Development of a modified method of the emergency situation analysis for operational solving of spacecraft control problems

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The article considers an approach to the automated analysis algorithm modification on the basis of the state matrices. To assess the condition of the onboard spacecraft systems it is proposed to form previously a multitude of considered classes. Since the potential number of emergency situations is large enough, the restricting parameters are selected. The systems with the highest probability of failure are analyzed; it is proposed to restrict the classes depending on the control operation crew activity, to form an estimator for a particular class. This formulation of the problem allows improving the efficiency of operational control, and the flexibility of the action algorithm allows analyzing the operation of almost all permanent onboard systems and spacecraft dynamic processes.

Keywords: *spacecraft, automated control, decision theory, operational flight control, emergency situation, automated data analysis.*

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