

Geomagnetic data collection and real-time field monitoring at IZMIRAN

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A b s t r a c t: Digital magnetometers (variometer) have been introduced in Russia since mid-1979s. During the following decade, various data processing systems were developed; a few magnetic observatories began collection of digital geomagnetic data in mid-1980s. These initial observations were collected and put together at the first 1-min CD-ROM I the binary MAG format for the period 1984–1994. Regular digital recording of geomagnetic field variations started at IZMIRAN (magnetic observatory Moscow) in May 1990. Recently the digital CMVS-6 quartz variation station were upgraded to a VHF radio-link, which allowed us to ingest these data through a personal computer to a local area network and post them at the Internet server. The second CD-ROM (in the same binary MAG format) is now put together collecting geomagnetic variation from Moscow and other Russian magnetic observatories for the period 1990–2000. An access to this database (i.e., CD-ROMs Vol. 1 and 2) is provided via the IZMIRAN's FTP site <ftp://vodin.izmiran.rssi.ru/start.htm>. This modern information technology led to significant changes in the research methods, used for the analysis of geomagnetic disturbances. As an example, the adaptive narrow-band filtering allows us to separate various harmonic components of geomagnetic field variations in a form of time-spectral graphs. Samples of such analysis are displayed on the Web site http://www.izmiran.rssi.ru/magnetism/mos_data.htm.

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