$\underline{}$ SYSTEMS ANALYSIS, SPACECRAFT CONTROL, DATA PROCESSING, AND TELEMETRY SYSTEMS, $\underline{}$ EARTH REMOTE SENSING

UDC 005 EDN CZIVHK

Development of a Utility Model for the Automated Dynamic Situation Control System

A.A. Romashkin, Cand. Sci. (Engineering), Romashkin.AA@spacecorp.ru

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

M.V. Melnikov, Cand. Sci. (Engineering), melnikov.mv@spacecorp.ru

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

I.R. Chernov, Cand. Sci. (Engineering), chernov.ir@spacecorp.ru

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

Abstract. The paper describes a useful model of a dynamic situation control system. The model is aimed at implementing a continuous process of intellectual decision-making support based on the representation of the control area of a complex organizational and technical system in the form of a set of spatiotemporal dynamic situations describing a change in its state over time in interaction with a competing system and external environment. The paper describes the essence of dynamic situation control, purpose and scheme of the utility model, and description of its functioning.

Keywords: utility model, dynamic situation control, complex organizational and technical system, intellectual decision support process, situational control model

For citation: Romashkin A. A., Melnikov M. V., Chernov I. R. Development of a Utility Model for the Automated Dynamic Situation Control System. *Rocket-Space Device Engineering and Information Systems.* 2025. Vol. 12. No. 1. P. 16–21.

References

- 1. Tsvetkov V.Ya. Situatsionnoye upravleniye [Situational management]. *Sovremennyye tekhnologii upravleniya* [Modern control technologies]. No.2 (102), Nomer stat'i (Paper number): 10204, 2023. ISSN 2226-9339. Available at: http://sovman.ru/article/10204 Accessed: October 2, 2024. (in Russian)
- 2. Massel' L.V., Massel' A.G. Situatsionnoye upravleniye i semanticheskoye modelirovaniye v energetike [Situational management and semantic modeling in power engineering]. *Trudy IV Mezhdunarodnoy nauchnoy konferentsii OSTIS* [Proceedings of the IV International Scientific Conference]. Belarus, Minsk: BGUIR. February 20-22, 2014. pp. 116-116. Available at: http://isem.irk.ru/publications/conference_paper2014000002955 Accessed: October 2, 2024. (in Russian)
- 3. Levin B.A., Tsvetkov V.Ya. Informatsionnyye protsessy v prostranstve "bol'shikh dannykh" [Information processes in big data environment]. *Mir transporta* [World of Transport], 2017, Vol. 15, No. 6 (73). pp. 20-30. (in Russian)
- 4. Ivlev A.A. *Osnovy teorii Boyda. Napravleniya razvitiya, primeneniya i realizatsii* [Fundamentals of Boyd's theory. Directions of development, application and implementation]. Moscow, 2008. 64 p. Available at: http://pentagonus.ru>_Id.0.23_KES.pdf Accessed: October 2, 2024. (in Russian)

Received 07.10.2024 Accepted 18.02.2024