

Methodological principles of determining trends in spacecraft parameter changes

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The paper examines the approaches to identifying trends in changes of onboard spacecraft (SC) systems parameters, so that adverse processes can be identified and eliminated in time. The study analyzes the existing control technology implemented in spacecraft flight control, and shows the results of this analysis. In our research, we established the methodological principles of the space vehicle developed that implements the formation of a secondary feature characterizing the physical processes when the spacecraft operates in the orbital flight phase. Furthermore, we classified the telemetric parameters of the onboard spacecraft systems, which should be analyzed promptly (in a communication session with the spacecraft) to identify trends in their changes. Findings of the research lead us to the main dependences of the mathematical apparatus of the considered methodology and to the basic principles of automating the process of identifying trends.

Keywords: spacecraft, flight control, control, analysis of telemetric information, trends, state parameters

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