Poster Session (P)
Poster Lunch (1)

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SPACE LABORATORY MISSION RELAY SATELLITE SYSTEM SUN OUTAGE EFFECT AND COUNTERMEASURE

Abstract

China manned space engineering has been to space laboratory phase. As space-based tracking telemetry control (TT&C) system, relay satellite system is one of the main TT&C means and offers important support to engineering processes in space laboratory mission. Inter-satellites links and satellite-ground links in relay satellite system would be affected by sun outage. Influence effects and extents of sun outage to different links and directions are diverse and distinct. This causes sun outage in relay satellite system impacting TT&C of the mission. In consideration of mission object, TT&C requirement, operation management mode and celestial bodies motion in space laboratory mission, effects of sun outage in relay satellite system to mission TT&C are analyzed. Diverse forms of sun outage effect performances are sorted out. Specific impacts to mission are summarized. Corresponding countermeasures are proposed. Analysis results and countermeasures are effectively verified in the mission.