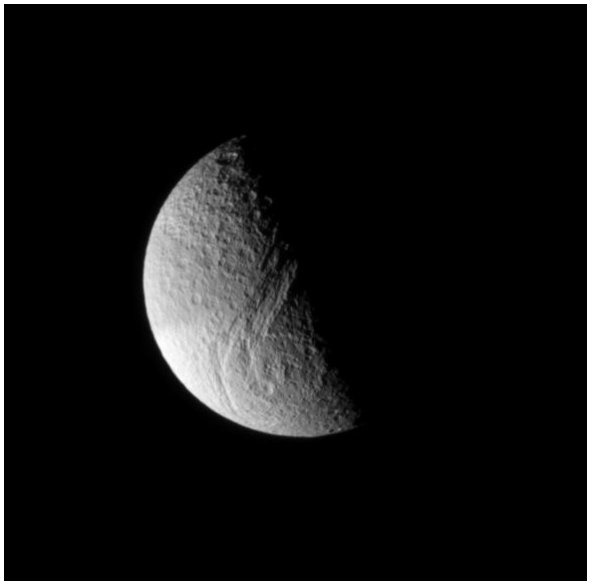
Rev 215 SOST Segment

2015-129T08:15:00-131T18:00:00

No targeted flybys; Highlights:

CIRS distant observation (ISS, VIMS, UVIS in ridealong) from 129T16:45-22:20 of Tethys and Dione to understand the spatially resolved thermal inertia, “Pacman” shape, and global energy balance. Tethys large solar phase angle; Dione moderate.



Tethys (above); Dione (below)

ISS Plume PIE observation at 130T00:30 (06:35 duration); another plume non-PIE on day 151 (not SOST segment)

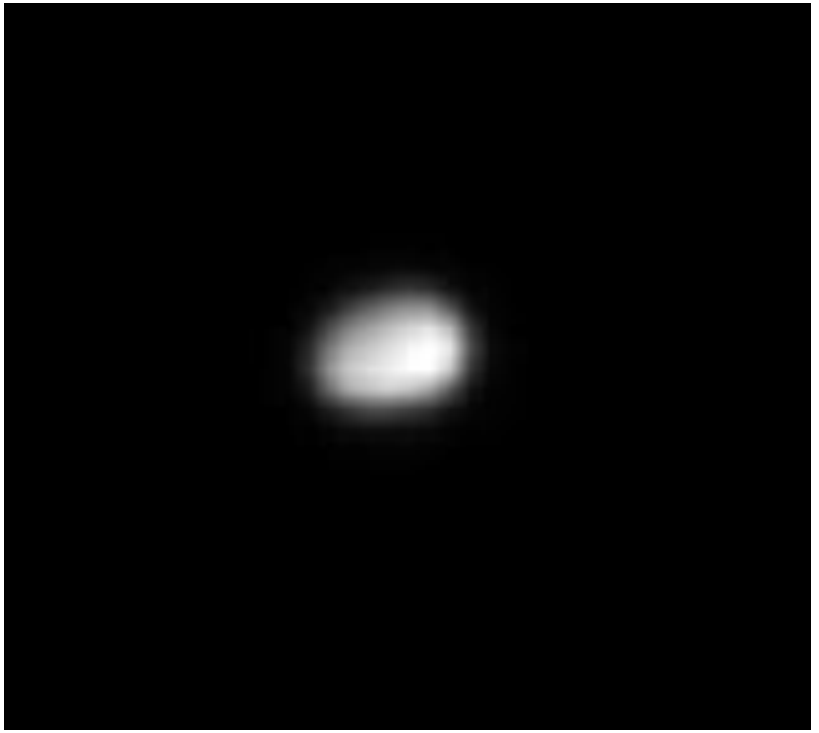
ISS outer irregular rock observation at 130T22:25 for 10+ hours. The goal is to determine the dynamical state (rotation period and pole position).

Rev 215 SOST Segment, cont'd.

Flyby of Polydeuces BEST EVER by a factor of 2

Polydeuces is a Dione Lagrangian that was discovered by *Cassini*. The goal of this observation is to study its morphology, size, albedo, and derive its composition to understand its origin and relationship to Dione and other moons. Observation starts at 129T22:20 (May 10, 2015), with a closest approach around 34,000 with a moderate solar phase angle.

This is just the resolution where features (craters, etc.) may start to appear on this irregular moon.



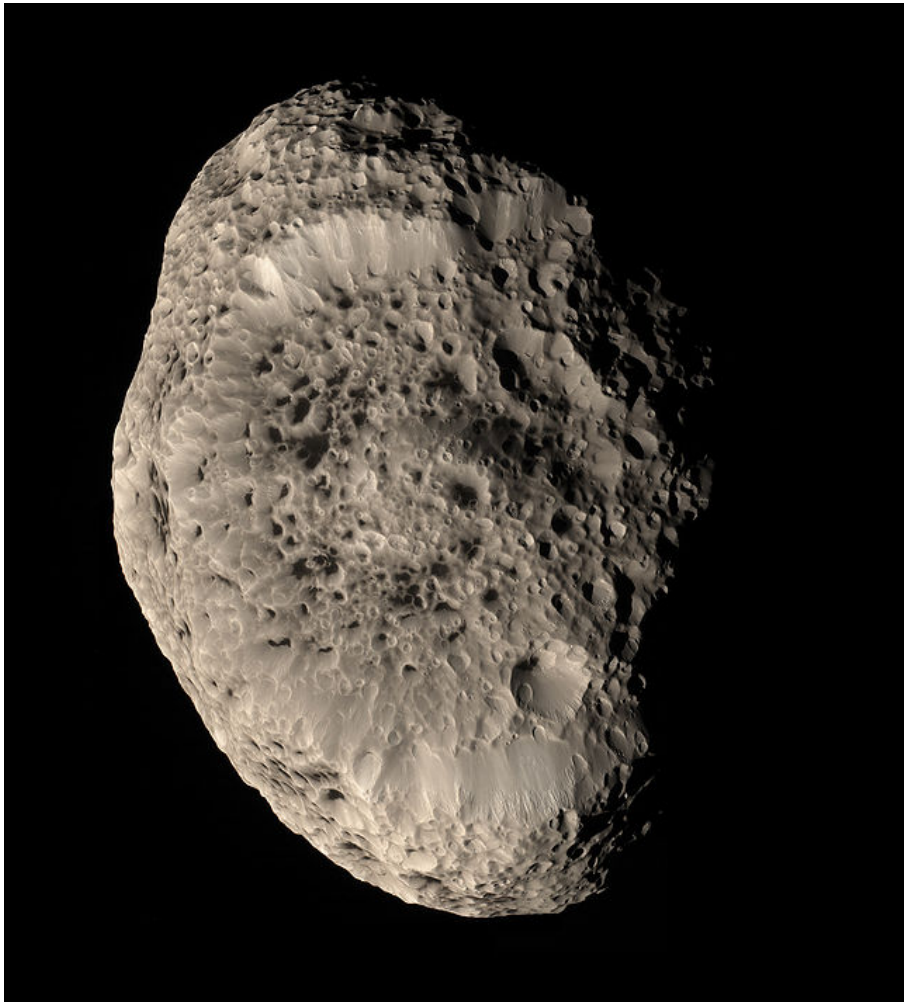
Polydeuces, *Cassini's* own satellite

Hyperion observing campaign

(Not a PIE)

On rev 216-217 (XD Segment) there is a ~34,000 ORS Hyperion flyby designed to cover regions that may have poorly imaged (Hyperion is in chaotic rotation, so the location will be a surprise). The solar phase angle is moderate throughout the observing period, which is ideal for mapping geologic features. Composition and thermal properties will also be studied.

The observations extend from 2015-151T09:22-19:00. ISS is prime with CIRS and UVIS in ridealong.



Hyperion

Rev 217 Dione MAPS flyby (516 km)

Segment 166T15:30-169T15:29

MAPS flyby to understand Dione environment and dust and interactions between particles and the surface; focus is on N. pole. Does Dione have a native source?

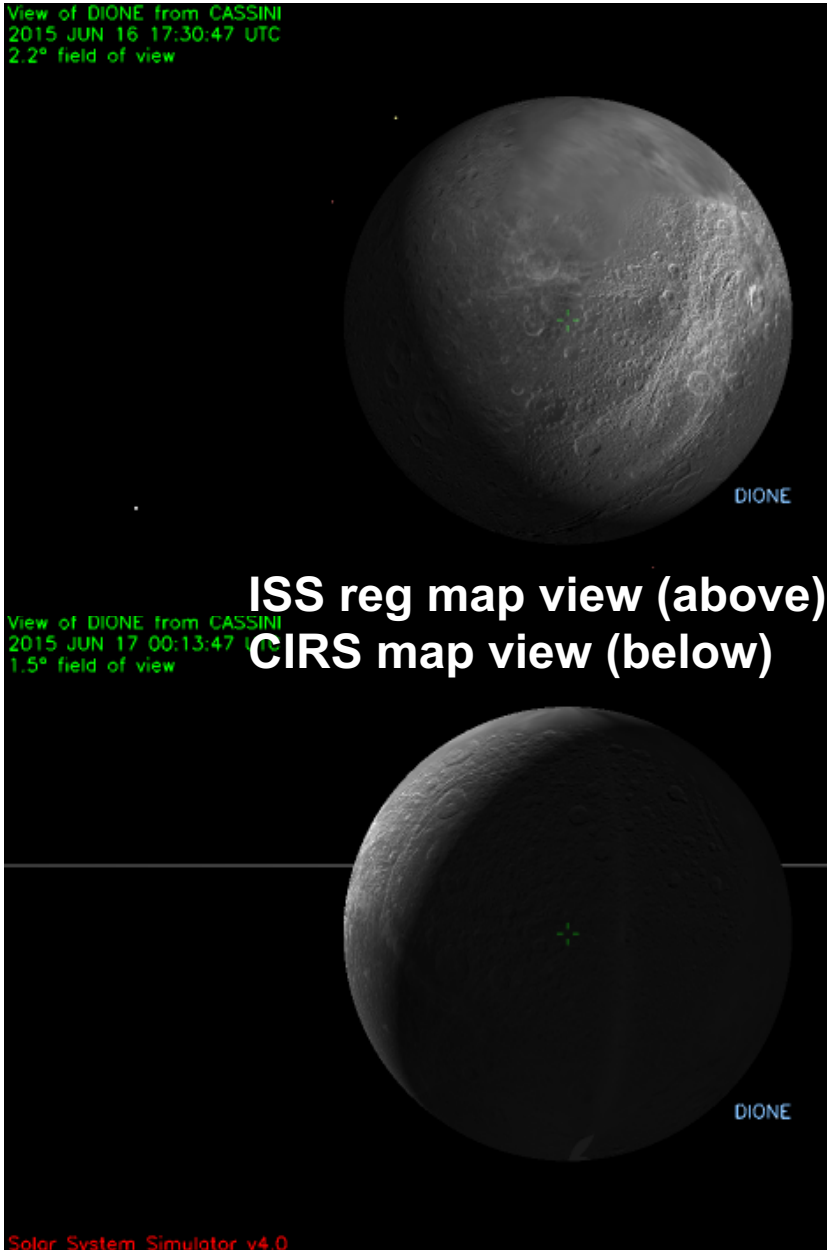
C/A 2015-167T20:11:52.44

RSS is also in ridealong: This key observation will substantially improve our knowledge of Dione's interior structure and the rigidity of its crust

Other key observations:

Tarvos (outer moon): rotation period
Rhea: CIRS inbound observation
Polydeuces: clone of May 10 event
ISS regional map of Dione (inbound lit)
CIRS map of Dione (outbound dark)
Outer moon observations

Saturn UVIS PIE



ISS reg map view (above)
CIRS map view (below)