

SPACE DEBRIS SYMPOSIUM (A6)  
Operations in Space Debris Environment, Situational Awareness (7)

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GEO SATELLITE CONJUNCTION ASSESSMENT AND COLLISION AVOIDANCE BASED ON THE  
CSM AND OWNER/OPERATOR EPHEMERIS

**Abstract**

Conjunction assessment and collision avoidance of the Communications Ocean and Meteorological Satellite (COMS) in GEO are investigated. Backward and forward orbit propagation based on the Conjunction Summary Message (CSM) from Joint Space Operations Center (JSpOC) is carried out. COMS satellite orbit change due to the station-keeping maneuver and momentum dumping operation is considered to generate Owner/Operator ephemeris. Differences of orbital position in radial, along-track, and cross-track are analyzed for conjunction assessment. COMS satellite collision avoidance maneuver using along-track thrusters is established to make sure of radial and along-track separation.