About the Library

AstDyn (Asteroid Dynamics) is a high-fidelity C++ library designed for the precise orbit determination and propagation of celestial bodies, specifically focusing on Main Belt asteroids and Near-Earth Objects (NEOs).

Developed within the **ITALOccult project**, this software represents the state-of-the-art in computational astrodynamics, aimed at reducing ephemeris uncertainties to sub-milliarcsecond levels.

Key Features:

- **Rigorous Dynamics**: Relativistic models (EIH) & JPL DE441.
- **High-Order Integration**: Adaptive RKF78.
- **Precision**: Validated against NASA/JPL Horizons.

ITALOccult Project
Open Source Scientific Software

AstDyn

Scientific Reference Manual

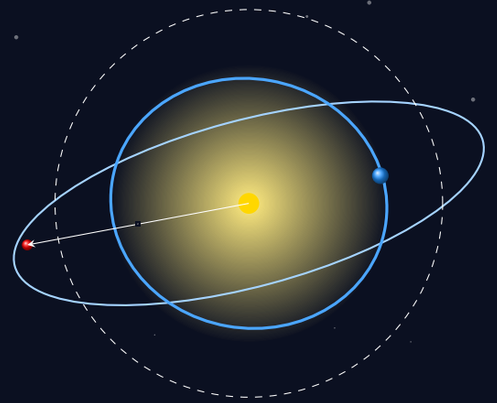
Michele Bigi

AstDyn

Scientific Reference Manual

of the C++ Library

The ITALOccult Framework for High-Precision Asteroid Dynamics & Occultation Prediction



Michele Bigi