

Service data acquisition and onboard control for “GRIS-BD” unit in “GRIS” space experiment

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Problems of onboard space scientific devices control, collecting auxiliary service information about working capacity, conditions of experiment carrying out and preliminary data processing for real time calibration and stabilizing of operational parameters are actual for any space devices. In this paper we describe and discuss service data acquisition and onboard control for “GRIS-BD” unit in “GRIS” space experiment onboard ISS. This system provides temperature measurements in different equipment parts (in power supplies, on scintillation crystals for energy ranges correction, etc.), precision thresholds measurements in discrimination circuits, status different switching on/off (in real time), precision control detector parameters by high-voltage regulation, fine thresholds changing (analog regulation), different switching on/off (in real time), statistical analysis of data flows and change of operation modes of the device.

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