

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
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METHOD OF IMPROVING ACCURACY OF AUTOMATED ORBIT DETERMINATION FOR GEO
SATELLITES USING GPS

Abstract

To solve problems of low accuracy of autonomous orbit determination for GEO satellites using GPS, availability of GPS information in one period at different longitude was compared. The calculation results indicate that GPS visibility does not vary with time. At the same time a method improving the accuracy of autonomous orbit determination for GEO satellites using pseudo-satellite is proposed. This new method is compared with the approach using only GPS information. The numerical simulation results show that the proposed method using pseudo-satellite and GPS information could improve the accuracy of autonomous orbit determination efficiently.