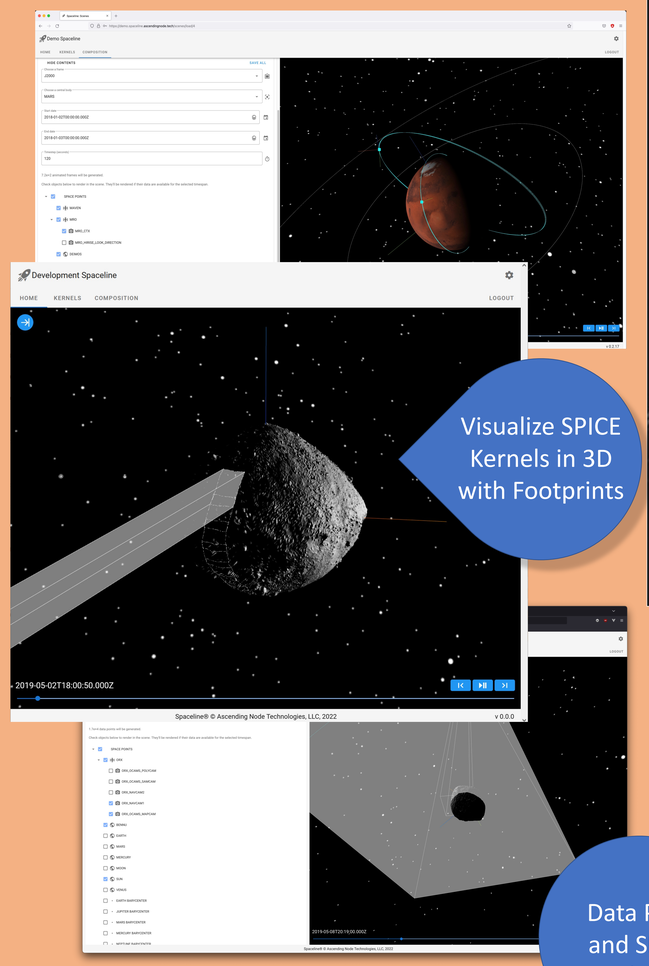
ASCENDING NODE TECHNOLOGIES

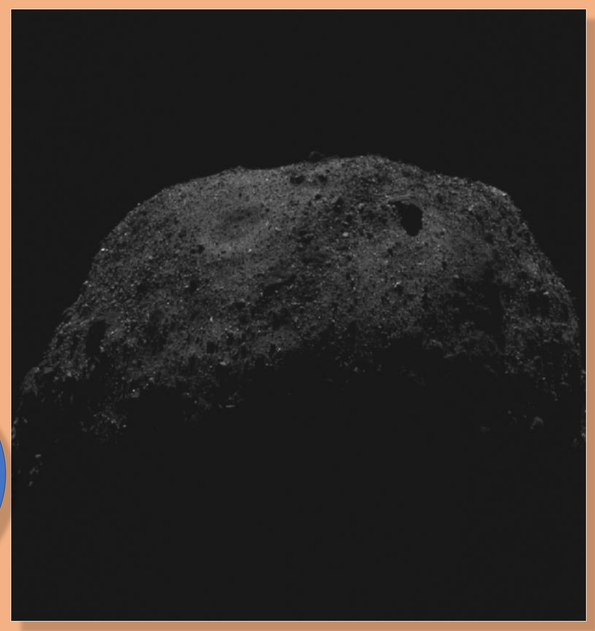
ascendingnode.tech

SPACELINE®

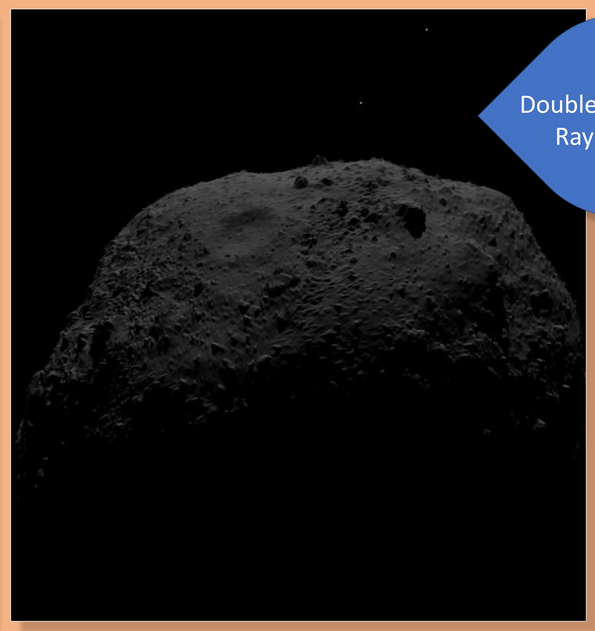
Spaceline® is our web-based application that creates, shares and manages
telemetry-based interactive 3D visualizations and high precision renders of spacecraft operations *right in your browser*.
Spaceline® reduces both cost and risk for spacecraft missions at every stage of development.



Visualize SPICE Kernels in 3D with Footprints

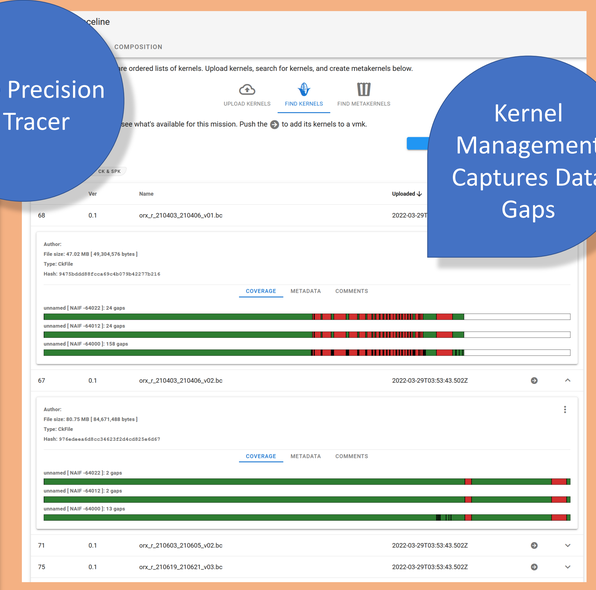


OSIRIS-REx MapCam Image of Asteroid Bennu

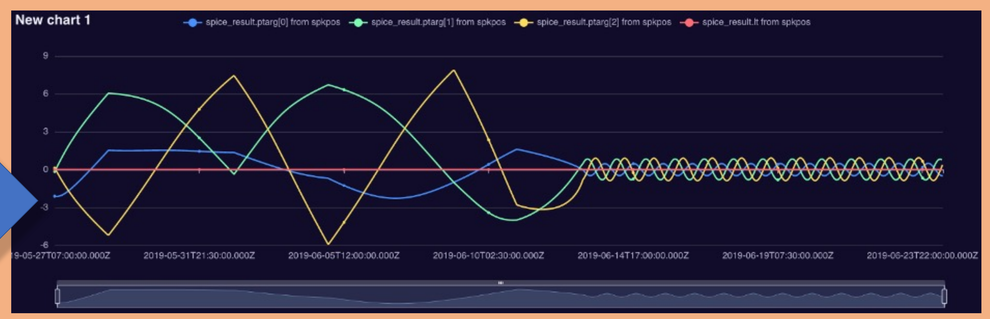


Spaceline® Render from SPICE kernel inputs

Double Precision Ray Tracer

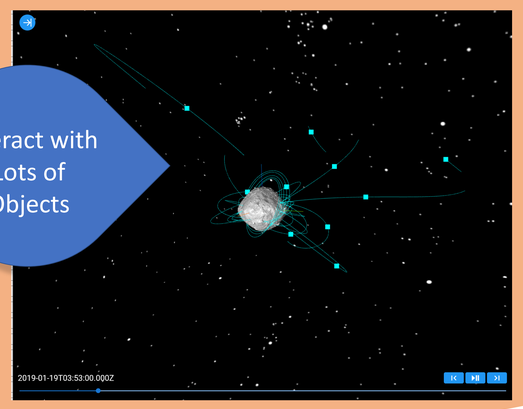


Kernel Management Captures Data Gaps



Data Plots and SPICE Plots

Interact with Lots of Objects



Timeline

2022

Spaceline 1.0 – NASA SBIR CONTRACT 80NSSC20C0185

- *SPICE Kernel Management*
- *Direct query of CSPICE API without needing to locally manage kernels*
- *Design and analysis of Scenarios with interactive 3D visualization*
- *Simulation of data captured by any camera for a given epoch*

2023

Spaceline 2.0 – NASA SBIR CONTRACT 80NSSC21C0515

Advanced Science Modeling:

- *Atmospheres, plumes, particle ejection events*
- *Gravity and radiation fields*

Astronomical Mission Support:

- *Celestial target lists*
- *2D celestial sphere instrument FOV projections*

2024

Spaceline 3.0 – NASA SBIR CONTRACT 80NSSC22CA096

- *Creation of observations plans directly within Spaceline*
- *Tools for geometric analysis to assist planning and review of observation designs*
- *Timeline visualization*

2025

Spaceline 4.0 – NASA SBIR CONTRACT 80NSSC22PA950

- *Introduces facilities and ground regions of interest to the Spaceline ecosystem.*
- *Coverage analysis on a planetary surface and on the celestial sphere*
- *Access (line-of-sight) analysis between a spacecraft and other objects of interest*