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PERFORMANCE EVALUATION ON AUTONOMOUS TIME SYNCHRONIZATION OF NAVIGATION
CONSTELLATION**Abstract**

The autonomous time synchronization of navigation satellites is one of the important method to improve the survival ability in the wartime. It has the significance to evaluate the autonomous time synchronization error accurately and improve the clock prediction. As to the autonomous navigation requirements, the paper proposes a performance evaluation method of autonomous time synchronization with relative and absolute clock error. Based on the autonomous navigation simulation results, the method needs to decouple the position and clock through two-way pseudo-range measurement, evaluate the coherence of each satellite's autonomous time synchronization error and onboard clock characteristic, and analyze the correctness of the relative clock error between different satellites or anchor station. The results demonstrate that the clock error prediction result will be not available and increase with onboard clock characteristic when the reference time of ground or other satellite is missed, and has fast convergence ability as the satellite receives the time reference information, other satellites can autonomously adjust with some satellite or anchor station as clock reference, autonomous time synchronization error based on the onboard absolute clock error is rather stable which does not increase with time.