

A NEW NETWORKED ELECTROMAGNETIC DATA DISTRIBUTION SYSTEM

Takao Koyama[1], Seiji Tsuboi[2], Masahiro Ichiki[3], Hisayoshi Shimizu[4], Hisashi Utada[4], Toshiyuki Nakashima[5], Takuya Arai[5]

[1] JAMSTEC, IFREE, [2] IFREE, [3] JAMSTEC, [4] ERI, Univ. of Tokyo, [5] Fujitsu Limited

Introduction:

Observations of long-term electromagnetic (EM) fields are conducted not only by national/official organizations, but also by a number of research projects and communities. These data, however, have no simple means of distribution to the public. Although some data are distributed via CD-ROMs, e-mails, WEB services, etc, data users must contact each data center individually and then transform the data to a single format to be able to treat them easily. In practice, this procedure is a heavy task and can result in users giving up on some available data. This problem should best be solved through an automatic system. Consequently, we are developing a new unified EM data distributing system.

Concept:

Our aim is to create an easy-use system for both data users and data providers. The primary concept of the system is that data users can download the any EM data in any format via just one distributing system. The Japanese Ocean Hemisphere network Project (OHP) developed a broadband seismic data distribution system, called NINJA (New Interface for Networked Java Application). This system distributes data from some data centers, such as OHP, JMA, IRIS, and so on, in SEED format. This system is similar to the one we plan to create for EM data. We plan to develop a new EM data distribution system, following the NINJA system.

Structure:

Data users can download data via WWW, requiring only a standard WEB browser to connect to a main WEB server. At the WEB server interface, the standard search is by observatory name and data period, but additional search options can also be used: for example, global geomagnetic activities such as values of sum of daily 8 Kp indices, the ten quietest days, and the five most disturbed days. Furthermore, an option to limit the missing rate in data is provided for users who wish to avoid downloading data that includes a lot of losses. Data providers can upload data in any format by simply installing RMI servers that allow a connection with a WEB server via http. The data request interface in the WEB server obtains the requested data from data centers, transforms the data to the requested format, and then provides them to the request users.

Development:

This new system is currently being developed and will open to the public this year via a WEB server (<http://pacific21.jamstec.go.jp>). \$B!! (BInitially, we plan to distribute OHP geomagnetic data observed in the Pacific region through this system, and then add data from other data centers, including submarine cable voltage data. Any EM data centers are welcome to use this system.