Title: Distribution of polar upper atmospheric data and promotion of polar science by the IUGONET project

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IUGONET project

- The data or databases of ground-based observations of the upper atmosphere generally have been maintained and made available to the community by each research organization/group that conducted the observations. Information on data or databases have been well used within certain research communities closely related the observations, they are often difficult to be used by researchers belonging to the other research areas due to lack of information on the data.

- A six-year research project, Inter-university Upper Atmosphere Global Observation Network (IUGONET) has started in 2009 to overcome such problems in data use by NIPR and 4 universities (Tohoku, Nagoya, Kyoto and Kyushu) in Japan.

- The IUGONET institutes archive a huge amount of and various kinds of ground-based observational data of the upper atmosphere and have formulated a cooperative framework to build the e-infrastructure to facilitate the distribution and use of their data.

- The IUGONET project intends to promote interdisciplinary studies, which would lead to more comprehensive understanding of the mechanism of long-term variations of the upper atmosphere.

Metadata database

The IUGONET metadata database is available at http://search.iugonet.org/.

- The “search result” shows part of metadata - title, description, and access URL (if available) - of data that match input keyword(s), time range, and/or spatial coverage.
- The metadata “title” is a link to the metadata details which include at least link(s) to metadata of contact person responsible to the data.
- The “access URL” leads to the user to the web site of the observational database. The user may be able to obtain the data files if they are available online.

Data analysis software - UDAS -

- UDAS can be downloaded from http://www.iugonet.org/software.html.
- UDAS is written in IDL (Interactive Data Language), which is widely used in the solar and terrestrial physics. We are developing the software on the basis of TDAS (THEMIS Data Analysis System). For software distribution, it is released as a plug-in software of IDL to handle data provided from the IUGONET universities institutes.
- The IUGONET project has been developing the e-infrastructure (metadata database and data analysis software) to facilitate the distribution and use of the ground-based upper atmospheric data provided by the IUGONET institutes.
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Research with the IUGONET products

- We have started collaborative researches that use various kinds of observational data, including the polar upper atmospheric data, from the IUGONET institutes in order to examine and improve the developed metadata database and data analysis software.

Summary

- The IUGONET project has been developing the e-infrastructure (metadata database and data analysis software) to facilitate the distribution and use of the ground-based upper atmospheric data provided by the IUGONET institutes.
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