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ARCHIVING AND DATA PROCESSING SOFTWARE FOR SOLAR RADIO OBSERVATIONS

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Regular daily observations of the Sun have been made over long time intervals since 1975 with the RATAN–600 radio telescope in the centimeter and decimeter wavelength ranges with high spatial resolution. A huge archive of observational data has been accumulated. The archive contains valuable astrophysical information covering a period that exceeds the duration of a solar activity cycle. However, all these data were stored on different data media (magnetic tapes, diskettes, streamer's cartridges, etc.) and in different formats. The main purpose of the work presented here is to produce a homogeneous database with our experimental data.

We plan to create an electronic journal of observations using a relational database. Presently the journal of observations exists only in the form of a single paper copy and information about observations must be searched for manually. The electronic journal of observations will contain all the information about the observations and allow an easy extraction of such information and a simple selection of the observational data for any specific astrophysical problem.

We plan to develop a software package for primary data reduction of observations of the Sun on RATAN-600, stored in various primary formats, and to create a homogeneous archive in the FITS format. A binary table extension to FITS will be used. We also plan to record our archive on a CD-ROM.

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