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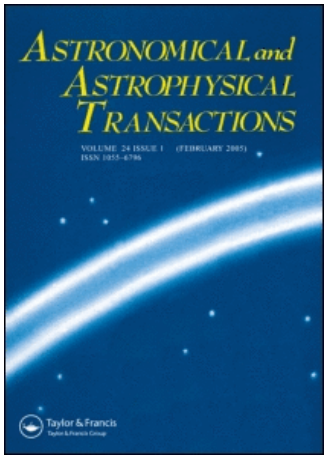

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Architecture of the science operations centre for spectrum-UV

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Special meeting : The Spectrum Series Missions

ARCHITECTURE OF THE SCIENCE OPERATIONS CENTRE FOR SPECTRUM-UV

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The main functional blocks forming the Spectrum-UV Science Operations Centre (SOC) are summarized, and their interrelations briefly described. Hardware and software standards to be used, and the basic principles chosen for the implementation of the SOC are furthermore listed.

KEY WORDS Spectrum-UV, science operations, data processing, archiving

In the Spectrum-UV project, the Science Operations Centre (SOC) is responsible for providing support to observers, evaluating instrument performance, performing analysis of calibration observations, handling of observation proposals, processing data with standard procedures (pipeline), and supporting archive operations.

These activities are closely interrelated and map into a precise data flow scheme. The interface with the real-time section of the project is the Raw Archive; data read from there are processed by the Standard Data Processing section and are stored in the Science Archive, or in the Calibration Database if they are calibration data.

The Science Archive is accessed and updated by Long-Term Correlation and Trend Analysis, and by Observation Support; both sections perform as off-line activities. Also, the Data Retrieval and Data Distribution activities access the Science Archive in read-only mode, to provide observers with their own data, and general users (Archival Researchers) with public domain data.

A number of tasks pertaining to each section of the SOC have been identified, and the single modules responsible for carrying out the individual tasks have been described. Details on the conceptual and architectural designs of the Science Operations Centre for Spectrum-UV are given in Pasian *et al.* (1995). This document expands and details the SOC section of Chiappetti *et al.* (1992).

Industry standards will be used for hardware and system software (Unix workstations, NFS, Internet network protocols, X-Windows, commercial DBMS, etc.), while scientific standards will be used for data format (FITS) and for the data processing environment in which the pipeline will be developed. Redundancy, interchangeability and hot and cold backup have been the driving concepts in the design of the system. Strict programming rules and software development case tools will be widely used during its implementation.

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