SpaceNav
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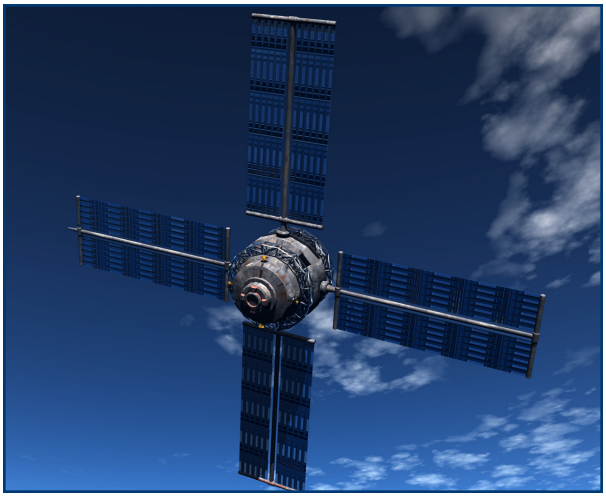
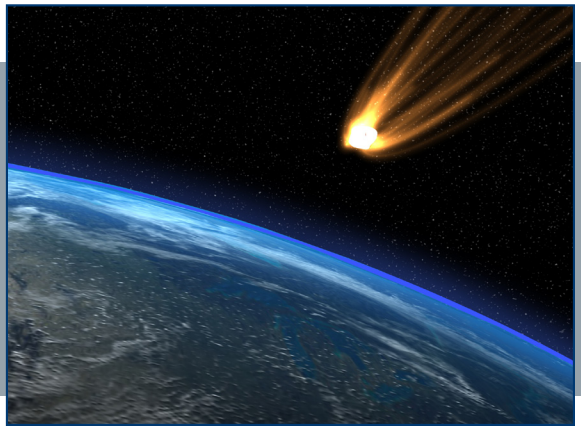
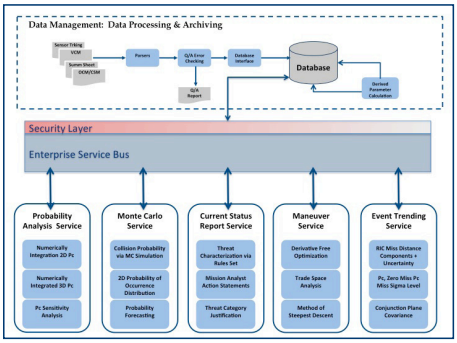
Space Situational Awareness - Domain Expertise



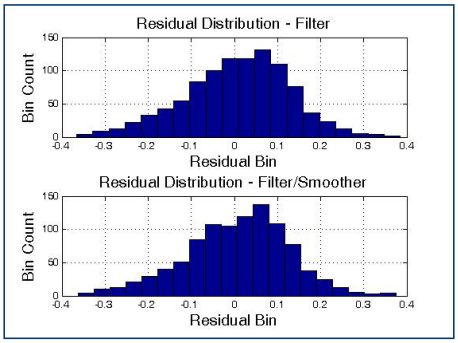
Space Situational Awareness (SSA) is defined as the knowledge and characterization of all aspects of space. SSA is now a fundamental and critical component of space operations. The increased dependence on our space assets has in turn lead to a greater need for accurate, near real-time knowledge of all space activities. Key areas of SSA include improved tracking of small objects, determining the intent of maneuvering spacecraft, identifying all potential high risk conjunction events, and leveraging non-traditional sensors.

SpaceNav delivers SSA domain expertise to both commercial and government customers. Our focus areas include: collision risk management, realistic state uncertainty for sparsely tracked objects, and non-tradition sensor data fusion.

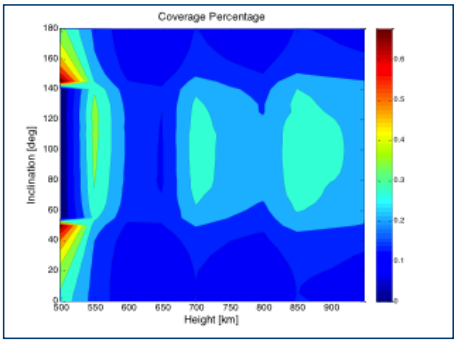




SpaceNav's automated Collision Risk Management software suite enables spacecraft operators to analyze & qualify high interest conjunction events. The analysis tools produce various figures and graphs, which aid in analyzing conjunction event data. Optimal avoidance maneuver solutions are generated for a user-defined set of goals and constraints.



State estimation and realistic uncertainty analysis via sequential processing enables accurate track correlation and collision probability analysis. SpaceNav's methodology employs various filtering methodologies, including the Unscented Kalman Filter. State estimates are compared to truth trajectories when possible.



SpaceNav's approach to leveraging non-traditional sensor data includes fusing SSN state vector information with raw observations from the new sensor to create a more accurate state solution. Space-based coverage analysis is performed using SpaceNav's modeling software to determine optimal use of a given space asset.