

Orbital State Estimation

This project implements an orbit propagator for orbital debris. The orbit propagator takes into account spherical harmonics up to the 3rd degree (J_2 , J_3) and atmospheric drag. An Unscented Kalman Filter was implemented using elevation and azimuth measurement to track the orbit and for analysis.

Work in Progress: The next steps of this project is to use a filter (Gaussian Mixture) to perform Single Hypothesis Testing to track and categorize orbital debris.