

A framework to monitor activities of satellite data processing in real-time

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Abstract. Space monitoring data centers use space weather models to predict conditions in near-Earth orbit. Being sure that correct data is used in the models is critical. Failures of various kinds happen in satellite data processing, so we need a mechanism to monitor all activities during the process, and thus identify the scope of failure and prevent incorrect data to be used. To solve the problem described above, we have developed a framework called Live Monitor at SINP MSU. The real-time monitoring subsystem of SDDS, an automatic satellite data processing system used at SINP MSU to collect and process data from Russian and foreign satellites, has been built based on the Live Monitor framework. All activities of each stage in data processing are logged by Live Monitor and shown in real-time on the Live Monitor's web interface. When an error occurs, a notification message will be sent to satellite operators via email and the Telegram messenger service so that they could take measures in time. The Live Monitor's API can be used to create a customized monitoring service with minimum coding.