1998/08/17	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

1999				
YYYY/MM/DD	Electric field			
	1 min	2 min	5 min	10 min
1999/02/09	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1999/09/15	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1999/10/12	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS
1999/12/02	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS	ASCII file , GIF , PDF , PS

5. Contact:

Satonori Nozawa, STEL, Nagoya University,
nozawa@stelab.nagoya-u.ac.jp

6. Public Offering of Database:

You can use data sets as you like. However, to facilitate collaborations using the EISCAT radar data, we really appreciate if you could contact us.

Hokkaido SuperDARN HF Radar Network Data

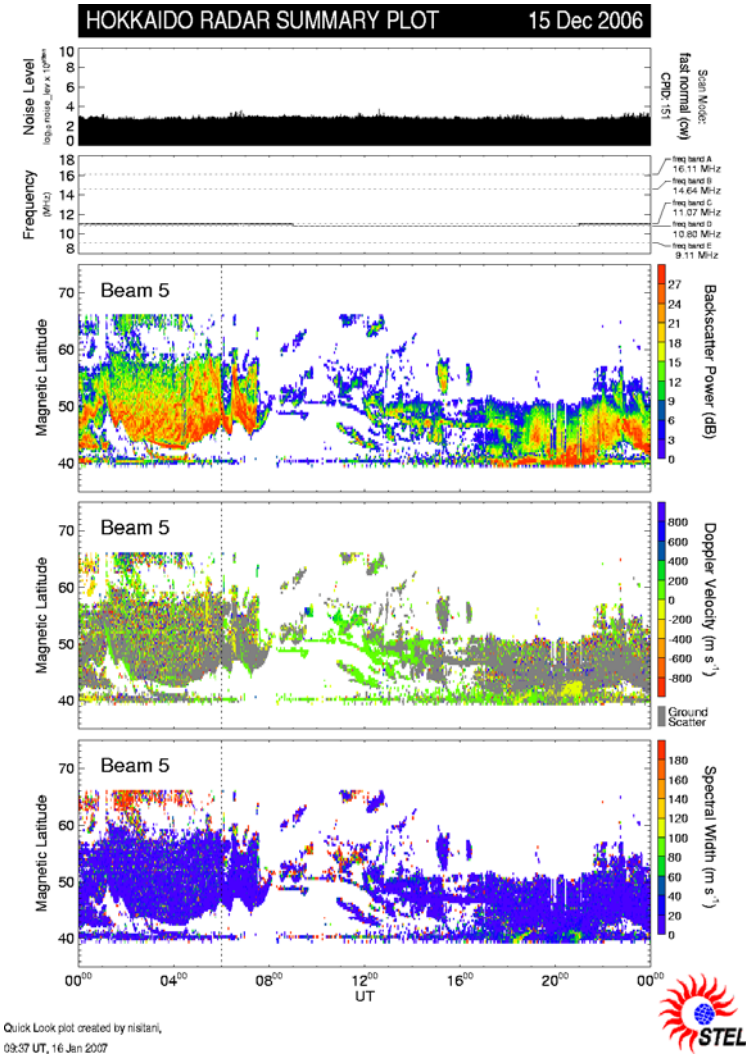
Nozomu Nishitani(Solar-Terrestrial Environment Laboratory, Nagoya University)

1. Name of Database: Hokkaido SuperDARN HF radar network data

2. Institution: Solar-Terrestrial Environment Laboratory, Nagoya University, Japan

3. Contents of Database: Summary plot of Hokkaido SuperDARN radar

4. Examples of Database:



5. Contact:

Nozomu Nishitani （ nisitani@stelab.nagoya-u.ac.jp ）

6. Public Offering of Database:

http://center.stelab.nagoya-u.ac.jp/hokkaido

High Temporal Resolution Geomagnetic Data

Toshihiko Iyemori (Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University)

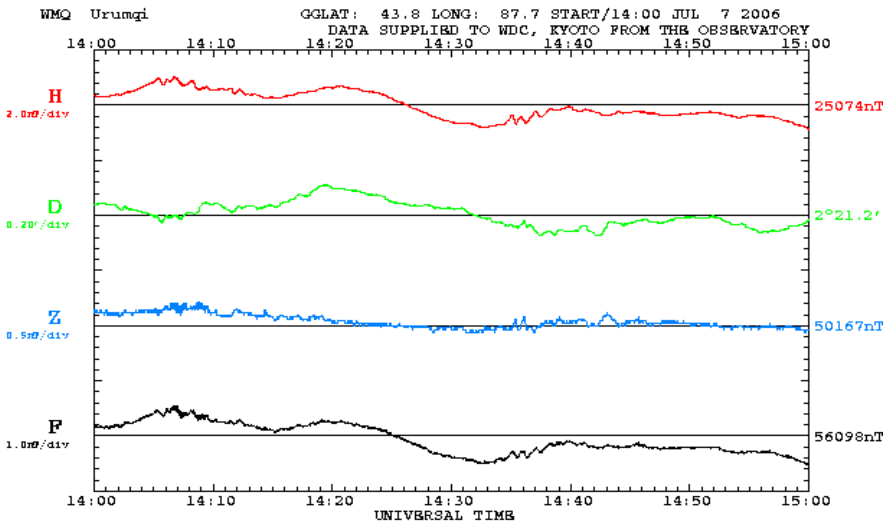
1. Name of Database: High Temporal Resolution Geomagnetic Data

2. Institution: Data Analysis Center for Geomagnetism and Space Magnetism
Graduate School of Science, Kyoto University

3. Contents of Database:

This database contains the 1 second resolution geomagnetic data from following stations.
WMQ 2001-present (Note: There exist some data gaps)
HTY 2000-present
KAK 1983-present
KAK 1996-present
MMB 1997-present
PAF 1978-1993
The data from KAK (Kakioka) on CD-ROMs are available for the period from 2003 to 2005.

4. Examples of Database:



5. Contact:

Data Analysis Center for Geomagnetism and Space Magnetism
Graduate School of Science, Kyoto University
Kyoto 606-8502, JAPAN
TEL: 81-75-753-3929, FAX: 81-75-722-7884

6. Public Offering of Database:

http://swdcwww.kugi.kyoto-u.ac.jp/shplt/index.html

Geomagnetic Variation Data

Toshihiko Iyemori (Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University)

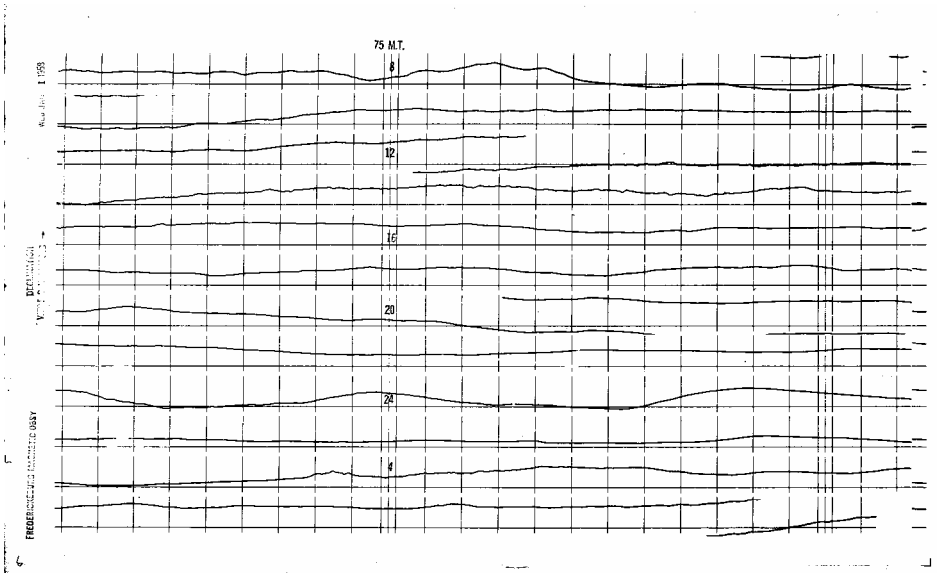
1. Name of Database: Geomagnetic Variation Data

2. Institution: Data Analysis Center for Geomagnetism and Space Magnetism
Graduate School of Science, Kyoto University

3. Contents of Database:

This database contains the magnetogram image files. The image files are also put on the CD-ROMs and distributed to the WDCs for Geomagnetism and the STE Lab. of Nagoya University. The listing of the stations and periods is shown at
http://swdcft49.kugi.kyoto-u.ac.jp/film/TIF_FileList.html

4. Example of Database:



5. Contact:

Data Analysis Center for Geomagnetism and Space Magnetism
Graduate School of Science, Kyoto University
Kyoto 606-8502, JAPAN
TEL: 81-75-753-3929, FAX: 81-75-722-7884

6. Public Offering of Database:

http://swdcft49.kugi.kyoto-u.ac.jp/film/index.html

Kakioka One-Second Resolution Geomagnetic Data

Kakioka Magnetic Observatory, Japan Meteorological Agency / WDC for Geomagnetism, Kyoto

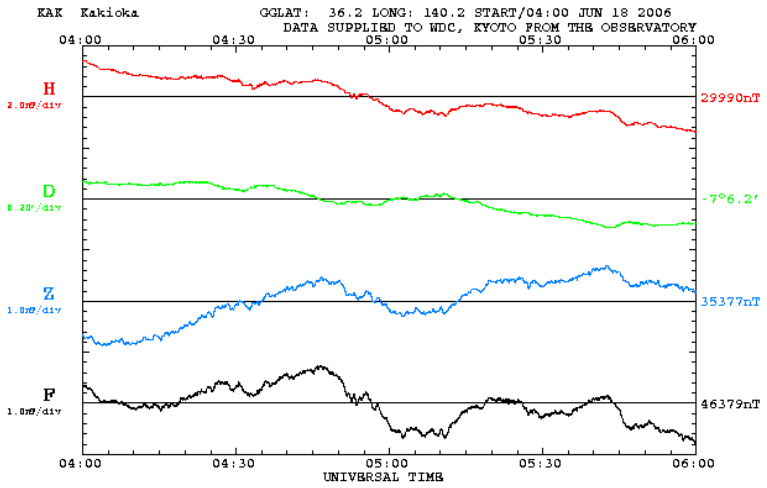
1. Name of Database: Kakioka One-Second Resolution Geomagnetic Data

2. Institution: (1) Kakioka Magnetic Observatory, Japan Meteorological Agency
(2) WDC for Geomagnetism, Kyoto

3. Contents of Database:

This database contains the one second resolution geomagnetic field data observed at Kakioka Magnetic Observatory located at (Geographic Latitude, Geographic Longitude) = (36.23, 140.19). The data have been supplied to the World Data Center for Geomagnetism, Kyoto for public use. The latest data are available from the data center through WWW on-line service
http://swdcwww.kugi.kyoto-u.ac.jp/shplt/index-j.html
Three magnetic components (H, Z and D) are measured by the fluxgate magnetometer every second with 0.01nT resolution. The values are derived using provisional base line values. For more information, please refer "Report of the Kakioka Magnetic Observatory".
The data are written with 2-byte binary integer usually used in the UNIX system on most work stations. We need to exchange the order of the two (i.e., upper and lower) bytes when we use the data with PCs (i.e., DOS, LINUX, WINDOWS etc.).

4. Example of Database:



5. Contact:

(1) Kakioka Magnetic Observatory, Japan Meteorological Agency
Kakioka 595, Yasato-machi, Niihari-gun, Ibaraki-ken
315-0116, Japan
(2) Data Analysis Center for Geomagnetism and Space Magnetism,
Graduate School of Science, Kyoto University, Kyoto 606-8501, Japan

6. Public Offering of Database:

When you publish the results by using the data , please acknowledge to the Kakioka Magnetic Observatory.

Active Phenomena of Solar Prominences and Filaments

Reizaburo Kitai (Kwasan & Hida Observatries, Graduate school of Science, Kyoto University)

1. Name of Database: Active Phenomena of Solar Prominences and Filaments

2. Institution: Kwasan & Hida Observatories,
Graduate school of Science, Kyoto University

3. Contents of Database:

These are edited with an intension to promote co-analyses of solar eruptive phenomena observed with different instruments in different wavelengths, and to inform when and which kind of phenomena appeared on the solar surface which affected our solar-terrestrial environment.
This database includes H-alpha images of solar active phenomena observed by the Flare Monitoring Telescope (FMT) at Hida Observatory, Kyoto University.
The FMT simultaneously obtains five kinds of solar full disk images;
(1) H-alpha line center image,
(2) H-alpha - 0.8 angstrom (blue shifted) image,
(3) H-alpha + 0.8 angstrom (red shifted) image,
(4) H-alpha prominence image (with occulting disk),
(5) Sunspot image in a red continuum.

In this database, we supply the following two kinds of image data;

1) Active Phenomena in H-alpha - 0.8 A
(Filament Activities and H-alpha Surges on the Solar Disk)

All transient phenomena, which were classified into middle or large size with the blue-shifted image data of FMT, are stored on the web-site and CD-Rs for each month. (The blue-shifted images are especially useful to indentify eruptive solar active phenomena which affects solar-terrestrial environment.)
By opening an event list for each month with a browser, you can know start and end times, position on the solar disk, type, and size of each event of the month. If you click an event on the list, you can move to the directory in which the image data of the event are stored.
Three kinds of image sets (H-alpha, H-alpha - 0.8, H-alpha + 0.8) for each event can be accessed from 5 min before the start time to 5min after the end time with the interval of 1 min. With these data, you can study the evolutional changes of shapes and dynamical structures of the event.

2) Active Phenomena in Prominence Images
(Prominence Activities on the Solar Limb)

All phenomena, which show conspicuous activities in the limb-prominence images of FMT are stored on the web-site and CD-Rs for each month.
(These limb events must be useful to study the radial or vertical structures of solar active phenomena.)
By opening an event list for each month with a browser, you can know start, maximum and end times, position on the solar limb, type of activity, height and length of each recorded phenomenon.
If you click an event on this list, you can move to the directory in which the image data of the event are stored.
The two kinds of image sets (H-alpha prominence and H-alpha center) for each event can be accessed from 5 min before the start time to 5min after the end time with the interval of 1 min. With

these data, you can study the evolutional changes of shapes and dynamical structures of prominences and chromospheric activities near the solar limb.

These event lists are accessible at the following URL.
http://www.kwasan.kyoto-u.ac.jp/observation/event/index_en.html

Reference: H.Kurokawa, K.Ishiura, G.Kimura, Y.Nakai, R.Kitai, Y.Funakoshi, and T.Shinkawa
"Observations of Solar H alpha Filament Disappearances with a New Solar Flare-Monitoring -Telescope at Hida Observatory"
J.Geomag.Geoelectr., 47, 1043-1052, 1995

5. Contact:

Dr. Reizaburo Kitai
Hida Observatory,
Graduate school of Science, Kyoto University
Kurabashira, Kamitakara, Takayama
Gifu 506-1314, Japan.
TEL: 81-578-6-2311 FAX: 81-578-6-2118
E-mail: kitai@kwasan.kyoto-u.ac.jp

6. Public Offering of Database:

The URL of public offering of these event lists:
http://www.kwasan.kyoto-u.ac.jp/observation/event/index_en.html

MU radar data base

Research Institute for Sustainable Humanosphere, Kyoto University

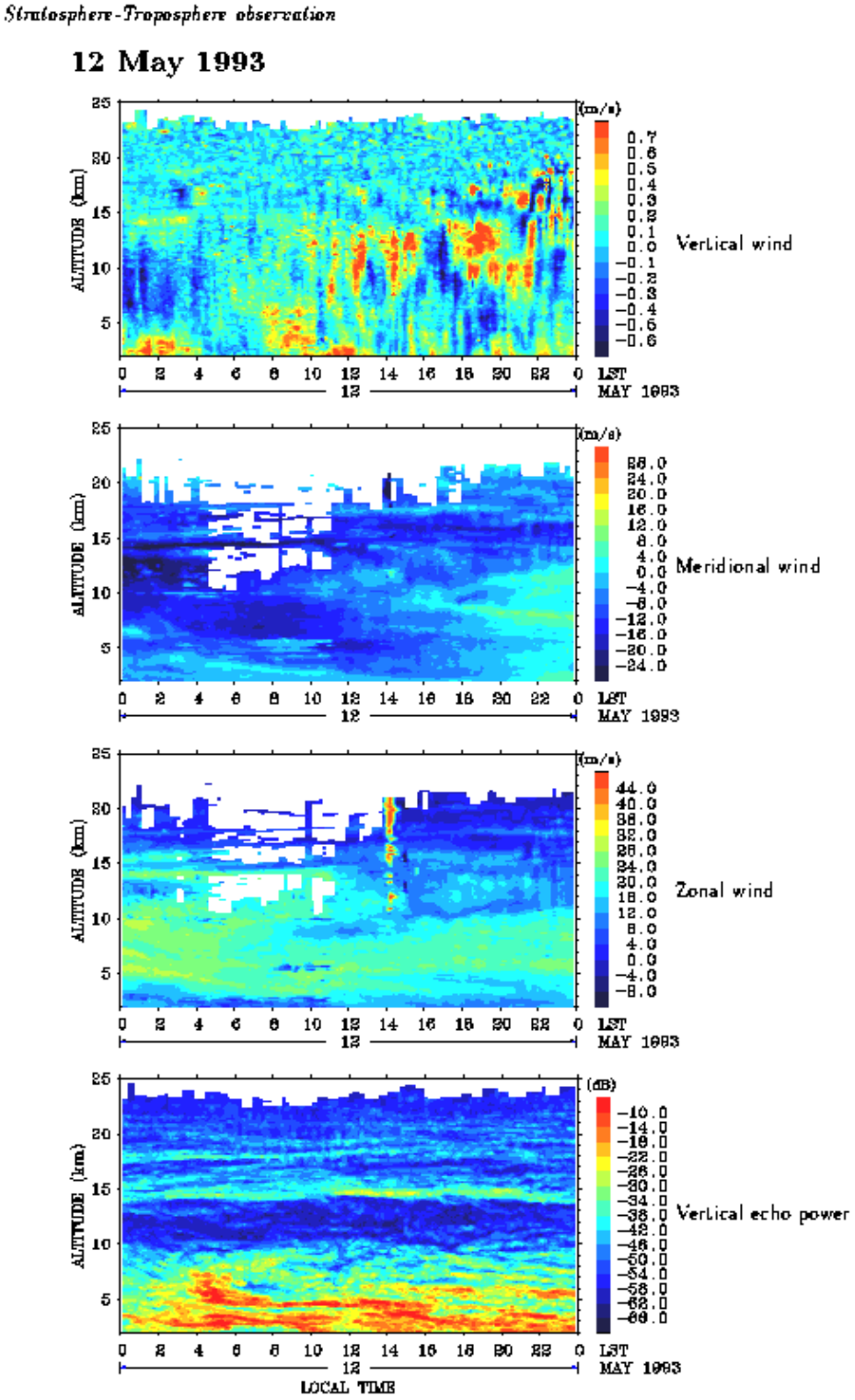
1. Name of Database: MU radar data base

2. Institution: Research Institute for Sustainable Humanosphere, Kyoto University

3. Contents of Database:

The MU radar (Middle and Upper atmosphere radar) is the largest atmospheric radar in Asia, and the most capable atmospheric radar in the world. It has been observing the troposphere, middle atmosphere and upper atmosphere between 1 and 500 km altitude since 1984.
This database provides with the observational data (wind, electron density etc.) obtained by the MU radar at Shigaraki, Japan (136E 06' 32", 34N51' 08").

4. Examples of Database:



5. Contact:

Research Institute for Sustainable Humanosphere
Kyoto University
TEL:+81-774-38-3815 FAX:+81-774-31-8463
E-mail: mu@rish.kyoto-u.ac.jp

6. Public Offering of Database:

The data could be accessed at
http://www.rish.kyoto-u.ac.jp/radar-group/mu/mudb/
A research proposal should be submitted prior to the use of the data.

Particle Simulation of Plasma Wave Instabilities I

Yoshiharu Omura, Hirotsugu Kojima, and Hiroshi Matsumoto
(Research Institute for Sustainable Humanosphere, Kyoto University)

1. Name of Database: Plasma Particle Simulation I :
Computer Simulations of Electrostatic Solitary Waves in the Magnetotail

2. Institution: Research Institute for Sustainable Humanosphere, Kyoto University

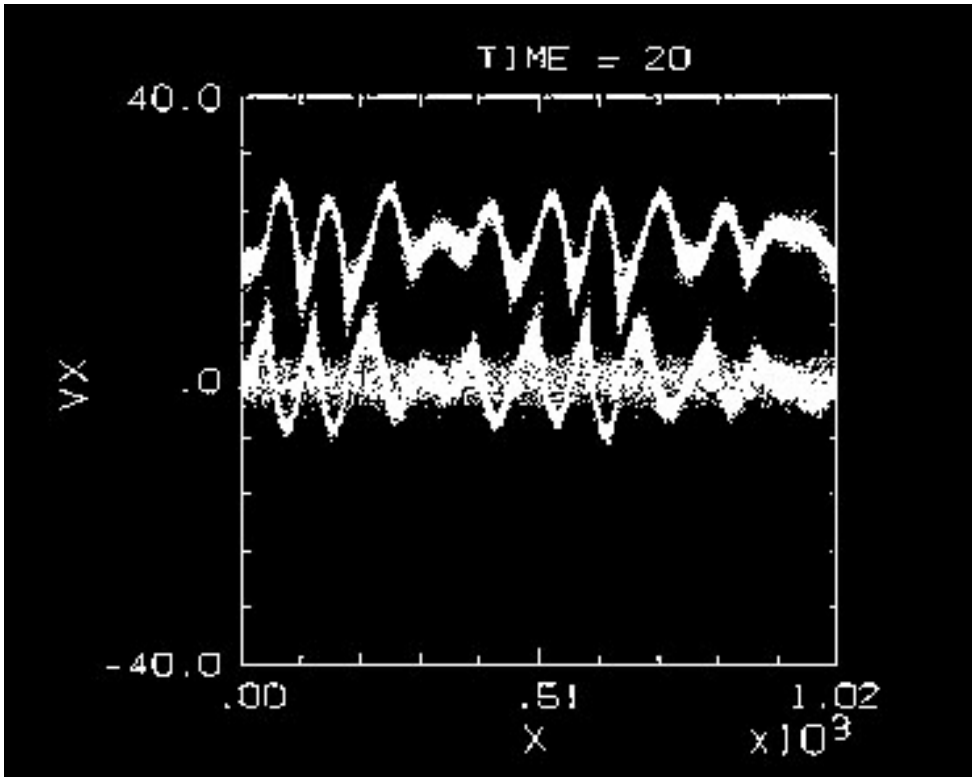
3. Contents of Database:

We present particle simulations of one of the most fundamental instabilities in plasmas, i.e., two-stream instability induced by two groups of electrons moving with different drift velocities. Electrostatic waves grow from the thermal fluctuation noise with the growth rate predicted by the linear theory, and saturate due to nonlinear trapping of electrons by the coherent electrostatic potentials. After the saturation, the series of the large amplitude potentials coalesce with each other to form isolated potentials. This process was also observed in the past Vlasov code simulations and laboratory experiments and were called as electron holes. The plasma wave observation by the GEOTAIL spacecraft revealed that there also exist electrostatic solitary waves similar to electrons holes in the plasma sheet boundary layer of the Earth's magnetotail. We performed electrostatic particle simulations for various parameters and found conditions for generation of the ESW. The ESW is generated as a results of nonlinear coalescence of strong electrostatic waves excited by an electrostatic beam instability involving the electron beam drifting relative to the majority of ions and another electrons drifting with the ions. We performed two runs with different initial ion thermal velocities Vi. One is with Vi = 2.0, and the other is with Vi = 0.1. We assumed the same density ratio R = 0.5 for these runs. Namely, two electron beams have the same thermal velocity with drift velocities Vd and 0. The evolution of the instability is shown by the phase diagrams of particle in the (X, Vx) space at different times. As a necessary condition for formation of the ESW, the ion thermal velocity Vi must be large enough so that the electrostatic waves due to the beam instability cannot decay to ion acoustic waves.

All computations were performed on the KDK computer system at Research Institute for Sustainable Humanosphere, Kyoto University.

4. Examples of Database:

The database includes several kinds of plots showing detailed processes of nonlinear evolution of electron two-stream instability. Among them phase space plots showing the locations of electrons in the (X, Vx) phase space are most interesting. An example of the phase space plots is shown below. The dots with red, yellow and cyan colors represent ions, electrons moving with ions and electrons moving with a drift velocity Vd =20Ve , respectively. Both groups of electrons have the same thermal velocity Ve. A reduced mass ratio of ions to electrons is assumed to be 100. The time indicated on top of each figure is normalized by the inverse of the total electron plasma angular frequency. Namely, "TIME= 6.28" corresponds to one period of the total electron plasma oscillation.



Detailed description of the simulation runs are found in the following reference.

Y. Omura, H. Kojima and H. Matsumoto, Computer Simulation of Electrostatic Solitary Waves: A Nonlinear Model of Broadband Electrostatic Noise, *Geophysical Research Letters*, vol. 21, pages 2,923-2,926, 1994.
The simulation code used in producing the present database. is a one-dimensional elelctrostatic coode.

Detailed description of the code is found in the following reference.
Y. Omura and H. Matsumoto, KEMPO1: Technical Guide to One-Dimensional Electromagnetic Particle Code, *Computer Space Plasma Physics: Simulation Techniques and Softwares*, edited by H. Matsumoto and Y. Omura, pages 21-65, Terra Scientific, Tokyo, 1993.
http://www.terrapub.co.jp/e-library/cspp/index.html

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Phone: +81-774-38-3811
E-mail: omura@rish.kyoto-u.ac.jp

6. Public Offering of Database:

ftp://center.stelab.nagoya-u.ac.jp/web1/sramp/cdrom/sm0004/index.html
Also see:
Home Page of Geotail Plasma Wave Instrument
http://www.kurasc.kyoto-u.ac.jp/gtlpwi/index.html

Particle Simulation of Plasma Wave Instabilities II

Yoshiharu Omura, Hiroshi Matsumoto, Taketoshi Miyake, and Hirotsugu Kojima
(Research Institute for Sustainable Humanosphere, Kyoto University)

1. Name of Database: Particle Simulations of Plasma Wave Instabilities II:
Electron beam instability as generation mechanism of
electrostatic solitary waves in the magnetotail

2. Institution: Research Institute for Sustainable Humanosphere, Kyoto University

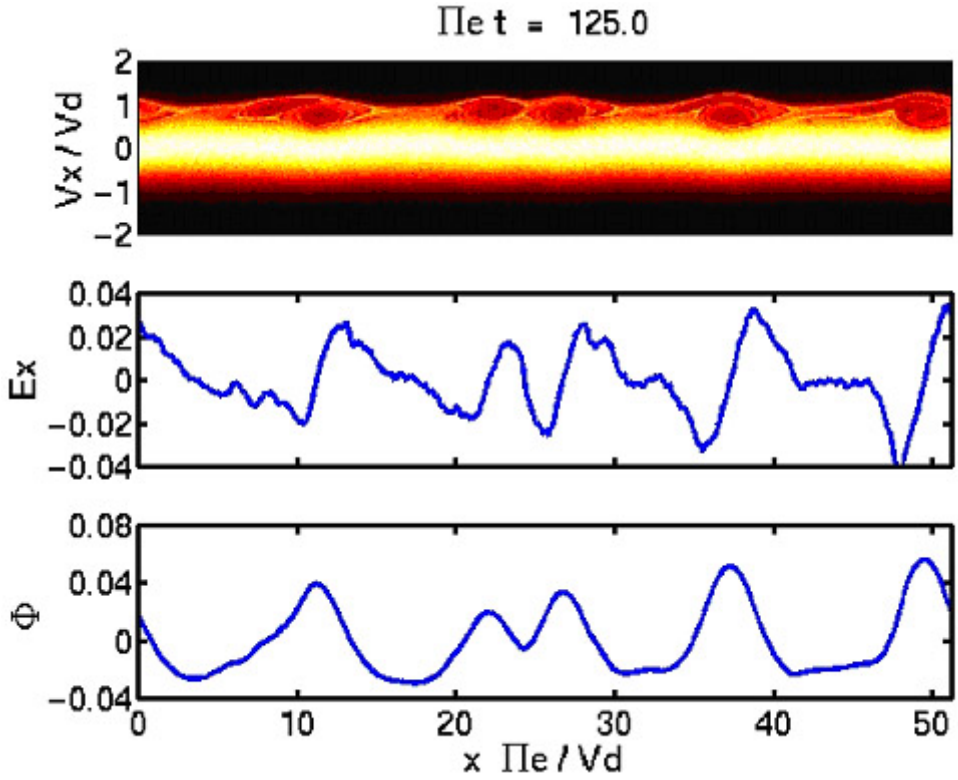
3. Contents of Database:

The database contains six examples of simulation runs of electron beam instabilities as typically found in space plasmas. These instabilities play important roles in the energy transfer and dissipation in space plasmas. Nonlinear evolutions of these instabilities are reproduced by one-dimensional particle simulation with periodic boundaries. As a result of the nonlinear evolutions, electrostatic solitary waves (ESW) are generated. ESW are very stable electrostatic potentials, traveling over a long distance along the ambient magnetic field. These ESW are frequently observed in the plasma sheet boundary layer as reported by the GEOTAIL spacecraft. Since ESW appear as broadband noise in frequency spectra, they were also observed as broadband electrostatic noise (BEN) in the previous spacecraft observations. Recent spacecraft observations in other regions of the magnetosphere show that there exist ESW associated with fluxes of high energy particles, which verifies that the nonlinear processes as demonstrated by the present simulations are taking place ubiquitously in space plasmas.

All computations were performed on the KDK computer system at Research Institute for Sustainable Humanosphere, Kyoto University.

4. Examples of Database:

An example of frames showing the simulation results is given below. The top panel is a contour plot of the velocity distribution function f(X, Vx) in the velocity of phase space X-Vx,. The middle and lower panels are spatial profiles of the electric field Ex(x) and electrostatic potential Φ.



Detailed description of the simulation runs are found in the following reference.

Y. Omura, H. Matsumoto, T. Miyake and H. Kojima, Electron Beam Instabilities as Generation Mechanism of Electrostatic Solitary Waves in the Magnetotail, *Journal of Geophysical Research*, vol. 101, pages 2,685-2,697, 1996.

The simulation code used in producing the present database. is a one-dimensional elelctrostatic coode.
Detailed description of the code is found in the following reference.

Y. Omura and H. Matsumoto, KEMPO1: Technical Guide to One-Dimensional Electromagnetic Particle Code, *Computer Space Plasma Physics: Simulation Techniques and Softwares*, edited by H. Matsumoto and Y. Omura, pages 21-65, Terra Scientific, Tokyo, 1993.
http://www.terrapub.co.jp/e-library/cspp/index.html

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E-mail: omura@rish.kyoto-u.ac.jp

6. Public Offering of Database:

ftp://center.stelab.nagoya-u.ac.jp/web1/sramp/cdrom/sm0005/index.html
Also see: Home Page of Geotail Plasma Wave Instrument
http://www.kurasc.kyoto-u.ac.jp/gtlpwi/index.html

Ion beam instabilities in space plasmas

Yoshiharu Omura and Koichi Shin (Research Institute for Sustainable Humanosphere, Kyoto University)

1. Name of Database: Ion beam instabilities in space plasmas

2. Institution: Research Institute for Sustainable Humanosphere, Kyoto University

3. Contents of Database:

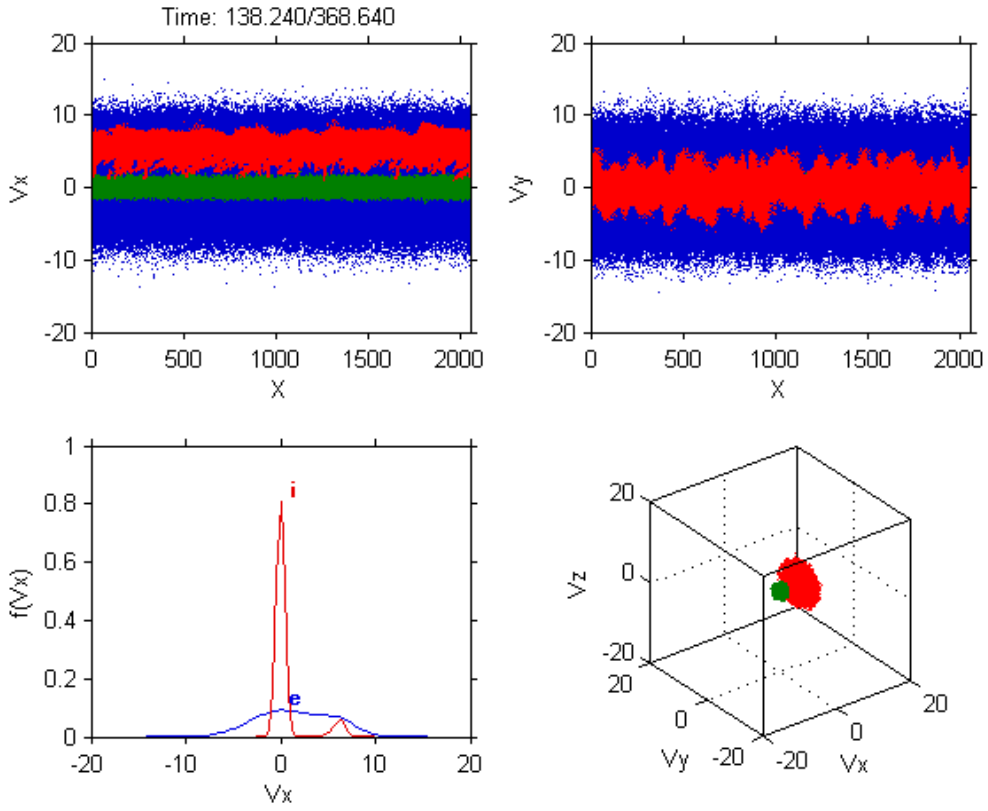
The database contains simulation runs of ion beam instabilities typically found in space plasmas. These instabilities play important roles in the energy transfer and dissipation in space plasmas. Nonlinear evolutions of these instabilities are reproduced by one-dimensional electromagnetic particle simulation with periodic boundaries.

- EMIC R-mode instability driven by an ion beam
- EMIC L-mode instability driven by a temperature anisotropy
- EMIC L-mode instability with heavily ions
- Ion Bernstein instability
- Ion acoustic instability

All computations were performed on the KEMPO1/MATLAB software.

4. Examples of Database:

The database includes several kinds of plots showing detailed processes of nonlinear evolution of ion beam instability. The left upper and right upper panels are scatter plots of the particles in the velocity of phase space X-Vx and X-Vy, respectively. The left bottom panel is velocity distribution function f (Vx). The right bottom panel is scatter plot of particles in the 3 dimensional phase space Vx-Vy-Vz.



The simulation code used in producing the present database is a one-dimensional electromagnetic code.

Detailed description of the code is found in the following reference.
Y. Omura and H. Matsumoto, KEMPO1: Technical Guide to One-Dimensional Electromagnetic Particle Code,
Computer Space Plasma Physics: Simulation Techniques and Softwares, edited by H. Matsumoto and Y. Omura, pages 21-65, Terra Scientific, Tokyo, 1993.
http://www.terrapub.co.jp/e-library/cspp/index.html

5. Contact:

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E-mail: omura@rish.kyoto-u.ac.jp

6. Public Offering of Database:

MAGnetic Data Acqusition System / Circum-pan Pacific Magnetometer Network Data

Kiyohumi Yumoto (Space Environment Research Center, Kyushu University)

1. Name of Database: MAGnetic Data Acqusition System / Circum-pan Pacific Magnetometer Network Data

2. Institution: Space Environment Research Center, Kyushu University

3. Contents of Database:

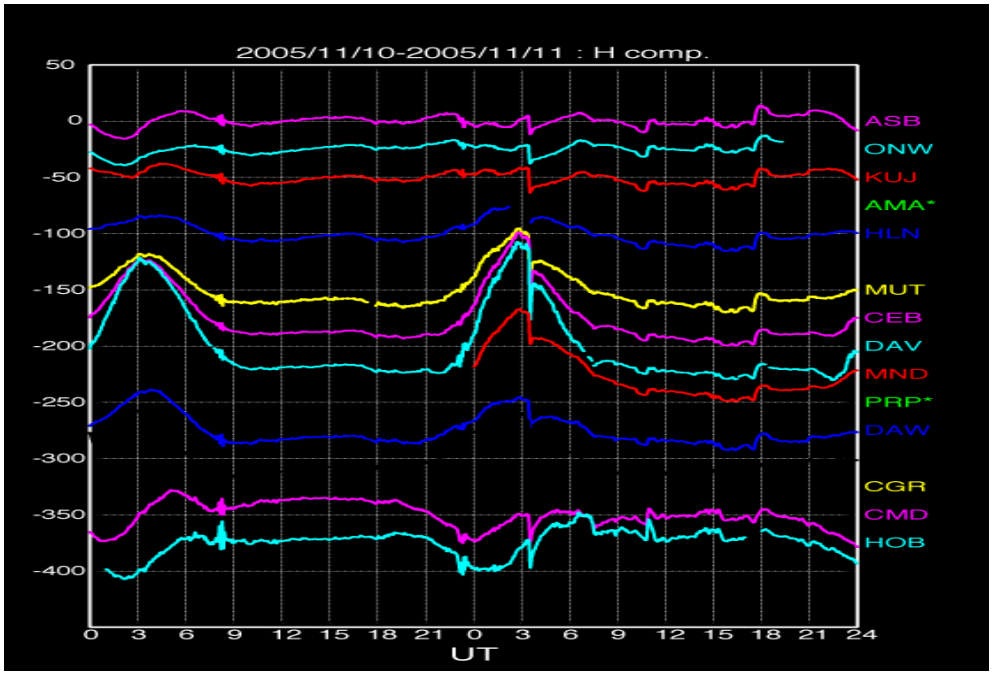
MAGDAS (Magnetic Data Acquisition System) data in the Circum-pan Pacific Magnetometer Network (CPMN) region are obtained during the CAWSES period (2005 -2009). MAGDAS magnetometers will be finished to install at 50 stations all over the world during the IHY period, which are along the 210 degree magnetic meridian and the magnetic dip equator, including East Asia, Pacific Ocean and Micronesian Islands, and South America and Africa at the different longitudes. The MAGDAS data consist from 3 components of the magnetic variations (H, D, Z) with 1-second sampling rate. Users can see summary plots by WWW, and get 1-sec digital data by request to PI (K. Yumoto). This database is very useful for investigations of the Earth Magnetism and Solar-Terrestrial Physics in term of a global disturbance of the magnetic field on the ground.

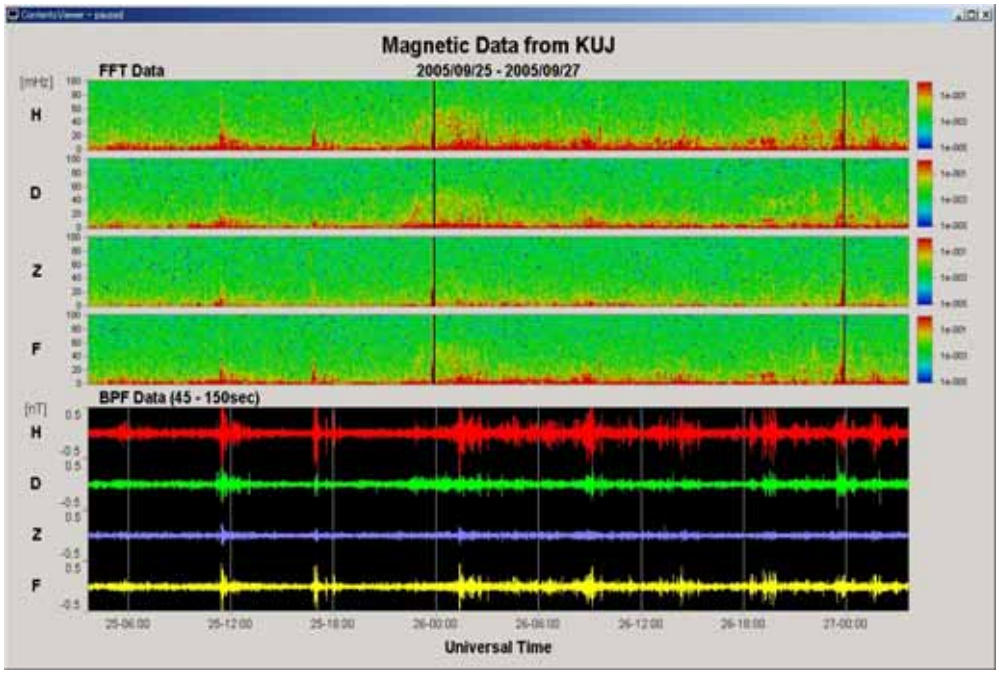
4. Examples of Database:

(a) ASCII DATA

```
CAN          1999    2 18 LT=    10 DT=    1 CPM
H= 1.17e-002 D= 1.17e-002 Z= 1.17e-002 nT/LSB
DCR3MO S/N    3 Ver3.3
(1) sec of day    (2) H-comp (3) D-comp (4) Z-comp
=====================================================
00001     65.2218   -16.7308      8.0028
00002     65.1741   -16.7459      7.9560
00003     65.2536   -16.7308      8.0028
00004     65.2377   -16.7308      7.9248
00005     65.2377   -16.7157      7.8936
```

(b) Summary plot





5. Contact:

Prof. K. Yumoto
Space Environment Research Center, Kyushu University
6-10-1 Hakozaki, Higashi-ku, Fukuoka, 812-8581, Japan
Tel/Fax: +81-92-642-4403 or 2673
E-mail: yumoto@geo.kyushu-u.ac.jp

6. Public Offering of Database:

The MAGDAS data can be provided for all the scientific purpose. Users can see summary plots of 1day stack plot for all the stations and monthly plot for each station by WWW http://denji102.geo.kyushu-u.ac.jp/denji/obs/cpmn/cpmn_obs_e.html
If users need the digital data for their computational analysis, we can provide the 1-sec or 1-min digital data by request to PI (K. Yumoto; yumoto@geo.kyushu-u.ac.jp) for collaborative works.

CD/DVD-ROM Catalog List (2007/3)

・S-RAMP (STEP-Results, Applications, and Modeling Phase) Database in Japan
SRAMPDB-J-OB0001~ OB0039, SRAMPDB-J-SM0001~ SM0007
URL: http://center.stelab.nagoya-u.ac.jp/web1/sramp/eng/cdrctlg.html

・SPACE Weather Database in Japan
SPACEWDB-J-OB0040~OB0049, SPACEWDB-J-SM0008~SM0010
URL: http://center.stelab.nagoya-u.ac.jp/cawses/c-spacew-ct-e.html

・CAWSES (Climate And Weather of the Sun-Earth System) Database in Japan
CAWSESDB-J-OB0050~OB0061, CAWSESDB-J-SM0011~SM0015
URL: http://center.stelab.nagoya-u.ac.jp/cawses/c-spacew-ct-e.html

1. Observation

1. SRAMPDB-J-OB0001
   Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (one-minute averages) 1990-1993
2. SRAMPDB-J-OB0002
   Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (one-minute averages) 1994-1995
3. SRAMPDB-J-OB0003
   Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (one-minute averages) 1996-1997
4. SRAMPDB-J-OB0004
   Kakioka One-Second Resolution Geomagnetic Data for 1990-1991
5. SRAMPDB-J-OB0005
   Kakioka One-Second Resolution Geomagnetic Data for 1992-1993
6. SRAMPDB-J-OB0006
   Kakioka One-Second Resolution Geomagnetic Data for 1994-1995
7. SRAMPDB-J-OB0007
   Kakioka One-Second Resolution Geomagnetic Data for 1996-1997
8. SRAMPDB-J-OB0008
   STEP Polar Network for 1992
9. SRAMPDB-J-OB0009
   STEP Polar Network for 1993
10. SRAMPDB-J-OB0010
    STEP Polar Network for 1994
11. SRAMPDB-J-OB0011
    STEP Polar Network for 1995-1997
12. SRAMPDB-J-OB0012
    Kakioka One-Second Resolution Geomagnetic Data for 1998-1999
13. SRAMPDB-J-OB0013
    Kakioka One-Second Resolution Geomagnetic Data for 2000
14. SRAMPDB-J-OB0014
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 1998
15. SRAMPDB-J-OB0015
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 1999

16. SRAMPDB-J-OB0016
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2000-1
17. SRAMPDB-J-OB0017
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2000-2
18. SRAMPDB-J-OB0018
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (one-minute averages) 1998-1999
19. SRAMPDB-J-OB0019
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (ten-second averages) 1990-1991
20. SRAMPDB-J-OB0020
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (ten-second averages) 1992
21. SRAMPDB-J-OB0021
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (ten-second averages) 1993
22. SRAMPDB-J-OB0022
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2001-1
23. SRAMPDB-J-OB0023
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2001-2
24. SRAMPDB-J-OB0024
    Kakioka One-Second Resolution Geomagnetic Data 2001
25. SRAMPDB-J-OB0025
    STEP Polar Network for 1991-2000
26. SRAMPDB-J-OB0026
    Movies of conjugate aurora observed at Syowa-Iceland conjugate-pair stations on 30 September 2000
27. SRAMPDB-J-OB0027
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1994
28. SRAMPDB-J-OB0028
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1995
29. SRAMPDB-J-OB0029
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1996
30. SRAMPDB-J-OB0030
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1997
31. SRAMPDB-J-OB0031
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1998
32. SRAMPDB-J-OB0032
    Optical aurora observed by all-sky TV camera at Tjornes in Iceland during December 2001
33. SRAMPDB-J-OB0033
    Optical Images of the Sun in Various Wavelengths: 1990-2002
34. SRAMPDB-J-OB0034
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (one-minute averages) 2000-2001
35. SRAMPDB-J-OB0035
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2002-1

36. SRAMPDB-J-OB0036
    Data of the Optical Mesosphere Thermosphere Imagers (OMTI) 2002-2
37. SRAMPDB-J-OB0037
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 1999
38. SRAMPDB-J-OB0038
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 2000
39. SRAMPDB-J-OB0039
    Ground Geomagnetic Field Data Along the 210 Degrees Magnetic Meridian (10-second averages) 2001
40. SPACEWDB-J-OB0040
    Data of the Imaging Riometer for Ionospheric Studies (IRIS) 1991-2003/9
41. SPACEWDB-J-OB0041 *
    Data of the Optical Mesosphere Themosphere Imagers (OMTIs) 1998-2003
42. SPACEWDB-J-OB0042
    Ground Geomagnetic Field Data Along the 210° Magnetic Meridian (10-second averages) 2002
43. SPACEWDB-J-OB0043 *
    Two-Dimensional Plots of Total Electron Content Data over Japan 2002
44. SPACEWDB-J-OB0044 *
    STEP Polar Network, Aurora, Active Aurora Nights, 14-17 January 1994
45. SPACEWDB-J-OB0045
    Selected H-alpha Movies of Solar Prominence Eruptions and Flares Observed with the Flare Monitoring Telescope at Hida Observatory
46. SPACEWDB-J-OB0046
    Kakioka One-Second Resolution Geomagnetic Data 2002-2003
47. SPACEWDB-J-OB0047
    Sprite Image Data 1998-2004
48. SPACEWDB-J-OB0048
    HILDCAAs in 1998
49. SPACEWDB-J-OB0049
    Geomagnetic Data in Iceland
50. CAWSESDB-J-OB0050
    Kakioka One Second Resolution Geomagnetic Data 2004-2005
51. CAWSESDB-J-OB0051
    Two-Dimensional Plots of Total Electron Content Data over Japan 2005
52. CAWSESDB-J-OB0052
    Two-Dimensional Plots of Total Electron Content Perturbations over Japan 2005
53. CAWSESDB-J-OB0053
    Urumqi One-Second Resolution Geomagnetic Data 2002-2003
54. CAWSESDB-J-OB0054
    Cosmic-Ray Neutron Data in 1953-2005
55. CAWSESDB-J-OB0055 *
    Data of the Optical Mesosphere Thermosphere Imagers (OMTIs) 2004-2005
56. CAWSESDB-J-OB0056
    Ground Geomagnetic Field Data Along the 210° Magnetic Meridian (10-second averages) 2003
57. CAWSESDB-J-OB0057
    Ground Geomagnetic Field Data Along the 210° Magnetic Meridian (one-minute averages) 2002-2003

58. CAWSESDB-J-OB0058
    Ground Geomagnetic Field Data Along the 210° Magnetic Meridian
    (10-second averages) 2004
59. CAWSESDB-J-OB0059
    Two-Dimensional Plots of Total Electron Content Data over Japan 2006
60. CAWSESDB-J-OB0060
    Two-Dimensional Plots of Total Electron Content Perturbations over Japan 2006
61. CAWSESDB-J-OB0061
    Cosmic Ray Neutron Data in 1953-2006

2. Simulation/Modeling

1. SRAMPDB-J-SM0001
   3-Dimensional MHD Simulation of Solar Wind-Magnetosphere Interaction and Modeling of Magnetosphere-Ionosphere Coupling Precesses
2. SRAMPDB-J-SM0002
   3-Dimensional MHD Simulation of Solar Wind-Magnetosphere Interaction VRML (Virtual Realty Modeling Language)
3. SRAMPDB-J-SM0003
   KRM Output for the January 10, 1997 Magnetic Storm
4. SRAMPDB-J-SM0004
   Computer Simulations of Electrostatic Solitary Waves in the Magnetotail: A Nonlinear Model of Broadband Electrostatic Noise
5. SRAMPDB-J-SM0005
   Particle Simulations of Electron Beam Instabilities
6. SRAMPDB-J-SM0006
   3-Dimensional Global MHD Simulation of Earth's Magnetosphere on the Event on November 17, 1996
7. SRAMPDB-J-SM0007
   Global MHD Simulations of Solar Wind - Magnetosphere Interactions (Electrojet Challenge Event on March 19, 1999)
8. SPACEWDB-J-SM0008
   Simulation of Kelvin-Helmholtz Instability and Solar Flare
9. SPACEWDB-J-SM0009
   Nonlinear Evolution of Buneman Instability
10. SPACEWDB-J-SM0010 *
    3-Dimensional Visualization Using VRML: Method and Examples
11. CAWSESDB-J-SM0011
    Computer Simulation of Magnetosphere: Programs and Examples
12. CAWSESDB-J-SM0012 *
    3-Dimensional Visualization Using VRML: Method and Examples
13. CAWSESDB-J-SM0013 *
    3-Dimensional Visualization and Movie Using VRML: Method and Examples
14. CAWSESDB-J-SM0014 *
    Ion beam instabilities in space plasmas
15. CAWSESDB-J-SM0015
    STARS: Solar-Terrestrial data Analysis and Reference System

*DVD-ROM

CD-ROM list of Magnetograms

World Data Center for Geomagnetism, Kyoto
Data Analysis Center for Geomagnetism and Space Magnetism
Graduate School of Science, Kyoto University

SRAMPDB-J-1001 Alibag (ABG) normal-run magnetograms (1979,83-85,88-90)
SRAMPDB-J-1002 Alibag (ABG) normal-run magnetograms (1993-94)
SRAMPDB-J-1003 Bangui (BNG) normal-run magnetograms (1979-86)
SRAMPDB-J-1004 Cape Chelyuskin (CCS) normal-run magnetograms (1990-91,93)
SRAMPDB-J-1005 Cape Wellen (CWE) normal-run magnetograms (1990-91,93-94)
SRAMPDB-J-1006 Dixon (DIK) normal-run magnetograms (1990-93)
SRAMPDB-J-1007 Guam (GUA) normal-run magnetograms (1979-85)
SRAMPDB-J-1008 Guam (GUA) normal-run magnetograms (1986-92)
SRAMPDB-J-1009 Honolulu (HON) normal-run magnetograms (1979-83)
SRAMPDB-J-1010 Huancayo (HUA) normal-run magnetograms (1979-86,88-89)
SRAMPDB-J-1011 Hyderabad (HYB) normal-run magnetograms (1979-85)
SRAMPDB-J-1012 Irkutsk (IRT) normal-run magnetograms (1990-97)
SRAMPDB-J-1013 M'Bour (MBO) normal-run magnetograms (1979-83)
SRAMPDB-J-1014 M'Bour (MBO) normal-run magnetograms (1984-86)
SRAMPDB-J-1015 Memambetsu (MMB) rapid-run magnetograms (1981-83)
SRAMPDB-J-1016 Papeete (PPT) normal-run magnetograms (1979-86)
SRAMPDB-J-1017 Tbilisi (TFS) normal-run magnetograms (1990-92)
SRAMPDB-J-1018 Tixie Bay (TIK) normal-run magnetograms (1990,92)
SRAMPDB-J-1019 Tashkent (TKT) normal-run magnetograms (1981-90)
SRAMPDB-J-1020 Toledo (TOL) normal-run magnetograms (1991)
SRAMPDB-J-1021 Trivandrum (TRD) normal-run magnetograms (1979,83-85,88-89,93)
SRAMPDB-J-1022 Wingst (WNG) rapid-run magnetograms (1981-89)
SRAMPDB-J-1023 Wingst (WNG) rapid-run magnetograms (1990-95)
SRAMPDB-J-1024 Memambetsu (MMB) rapid-run magnetograms (1984-89)
SRAMPDB-J-1025 Memambetsu (MMB) rapid-run magnetograms (1990-97)
SRAMPDB-J-1026 Alibag (ABG) normal-run magnetograms (1995)
SRAMPDB-J-1027 Dixon (DIK) normal-run magnetograms (1979,81-82,84-89)
SRAMPDB-J-1028 Heiss Island (HIS) normal-run magnetograms (1979-81,84-87,90)
SRAMPDB-J-1029 Irkutsk (IRT) normal-run magnetograms (1979-86)
SRAMPDB-J-1030 Irkutsk (IRT) normal-run magnetograms (1987-89,97)
SRAMPDB-J-1031 Nagpur (NGP) normal-run magnetograms (1995)
SRAMPDB-J-1032 Odessa (ODE) normal-run magnetograms (1979-84)
SRAMPDB-J-1033 Odessa (ODE) normal-run magnetograms (1985-92)

SRAMPDB-J-1034 Pondicherry (PON) normal-run magnetograms (1995)
SRAMPDB-J-1035 Ekaterinburg (SVD) normal-run magnetograms (1990-97)
SRAMPDB-J-1036 Tbilisi (TFS) normal-run magnetograms (1979-89)
SRAMPDB-J-1037 Tixie Bay (TIK) normal-run magnetograms (1979-82,84-86)
SRAMPDB-J-1038 Tixie Bay (TIK) normal-run magnetograms (1987-89)
SRAMPDB-J-1039 Toledo (TOL) normal-run magnetograms (1979-84)
SRAMPDB-J-1040 Toledo (TOL) normal-run magnetograms (1985-90)
SRAMPDB-J-1041 Trivandrum (TRD) normal-run magnetograms (1994-95)
SRAMPDB-J-1042 Ujjain (UJJ) normal-run magnetograms (1995)
SRAMPDB-J-1043 Hermanus (HER) normal-run magnetograms (1958-64)
SRAMPDB-J-1044 Hermanus (HER) normal-run magnetograms (1965-71)
SRAMPDB-J-1045 Hermanus (HER) normal-run magnetograms (1972-73)
SRAMPDB-J-1046 Kakioka (KAK) normal-run magnetograms (1924-43)
SRAMPDB-J-1047 Kakioka (KAK) normal-run magnetograms (1944-59)
SRAMPDB-J-1048 Kakioka (KAK) normal-run magnetograms (1960-67)
SRAMPDB-J-1049 Kakioka (KAK) normal-run magnetograms (1968-75)
SRAMPDB-J-1050 Vostok (VOS) normal-run magnetograms (1979-81,83-86)
SRAMPDB-J-1051 Honolulu (HON) normal-run magnetograms (1957-65)
SRAMPDB-J-1052 Honolulu (HON) normal-run magnetograms (1966-78)
SRAMPDB-J-1053 Argentine Island (AIA) normal-run magnetograms (1957-61)
SRAMPDB-J-1054 Argentine Island (AIA) normal-run magnetograms (1962-68,74-75)
SRAMPDB-J-1055 Argentine Island (AIA) normal-run magnetograms (1976-87)
SRAMPDB-J-1056 Argentine Island (AIA) normal-run magnetograms (1988-90)
SRAMPDB-J-1057 Guam (GUA) normal-run magnetograms (1957-62)
SRAMPDB-J-1058 Guam (GUA) normal-run magnetograms (1963-71)
SRAMPDB-J-1059 Guam (GUA)normal-run magnetograms (1972-78)
SRAMPDB-J-1060 Tbilisi (TFS) normal-run magnetograms (1957-60)
SRAMPDB-J-1061 Tbilisi (TFS) normal-run magnetograms (1961-62)
SRAMPDB-J-1062 Tbilisi (TFS) normal-run magnetograms (1963-64)
SRAMPDB-J-1063 Tbilisi (TFS) normal-run magnetograms (1965-71)
SRAMPDB-J-1064 Tbilisi (TFS) normal-run magnetograms (1972-78)
SRAMPDB-J-1065 Papeete (PPT) normal-run magnetograms (1958-59,66,68-72)
SRAMPDB-J-1066 Wingst (WNG) rapid-run magnetograms (1964-69,71-78)
SRAMPDB-J-1067 Wingst (WNG) rapid-run magnetograms (1979-80)

CAWSES SPACE-W Database List

URL: http://center.stelab.nagoya-u.ac.jp/cawses/database-1e.html

	Database	Offer Organization	CAWSES & S-RAMP CD/DVD-ROM
1	Onagawa Geomagnetic Database	Planetary Plasma and Atmospheric Research Center, Graduate School of Science, Tohoku University	
2	Jovian Decametric Radio Wave Data	Graduate School of Science, Tohoku University	
3	Dynamic Spectra of Jovian Decametric Radio Waves	Graduate School of Science, Tohoku University	
4	Airglow Image Database	Graduate School of Science, Tohoku University	OB0047
5	Ozone in Stratospher	Graduate School of Science, Tohoku University	
6	ELF Radio Wave Database	Graduate School of Science, Tohoku University	
7	ELF Network Data	Graduate School of Science, Tohoku University	ELF Network Data
8	Magnetic Field Database from the STEP Polar Network	Graduate School of Science, The University of Tokyo	OB0008, OB0009, OB0010, OB0011, OB0025
9	Aurora Image Data	Graduate School of Science, The University of Tokyo	OB0044
10	Particle Simulation KH and Solar Flare	Graduate School of Science, The University of Tokyo	SM0008
11	Database of Radioactivity	Atmospheric Environment Division, Global Environment and Marine Department, Japan Meteorological Agency	
12	Syowa Station SuperDARN HF Radar Network Data	National Institute of Polar Research	
13	Coordinated Data of WDC for Aurora	National Institute of Polar Research	OB0026, OB0032
14	Geomagnetic Data in Iceland	National Institute of Polar Research	OB0049
15	Akebono (EXOS-D) Science Data Base	Japan Aerospace Exploration Agency(JAXA), Institute of Space and Astronautical Science(ISAS)	

16	DARTS (Data ARchive and Transmission System)	Japan Aerospace Exploration Agency(JAXA), Institute of Space and Astronautical Science(ISAS)	
17	CAWSES NAOJ Solar Optical Data On-Line	Solar Observatory, National Astronomical Observatory of Japan	OB0033
18	Solar Radio Maps	Nobeyama Radio Observatory, NAOJ	
19	Intensity of Solar Radio Wave	Nobeyama Radio Observatory, NAOJ	
20	Ionosphere Database	National Institute of Information and Communications Technology	
21	Cosmic Ray Muon Database	Department of Physics, Faculty of Science, Shinshu University	
22	Data Analysis of STE Events	STEL, Nagoya University / College of Science, Ibaraki University	
23	Database of Cosmic-Ray Neutron Monitor	STEL, Nagoya University / College of Science, Ibaraki University	OB0054, OB0061
24	Magnetic Storms Events	STEL, Nagoya University	SM0003
25	Long Duration Recovery Phase of Magnetic Storms	STEL, Nagoya University	OB0048
26	Magnetosphere Simulation	STEL, Nagoya University	SM0001, SM0002, SM0006, SM0007, SM0011
27	Three Dimensional Visualization Using VRML	STEL, Nagoya University	SM0010, SM0012, SM0013
28	IPS Solar Wind Speed Database	STEL, Nagoya University	
29	210 (deg) Magnetic Meridian Magnetic Field Data	Space Environment Research Center, Kyushu University / STEL, Nagoya University	OB0001, OB0002, OB0003, OB0018, OB0019, OB0020, OB0021, OB0027, OB0028, OB0029, OB0030, OB0031, OB0034, OB0037, OB0038, OB0039, OB0042, OB0056, OB0057, OB0058
30	Database of the Optical Mesosphere Thermosphere Imagers	STEL, Nagoya University	OB0014, OB0015, OB0016, OB0017, OB0022, OB0023, OB0035, OB0036,

			OB0041, OB0055
31	Polar Region Imaging Riometer Database	STEL, Nagoya University	OB0040
32	Nagoya Multi-Directional Cosmic Ray Muon Telescope Data	STEL, Nagoya University	
33	EISCAT data base	STEL, Nagoya University / NIPR	
34	Hokkaido SuperDARN HF Rader Network Data	STEL, Nagoya University	
35	GPS-TEC over Japan 2002	Graduate School of Science, Kyoto University / STEL, Nagoya University	OB0043, OB0051, OB0052, OB0059, OB0060
36	High Temporal Resolution Geomagnetic Data	Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University	
37	Geomagnetic Variation Data	Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University	
38	Kakioka One-second Resolution Geomagnetic Data	Kakioka Magnetic Observatory, Japan Meteorological Agency / WDC for Geomagnetism, Kyoto	OB0004, OB0005, OB0006, OB0007, OB0012, OB0013, OB0024, OB0046, OB0050
39	Active Phenomena of Solar Prominences and Filaments	Kwasan & Hida Observatories, Graduate school of Science, Kyoto University	OB0045
40	MU radar data base	Research Institute for Sustainable Humanosphere, Kyoto University	
41	Particle Simulations of Plasma Wave Instabilities I	Research Institute for Sustainable Humanosphere, Kyoto University	SM0004
42	Particle Simulations of Plasma Wave Instabilities II	Research Institute for Sustainable Humanosphere, Kyoto University	SM0005, SM0009
43	Ion beam instabilities in space plasmas	Research Institute for Sustainable Humanosphere, Kyoto University	SM0014
44	MAGnetic Data Acqusition System / Circum-pan Pacific Magnetometer Network Data	Space Environment Research Center, Kyushu University	

CAWSES SPACE-W Database List

Data Classification

URL: http://center.stelab.nagoya-u.ac.jp/cawses/database-2e.html

■Cosmic-Ray
■Sun
■Interplanetary Space
■Magnetosphere Observation
■Ground-based Observation (Geomagnetism)
■Ground-based Observation (Radio Wave)
■Ground-based Observation (Optics, Particles, Radiation)
■Simulation/Modeling
■Database

Cosmic-Ray

■ Cosmic Ray Muon Database
Department of Physics, Faculty of Science, Shinshu University

■Nagoya Multi-Directional Cosmic Ray Muon Telescope Data
STEL, Nagoya University

Sun

■CAWSES NAOJ Solar Optical Data On-Line
Solar Observatory, National Astronomical Observatory of Japan

■Solar Radio Maps
Nobeyama Radio Observatory, NAOJ

■Intensity of Solar Radio Wave
Nobeyama Radio Observatory, NAOJ

■Database of Cosmic-Ray Neutron Monitor
STEL, Nagoya University / College of Science, Ibaraki University

■Active Phenomena of Solar Prominences and Filaments
Kwasan & Hida Observatories, Graduate school of Science, Kyoto University

Interplanetary Space

■IPS Solar Wind Speed Database
STEL, Nagoya University

Magnetosphere Observation

■Akebono (EXOS-D) Science Data Base
Institute of Space and Astronautical Science(ISAS), Japan Aerospace Exploration Agency(JAXA)

■DARTS (Data ARchive and Transmission System)

Institute of Space and Astronautical Science(ISAS), Japan Aerospace Exploration Agency(JAXA)

Ground-based Observation (Geomagnetism)

■Onagawa Geomagnetic Database

Planetary Plasma and Atmospheric Research Center, Graduate School of Science, Tohoku University

■Magnetic Field Database from the STEP Polar Network

Graduate School of Science, The University of Tokyo

■210 (deg) Magnetic Meridian Magnetic Field Data

Space Environment Research Center, Kyushu University / STEL, Nagoya University

■High Temporal Resolution Geomagnetic Data

Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University

■Geomagnetic Variation Data

Data Analysis Center for Geomagnetism and Space Magnetism Graduate School of Science, Kyoto University

■Kakioka One-second Resolution Geomagnetic Data

Kakioka Magnetic Observatory, Japan Meteorological Agency / WDC for Geomagnetism, Kyoto

■MAGnetic Data Acqusition System/Circum-pan Pacific Magnetometer Network Data

Space Environment Research Center, Kyushu University

Ground-based Observation (Radio Wave)

■Jovian Decametric Radio Wave Data

Graduate School of Science, Tohoku University

■Dynamic Spectra of Jovian Decametric Radio Waves

Graduate School of Science, Tohoku University

■ELF radio wave Database

Graduate School of Science, Tohoku University

■ELF Network Data

Graduate School of Science, Tohoku University

■Syowa Station SuperDARN HF Radar Network Data

National Institute of Polar Research

■Ionosphere Database

National Institute of Information and Communications Technology

■Polar Region Imaging Riometer Database

STEL, Nagoya University

■EISCAT data base

STEL, Nagoya University / NIPR

■Hokkaido SuperDARN HF Rader Network Data

STEL, Nagoya University

■MU radar data base

Research Institute for Sustainable Humanosphere, Kyoto University

Ground-based Observation (Optics, Particles, Radiation)

■Airglow Image Database

Graduate School of Science, Tohoku University

■Ozone in Stratosphere

Graduate School of Science, Tohoku University

■Aurora Image Data

Graduate School of Science, The University of Tokyo

■Database of Radioactivity

Atmospheric Environment Division, Global Environment and Marine Department, Japan Meteorological Agency

■Coordinated Data of WDC for Aurora

National Institute of Polar Research

■Database of the Optical Mesosphere Thermosphere Imagers

STEL, Nagoya University

Simulation/Modeling

■Magnetic Storms Events

STEL, Nagoya University

■Long Duration Recovery Phase of Magnetic Storms

STEL, Nagoya University

■Magnetosphere Simulation

STEL, Nagoya University

■Three Dimensional Visualization Using VRML

STEL, Nagoya University

■Particle Simulations of Plasma Wave Instabilities I

Radio Science Center for Space and Atmosphere, Kyoto University

■Particle Simulations of Plasma Wave Instabilities II

Radio Science Center for Space and Atmosphere, Kyoto University

■Ion beam instabilities in space plasmas

Radio Science Center for Space and Atmosphere, Kyoto University

Database

■Data Analysis of STE Events

STEL, Nagoya University / Department of Environmental Sciences, Ibaraki University

Related CAWSES Web Sites

URL: http://center.stelab.nagoya-u.ac.jp/cawses/c-websitej.html

Domestic Sites

1. Planetary Atmosphere Physics Group, Tohoku University
   http://pat.geophys.tohoku.ac.jp/
   - PPARC, Tohoku University
     http://pparc.geophys.tohoku.ac.jp/index.html
   - Airglow Image Database
     http://pat.geophys.tohoku.ac.jp/airglowdb/
2. Japan Meteorological Agency, Kakioka Magnetic Observatory
   http://www.kakioka-jma.go.jp/
3. Department of Environmental Sciences, Ibaraki University
   http://www.env.sci.ibaraki.ac.jp/database/html/english.html
4. National Institute for Environmental Studies (NIES)
   http://www.nies.go.jp/index.html
5. National Institute of Polar Research (NIPR)
   http://www.nipr.ac.jp/
   - NIPR Upper Atmosphere Physics (UAP) Home Page
     http://www.uap.nipr.ac.jp/
   - NIPR SuperDARN SENSU Web Page
     http://www.uap.nipr.ac.jp/SD/
   - NIPR WDC-C2 for Aurora
     http://polaris.nipr.ac.jp/~aurora/
6. The University of Tokyo, STEP Polar Network Resources
   http://www-space.eps.s.u-tokyo.ac.jp/~hayashi/
7. Japan Aerospace Exploration Agency(JAXA)
   http://www.jaxa.jp/index_e.html
8. National Institute of Information and Communications Technology (NICT) Homepage
   http://www.nict.go.jp/index.html
   - World Data Center
     http://wdc-c2.nict.go.jp/index_eng.html
   - Space Environment Information Service
     http://hirweb.nict.go.jp/
9. ISAS Home Page
   http://www.isas.ac.jp/j/index.shtml
   - ISAS DARTS
     http://www.darts.isas.ac.jp/
   - ISAS Geotail
     http://www.stp.isas.ac.jp/geotail/
10. National Astronomical Observatory of Japan
    http://www.nao.ac.jp/E/index.html
    - Solar and Plasma Astrophysics Division

http://solarwww.mtk.nao.ac.jp/

- Nobeyama Radio Observatory: Solar
  http://solar.nro.nao.ac.jp/

11. STEL, Nagoya University, Homepage
    http://www.stelab.nagoya-u.ac.jp/
    - STEL, Nagoya University, Solar wind Data
      http://stesun5.stelab.nagoya-u.ac.jp/ips_data.html
    - STEL, Nagoya University, 210 Magnetic Meridian Geomagnetic data
      http://stdb2.stelab.nagoya-u.ac.jp/mm210/
    - STEL, Nagoya University, Optical Mesosphere Thermosphere Imaging Data
      http://stdb2.stelab.nagoya-u.ac.jp/omti/
    - STEL, Nagoya University, GEDAS
      http://gedas.stelab.nagoya-u.ac.jp/index.html
    - STEL, Nagoya University, EISCAT
      http://www.stelab.nagoya-u.ac.jp/~eiscat/data/EISCAT.html
    - STEL, Nagoya University, JODC
      - http://center.stelab.nagoya-u.ac.jp/english/index-e.html
      - http://www.stelab.nagoya-u.ac.jp/~eiscat/data/EISCAT.html
12. Faculty of Science, Kyoto University
    http://www.sclib.kyoto-u.ac.jp/kusci/index.html
    - World Data Center for Geomagnetism, Kyoto, Kyoto University
      http://swdcwww.kugi.kyoto-u.ac.jp/index.html
    - Hida Observatory, Fac. of Science, Kyoto University
      http://www.kwasan.kyoto-u.ac.jp/Hida/Hida-e.html
    - Hida Observatory, Kyoto University, Flare Monitor Telescope Observation Report
      - http://www.kwasan.kyoto-u.ac.jp/Hida/FMT/obs-report.html
      - http://www.kusastro.kyoto-u.ac.jp/observatories/Hida/FMT/obs-report.html
13. Research Institute for Sustainable Humanosphere (RISH) Homepage, Kyoto University
    http://www.rish.kyoto-u.ac.jp/
    - RISH, Kyoto University, The MU rader databese
      http://www.kurasc.kyoto-u.ac.jp/~mu/
    - RISH, Kyoto University, GEOTAIL PWI data
      http://www.kurasc.kyoto-u.ac.jp/gtlpwi/
14. Kyushu University Space and Earth Electromagnetism Laboratory, Magnetometer Data Archives
    http://denji102.geo.kyushu-u.ac.jp/denji/obs/obs_e.html

International Sites

1. The Aurora Information and Images, Alaska University (U.S.A)
   http://www.pfrr.alaska.edu/aurora/
2. Space Physics & Astronomy, Rice University (U.S.A)
   http://physics.rice.edu/

3. AGU Home Page
   http://www.agu.org/
4. AGU SPA Home Page
   http://www-ssc.igpp.ucla.edu/spa/index.html
5. University of Houston
   http://www.uh.edu/research/spg/spgmain.html
6. University of California LA (UCLA) IGPP
   http://www-ssc.igpp.ucla.edu/ssc/Welcome.html
7. Los Alamos National Laboratory
   http://www.lanl.gov/
8. AIP Home Page
   http://www.aip.org/
9. Boston University Center for Space Physics
   http://www.bu.edu/dbin/csp/
10. Boston University Home Page
    http://web.bu.edu/
11. Finnish Geophysics
    http://www.ava.fmi.fi/
12. Space Physics Group of Oulu
    http://spaceweb.oulu.fi/
13. MPAe Home Page
    http://www.linmpi.mpg.de/english/index.html
14. JHU/APL Space Department Home Page
    http://civspace.jhuapl.edu/
15. NASA-Goddard Space Flight Center
    http://www.gsfc.nasa.gov/
16. NSSDC Home Page
    http://nssdc.gsfc.nasa.gov/
17. NCAR/UCAR
    http://www.ucar.edu/ucar/
18. National Geophysical Data Center
    http://www.ngdc.noaa.gov/ngdc.html
19. NASA GSFC/NSSDC OMNI data
    http://omniweb.gsfc.nasa.gov/
20. Coordinated Data Analysis Web (CDAWeb)
    http://cdaweb.gsfc.nasa.gov/
21. NOAA/NGDC Space Physics Interactive Data Resource (SPIDR)
    http://spidr.ngdc.noaa.gov/spidr/index.jsp
22. NOAA/SEC Data Library
    http://www.sec.noaa.gov/Data/
23. EISCAT
    http://www.stelab.nagoya-u.ac.jp/~eiscat/data/EISCAT.html

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