

# The SAO RAS archive system. Maintenance and upgrading

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## Abstract

The observatory archive system includes a digital data storage and a search information system (SIS) with a dynamic web-based interface and http data access. To date, the system includes 16 digital collections of observational data (local archives), obtained on different instruments, operating or working on the telescopes. The earliest data refer to the end of 1994. There are currently actively replenished 6 local archives. The data storage includes a temporary storage area, located on a file server of the 6-m telescope (BTA), and the area of permanent storage. Permanent storage area includes CD / DVD-discs, a hard disk of the dedicated archive server and also a large capacity flash disk. For data protection during emergency situations or I/O defects of disks, we provide two full copies of the CD / DVD disks and two copies of the archive data on the hard disk of the archive server. One copy (A0) repeats optical discs, the other (A1), with the slightly modified directory structure, actually used by the SIS. Digital media devices and read-write data drives can not be attributed to long-term storage devices. For long-term storage of digital data it is necessary to provide rewriting of information every 5-10 years on a new type of media. Archive copies A0 and A1 are also supported for this procedure of rewriting. Archival data (A1) is repeated on a flash disk with the addition of a dump of tables and programs. There is the system backup for restoring after an emergency on the server. To ensure the modernization of the SIS, we support the two schemes of the database - test and operational. All our developments take place in the test database schema. When modifying the scheme after its checking the SIS switched to an updated version of the database. The original copy of the A0 and the availability of test database scheme allow to modernize the SIS, even at the level of the tables. Currently, the SIS implemented on DBMS PostgreSQL 8.3.7.

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