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DEVELOPMENT OF NAVIGATION SATELLITE SYSTEM AND APPLICATION CHARACTERISTIC
ANALYSIS

Abstract

The global navigation satellite system and its application fields are extending and deepening. The current local war has also become increasingly complex, of which the process and outcome, to a large extent, depend on the navigation satellite system. Over the next couple years, the four global navigation satellite system (GPS, GLONASS, Galileo and BeiDou) will complete system-wide construction or modernization; the two area navigation satellite system (QZSS and IRNSS) will accomplish their constellation disposition, independently providing regional navigation and positioning services and energetically striding toward global navigation and positioning services. The paper introduced the development and update planning of the four modern global navigation satellite system and the two area navigation satellite system, including national support policies, constellation disposition, satellite navigation signal, ISL technology and so on. And then, we analysed the limit of each national navigation system on military application, based on which a variety of optimizing strategies were proposed. The optimizing methods involved that improved performance of satellite, exploited capability of autonomous navigation, expanded ISL technology with multi-band frequency, added more civil signals and serving types and so on. As the rapid development of navigation satellite system, the combined application of multi-system is coming into being. We must get ready to developing compatible navigation satellite system on the basis of independent.