

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
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Author: Mr. Bai Jian  
China, carol\_lee\_0727@sina.com

RESEARCH ON INTER SATELLITES LINKS ARCHITECTURE FOR NAVIGATION SYSTEM

**Abstract**

The future positioning and navigation system will provide a more sophisticated and modernized function, which will include all of the legacy capabilities, plus the addition of high-power, anti-jamming, along with other accuracy, reliability, and data integrity improvements. The inter-satellites links architecture is one of the key technologies for implementing the autonomous navigation and the autonomous control in a positioning and navigation system. This paper will discuss an inter-satellites links architecture, includes: TTC performance parameters such as uplink and downlink frequencies, modulation, and data rates; The security inter-satellites links acquisition policy; The crosslink networking analysis. Meanwhile, some simulations have been done take example for the inter-satellite link between GEO satellite and MEO satellite in a constellation. The conclusions of the discussion will be significative for the futrue positioning and navigation system.

Key words: inter-satellite link positioning and navigation system autonomous navigation autonomous control.