

The prototype of the central processor Module MFSDAS for gamma-ray Telescope on the base of radiation hardened IC

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This paper describes the functional characteristic of the central processor module, which will be designed and can be used for gamma-ray Telescope in gamma-astronomical observatory and in acceleration high energy physics. As part of the installation will be Scientific Data Acquisition System (SDAS), one of the main modules will be developed central processor module MFSDAS (Module For Scientific Data Acquisition System). The module MFSDAS belongs to computer facilities and can be used for creation of digital computer systems, which are carrying out real time data receiving by high speed Serial RapidIO bus, preprocessing of the signals (the space-time spectral analysis, the frequency ranges formation, the filtration and threshold detection), and also secondary, tertiary and general information processing including data exchange with other devices and systems. Its description is presented in this paper. The main functions to be performed by the MFSDAS module: acceptance of scientific data from the switch module SpaceWire; execution of the functions of central processor (the management of exchange of scientific and control data between modules of the SDAS; the SDAS with scientific equipment and platforms); Serial RapidIO (SRIO) commutation channels; and as an option - data transmission to the Earth station equipment.

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