The Integrated Management Method of Slow Varying ISL's for MEO Satellite Network

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***Abstract*—In the paper, the constellation composed of MEO (Medium Earth Orbit) satellite is put as a researching scenario, the relative measurement and data transmission task which are finished by slow changing ISLs are put as a researching object, the integrated management of relative measurement and data transmission task inside the satellite network is put as a studying objective. Firstly, the characteristic of relative measurement and data transmission task is analyzed, and the ISLs constrained conditions are researched for both of them. Then, the topology structure of satellite network is designed according to the characteristic of slow changing ISLs and taking account into the specified requirement of measurement and data transmission task. Thirdly, in order to realize integrated management of measurement and data transmission task, the routing strategy is designed according to the topology structure of satellite network. Finally, the researching results will be validated through the example. The technical reference will be provided by the researching results for the fields of space internet application, space based TT&C (Tracking, Telemetry and Control) and satellite communication in the future.**

***Keyword*—satellite network, space based TT&C, ISL's, routing strategy, topology design**

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