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DEVELOPMENT AND PROSPECT OF SATELLITE-BASED AUGMENTATION SYSTEM

**Abstract**

Satellite-based augmentation system (SBAS) could propagate various correction information to user through signal transfer loaded on the GEO satellite, such as ephemeris correction information, satellite-clock correction information, ionosphere delay information, which would improve the positioning accuracy of navigation satellite system obviously. SBAS provides higher usability and costs less for aviation user, bringing immense economy and society interest.

At present, several SBAS systems have already provided service, such as WAAS in the USA, SDCM in Russia, EGNOS in the UN, MSAS in Japan, and GAGAN in India. What's more, BDS SBAS in China and K-SBAS in Korea is testing and verifying. As the significance and rapid development of SBAS, the paper reviewed the development and current interoperability situation of SBAS at home and abroad, and analyzed the total framework and configuration characteristic of SBAS. Then, based on the analysis of the signal standard, message format and transmission link, we researched on certain key technologies, such as, the interoperability message design, coding and decoding in transmission link, user signal capture, and integrity monitoring. Finally, we proposed the total framework and message design for BDS SBAS.