Ground Track Maintenance Maneuver Simulations for the KOMPSAT Spacecraft

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Ground track maintenance maneuver simulations are performed for the KOMPSAT spacecraft for three and half years. Both longitude targeting and time targeting strategies are applied for the in-plane maneuvers. The nominal longitude bands of maneuvers for ±5km and ±10km are applied for the longitude targeting and the 21-day maneuver time duration is used for the time targeting. Daily solar flux values for the mission lifetime are derived from the previous solar cycle values. Atmospheric drag formula for the KOMPSAT altitude is derived from Jacchia model using polynomial and sinusoidal curve fitting. Total required delta velocity and proper time between successive maneuvers are estimated during the ground track maintenance maneuver simulations.

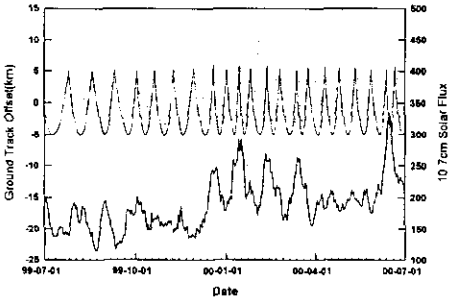

Figure 1. KOMPSAT Ground Track Offset for Longitude Targeting