



CAWSES-II Space Weather International Collaborative Research Database in Japan (2009-2013)

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Outline of CAWSES-II 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 promoted the STEP program (1990-1997), the S-RAMP program (STEP-Results, Applications and Modeling Phase, 1998-2002) and the first CAWSES program (Climate And Weather of the Sun-Earth System, 2004-2008) carries out the successive international collaborative research project on CAWSES-II (Climate And Weather of the Sun-Earth System-II: Towards Solar Maximum, 2009-2013) which examines short term (space weather) and long term (space climate) variability of sun-earth system in the period toward the solar maximum, for its societal applications.

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

Analysis software and the database which added the analytical results in the ground and satellite observations acquired in fiscal 2009-2013 as CAWSES-II Space Weather International Collaborative Research and the common database which added calculation results to the software of the modeling/simulation are made. It is important that our country independently makes it to produce common Japanese database Researcher in the world can utilize for the space weather research, as the result, it will be an important international contribution.

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Plans for CAWSES Program

In the STEP program (1990-1997), the S-RAMP program (1998-2002), and CAWSES program (2003-2008) large data of sun image, solar radio emission, interplanetary space, magnetosphere, ionosphere and the atmosphere observations were acquired. The data of about 40TB was accumulated in the whole in today. In S-RAMP Database, analysis software, and the modeling/simulation data were added to observational data, and the following items were carried out.

As continuation and development of these Japan solar-terrestrial physics database production, the database used as the base of CAWSES-II Space Weather International Collaborative Research (2009-2013) is produced.

The CAWSES-II Space Weather International Collaborative Research Database aims to the effective combination between an observations of short term variability (Space Weather) of the solar terrestrial system and the modeling/simulation Specifically the space weather research data is chosen from CAWSES-II 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)
2. Magnetosphere data (magnetic field, plasma, particles)
3. Ionosphere data (observations each point, geomagnetism 3 ingredient, an Aurora image)
4. Atmosphere optical observational data
5. Modeling / simulation data (Magnetic field model, Electron current, Kinetic simulation. etc.)

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

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

Public disclosure of the CAWSES-II Space Weather International Collaborative Research Database as well as the case of CAWSES database is done through Internet.

About concrete method and user's restrictions of data public presentation, it depends on a data provider conditions. However, the open data in Web will not be restricted in particular, if it is limited by academic usage.

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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-II (Climate And Weather of the Sun-Earth System, 2009-2013) which studies a short-term variability (the space weather) and long term variability (space climate) of a solar terrestrial system is a main subject of use. The many researcher has overlapped also with the S-RAMP International Collaborative Researcher. In Japan, various observational data from solar-terrestrial science, 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 main candidates. Moreover, since the space weather research is common to human beings, U.S., Europe, and Asia are also advanced systematically. The space weather researchers in the world are candidate users.

It is necessary to construct the database in Japan from the data which the researcher of Japan observed. On the data analysis, the software of modeling/simulation and the calculation results which are developed and expanded by the Japanese researcher must take care by Japanese researchers. By sending the Japanese space weather database from our country, when researcher in the world can use the database. Space weather international collaborative research is common to human beings. Thus, the CAWSES-II international collaborative researchers in the world use mutually. 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 general public.

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Regulation of CAWSES-II Space Weather International Collaborative Research Database

The Web data is open for researchers and general public. When one uses the database in publication, it is required to contact the data provider shown in each of database.

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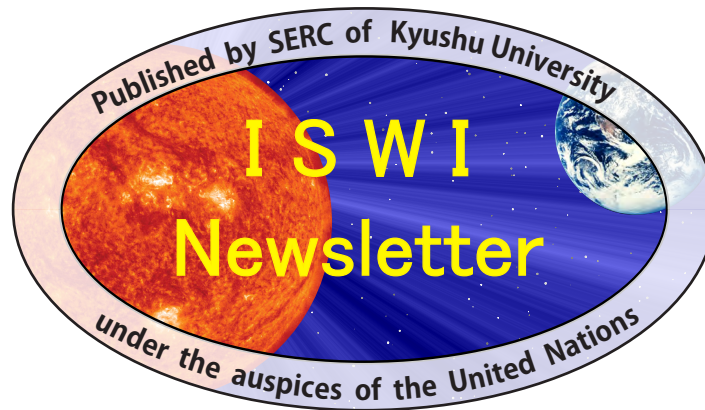
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