Report on the results from the IZMIRAN Team

The name of the database:
Database on the Forbush-effects and interplanetary disturbances to study Earth-affecting solar transients

The purpose and of database description:
Our database refers to the project ISEST/MiniMax24 (International Study of Earth-affecting Solar Transients) in the VarSITI. Inclusion of data for the long-lived periods (several solar cycles) will allow the estimation of variations and interrelation of many parameters of the interplanetary environment (a solar wind, cosmic rays, indexes of solar and geomagnetic activity) within Solar Activity cycles.

The purpose of this project is the development of open network database for research of disturbances and transient phenomena in the interplanetary medium and in cosmic rays. This database will allow us to study the coronal mass ejections (CMEs) and corotating interaction regions (CIRs) and their influence on the cosmic rays and parameters of the heliosphere.

During the period from January to March 2017 the IZMIRAN Team carried out the following work in the frame of International Study of Earth-Affecting Solar Transients (ISEST)/MiniMax24 (Creation of Database in the open Access):

1. The local database was verified and prepared for a transition in the Internet.
2. Web pages (one for each year) were created on the base of the site of Space Weather Prediction Center in IZMIRAN in two versions – in Russian and English (see fig. 1).
3. On these pages were uploaded all the events (>7000) over the history of cosmic ray observations and more than 100 fields for each event.
4. There was prepared and loaded on this site the description of the all database fields in Russian and English.
5. The interface is created which allows us to get data for separate events, for all events during the year or data for all period over 1957-2015.
6. At present moment the first version of our database on the Forbush-effects in open access is ready for loading on NMDB (as reference) and VarSITI sites.
7. On the next step of our work the possibilities will be realized for a selection and sorting the events by different parameters of cosmic rays and of the Earth and space environment.
8. It is planned the permanent updating of this database.

All the preliminary results of this work were reported on the workshop "10 Years Neutron Monitor Database – NMDB Workshop" (19-23 March 2017, Athens, Greece) where the IZMIRAN team took an active participation:


All these reports were made on the basis and with using the IZMIRAN database on the Forbush effects and interplanetary disturbances. The possibilities of this database in the open access were discussed during the Workshop in Athens. A training course on the use this database in open access was performed after the Workshop among students and young specialists of the cosmic ray group from Athens University. Some new users appeared after discussion this database during the Workshop.

Fig. 1. Screenshot of the page for Database on the Forbush effects and interplanetary disturbances in open access.

http://spaceweather.izmiran.ru/eng/dbs.html