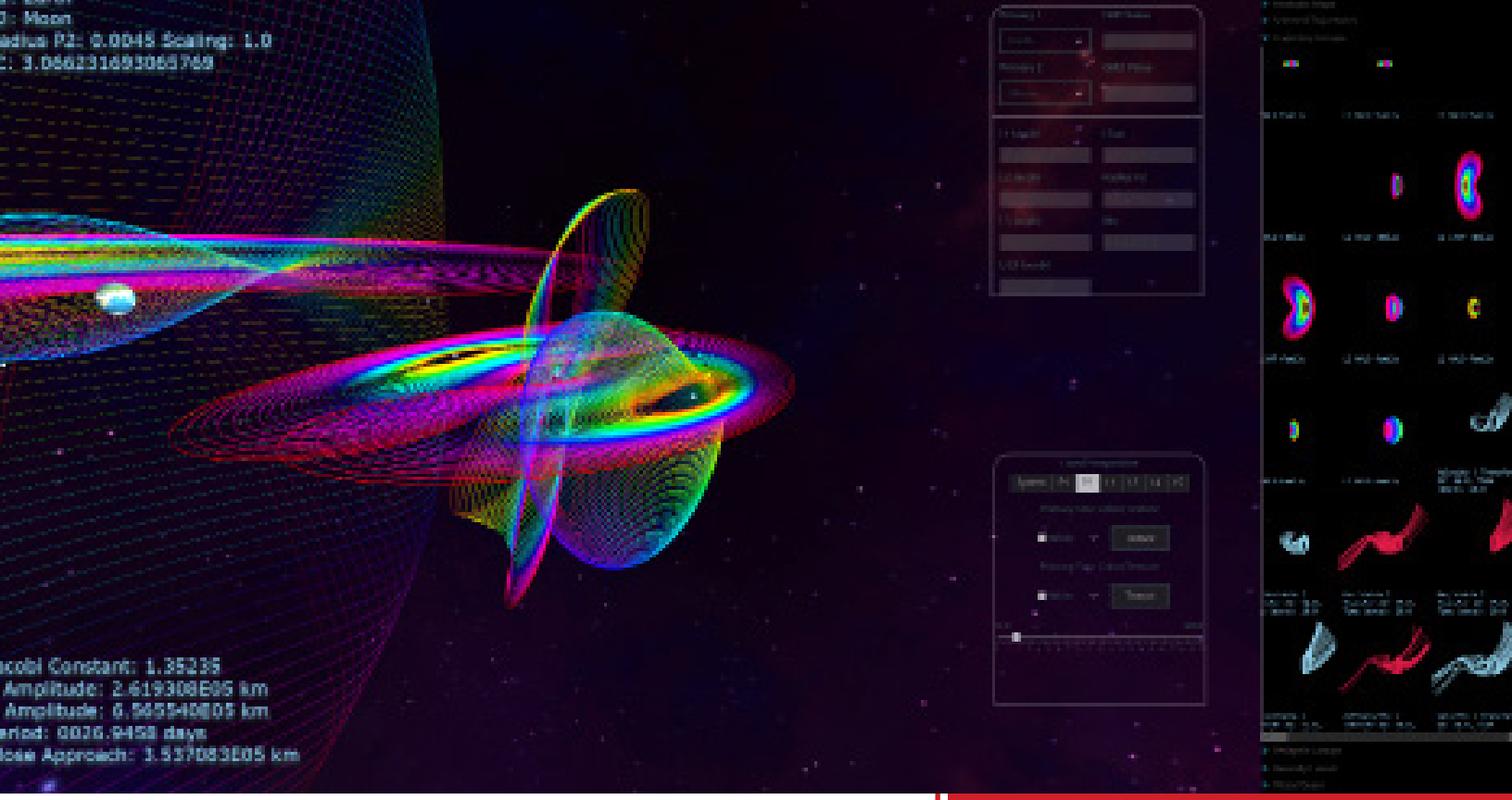


DSTE

DEEP SPACE TRAJECTORY EXPLORER

INTERPLANETARY MULTIBODY MISSION DESIGN AND VISUALIZATION

The Deep Space Trajectory Explorer is an interactive software package that combines cutting-edge multibody trajectory design techniques with innovative visualizations to dramatically reduce time spent on trajectory design.

By weaving visualizations into the design process, the Deep Space Trajectory Explorer allows intuitive selection of orbits that satisfy mission constraints. Augment your design process by exporting solutions to your high-fidelity mission design and optimization tools.

ai-solutions.com

DESIGN FOR ANY PLANET-MOON SYSTEM

- Fully configurable integration
- Polar and 3D design
- Multidimensional trajectory Poincaré maps

NEAR EARTH OBJECTS

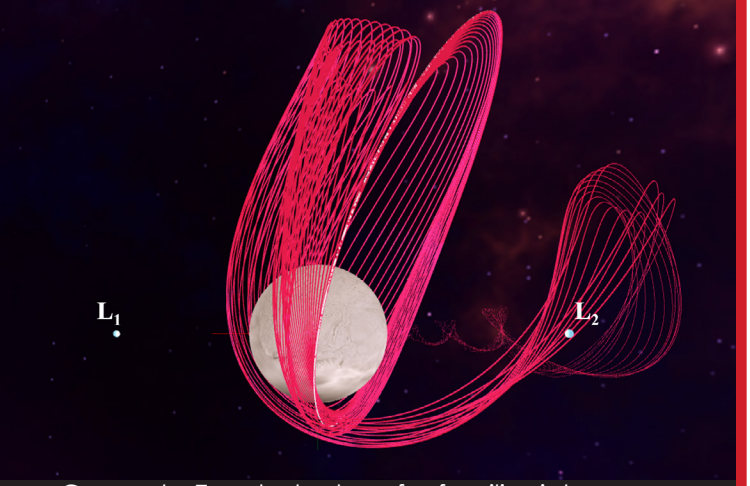
- Near Earth Object intercept
- Asteroid rendezvous and station keeping

LIBRATION POINT ORBITS AND TRANSFERS

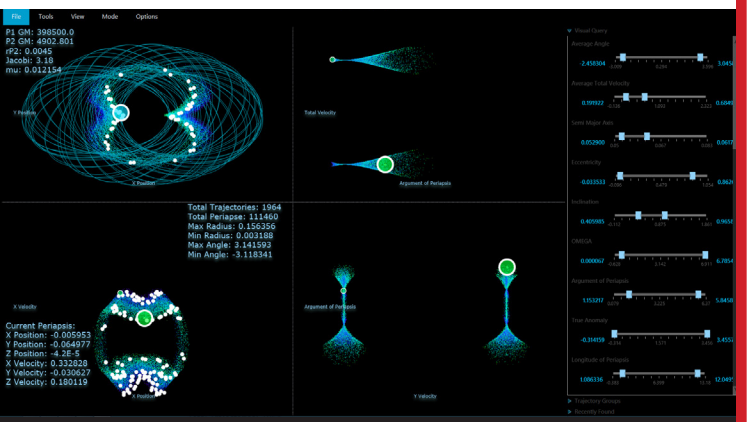
- Generate libration point orbit families
- Manifold orbit design
- Visual transfer design

DENSE VISUAL SEARCH

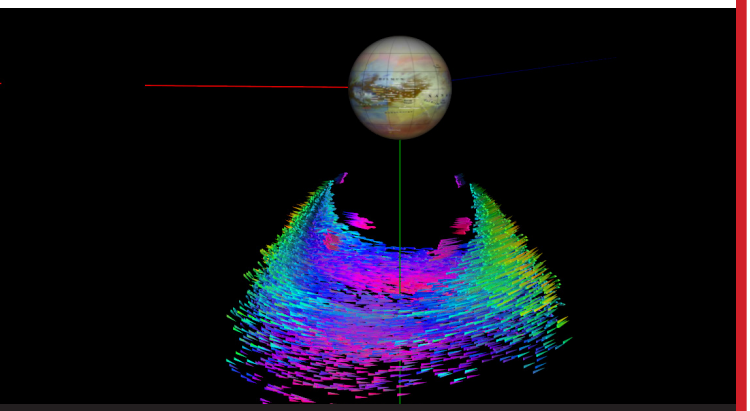
- Visually filter millions of points
- Rapidly isolate solutions your mission needs



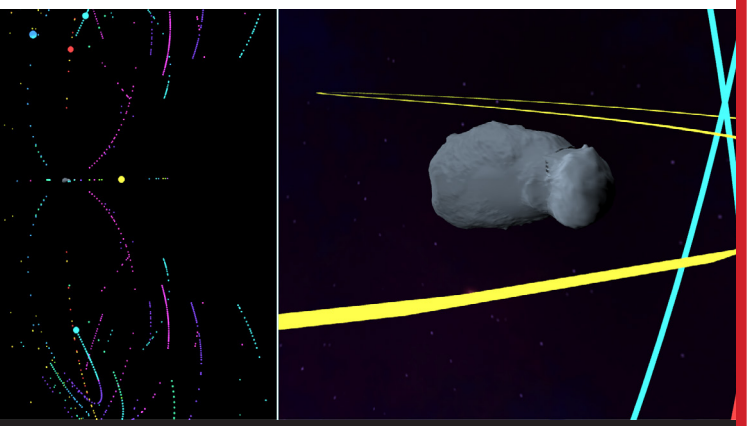
Generate Enceladus transfer families into Near Rectilinear Halo Orbits



Four visual perspectives of a Poincaré map representing Lunar orbits.



Interactive 3D map filtered for polar orbits at Titan



Asteroid trajectory design using 3D periapsis clusters around 25143 Itokawa

FAST DATA GENERATION

The Deep Space Trajectory Explorer is built for modern systems, dynamically parallelizing across available cores to provide quick trajectory integration and Poincaré map generation.

The Deep Space Trajectory Explorer renders millions of linked data points onscreen using cross-platform, hardware-accelerated technology. Multiple 2D and 3D views combine to respond to the user's actions. Click, drag, touch and swipe directly with orbits and maps to visually identify the ideal solution for your mission requirements.

VISUALLY INTUITIVE TRAJECTORY DESIGN

The complicated task of designing spacecraft trajectories and transfers in the presence of multiple gravitational bodies is simplified by the Deep Space Trajectory Explorer.

The Deep Space Trajectory Explorer is designed with one supreme principle: Let the data be the interface. The user's experience is enhanced through visual tools that interweave their experience and intuition directly into the design space.

Data visualization and filtering allow quick, intuitive identification of orbits that are not immediately apparent using other techniques.

The incorporation of multibody dynamics allows discovery of trajectories that take advantage of the complex gravitational environment to achieve lower maneuver costs.

Exploration of the design space yields families of trajectory solutions that satisfy mission constraints, allowing fast analysis of alternatives and quick reaction to changing requirements.

DSTE DEEP SPACE TRAJECTORY EXPLORER | a.i. solutions