

UDC 629.78 EDN RMGMXV

## Positioning Integrity Improvement Based on Sharing SDCM with other SBAS systems

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**Abstract.** The wide area augmentation system (WAAS) for global navigation satellite systems (GNSS) or SBAS systems allow improving positioning integrity. The simultaneous use of augmentations from different SBAS systems permits increasing positioning integrity even more in comparison with the use of only one SBAS system just as joint use of several GNSS allows increasing the accuracy. This paper considers an example of using satellite-based augmentation system (SDCM) together with foreign SBAS systems: EGNOS, BDSBAS, KASS, and MSAS. It is proposed to process measurements adjusted by various SBAS augmentations within the framework of one system of linear equations. The processing of measurements from real receivers located in the area of intersection of SDCM coverage zones with other SBAS systems shows an increase in the integrity of positioning compared to the case of separate use of the corresponding systems.

**Keywords:** global navigation satellite systems, wide area augmentation systems (WAAS), SDCM, EGNOS, BDSBAS, KASS, MSAS, accuracy, integrity, positioning, differential augmentations

**For citation:** Isaev Yu.V., Baburin A.A., Serbin D.A., Sernov V.G. Positioning Integrity Improvement Based on Sharing SDCM with other SBAS systems. *Rocket-Space Device Engineering and Information Systems*. 2023. Vol. 10. No. 4. pp. 56–66; (in Russian)

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***Received*** 16.09.2023

***Accepted*** 09.11.2023