Brett
McCuen
The Aerospace Corporation
T. Paul O'Brien, Alexander Boyd, Fekireselassie Beyene, Janet Green
Poster
Space Environment Architecture Modernization (SEAM) is a series of web-based tools and applications to determine and predict satellite hazards based on the space weather environment. SEAM tools use various data sources and methods to provide space weather forecasts as well as direct prediction of satellite hazards and/or assessment of satellite anomalies. Here, we provide an overview of the tools currently available and under active development in the SEAM portfolio at The Aerospace Corporation. The services described include the following. Three flow-chart tools for assessment of satellite anomalies or hazards: Spacecraft Environmental Anomalies Expert System – Flow Charts (SEAES-FC), Space Environment Electro-Magnetic Interference - Flow Charts (SEEMI-FC), and Launch and Predicted Impact and Uncorrelated Re-entry - Flow Charts (LPI-FC). The Long-Term Environment and Anomaly Forecast (LEAF) series which comprises a set of tools that forecast the Kp index, Outer Belt Index (OBI), the energetic electrons at geosynchronous orbit (GEO), and the auroral hazard (Aurora). The satellite hazard (LEAF-HQ) for various orbits is predicted based on the LEAF environment forecasts. Finally, the Specifying High-Altitude Electrons Using Low-Altitude LEO Systems (SHELLS) model for specifying the outer electron belt environment.

Poster category:

Poster category
Space Weather Policy and General Space Weather Contributions
Meeting homepage
Space Weather Workshop 2025
Download to PDF