

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
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NEW ADVANCES OF CHINESE SPACE TRACKING SHIP

Abstract

Space tracking ship is still playing an important role in Chinese TT&C (Telemetry, Tracking and Control) network. To meet the needs of future space programs, the new generation space tracking ships were built, which adopted many new and advanced techniques. This paper introduces the TT&C system and ship attitude and position system aboard the new tracking ships. Limited room, adversary environment and ship rolling are the main challenges which must be overcome and thus the design are much different from those of ground-based stations. The concept of integration and reuse prevails in the design and is elaborated in this paper. The error of ship attitude and position system contributes greatly to the final result, so various techniques to improve the accuracy constitute an important part of the paper. Future research directions are also addressed and possible approaches for future challenges are discussed.