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# Prospects for the Use of Machine Learning Methods to Analyze the State of Multi-Satellite Constellations According to Telemetry Information

S.V. Golovanov, *Golovanov\_sv@spacecorp.ru*

Joint Stock Company "Russian Space Systems", Moscow, Russian Federation

A.A. Yanchenko, *Cand. Sci. (Engineering), Yanchenko\_AA@spacecorp.ru*

Joint Stock Company "Russian Space Systems", Moscow, Russian Federation

**Abstract.** The article provides an analysis of existing methods for automated monitoring of the state of spacecraft (SC) by telemetry information (TMI) using machine learning methods and provides an assessment of the prospects for their use in the field of telemonitoring of the state of spacecraft in multi-satellite constellations.

One of the most important tasks at all stages of the life cycle of SC is the analysis of telemetric information to determine the technical condition of their on-board equipment in order to identify and predict emergency situations in advance.

Existing deterministic methods for monitoring the state of a spacecraft based on threshold values, quality indicators, comparisons with a reference model of operation, etc., on the one hand, require large expert labor costs for formalizing the logic of the functioning of a complex technical object at various levels of its hierarchy, and on the other hand do not provide the necessary level of automation and efficiency when monitoring the status of individual spacecraft in multi-satellite constellations.

**Keywords:** machine learning, neural networks, multi-satellite constellations, telecontrol, spacecraft, emergency situations, automation, anomaly

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