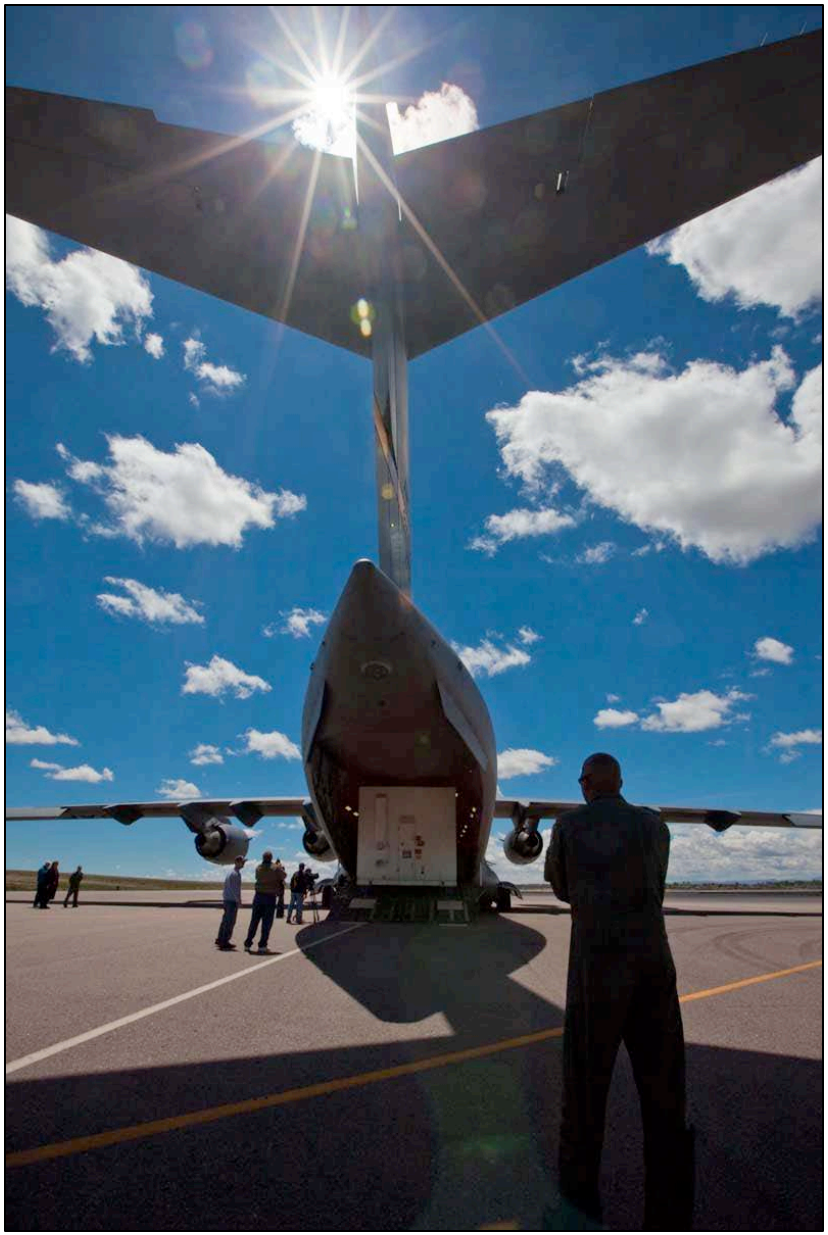
GRAIL



The GRAIL spacecraft arrived at Cape Canaveral on May 20, 2011 -- 7 days early from the original schedule established 4 years ago.

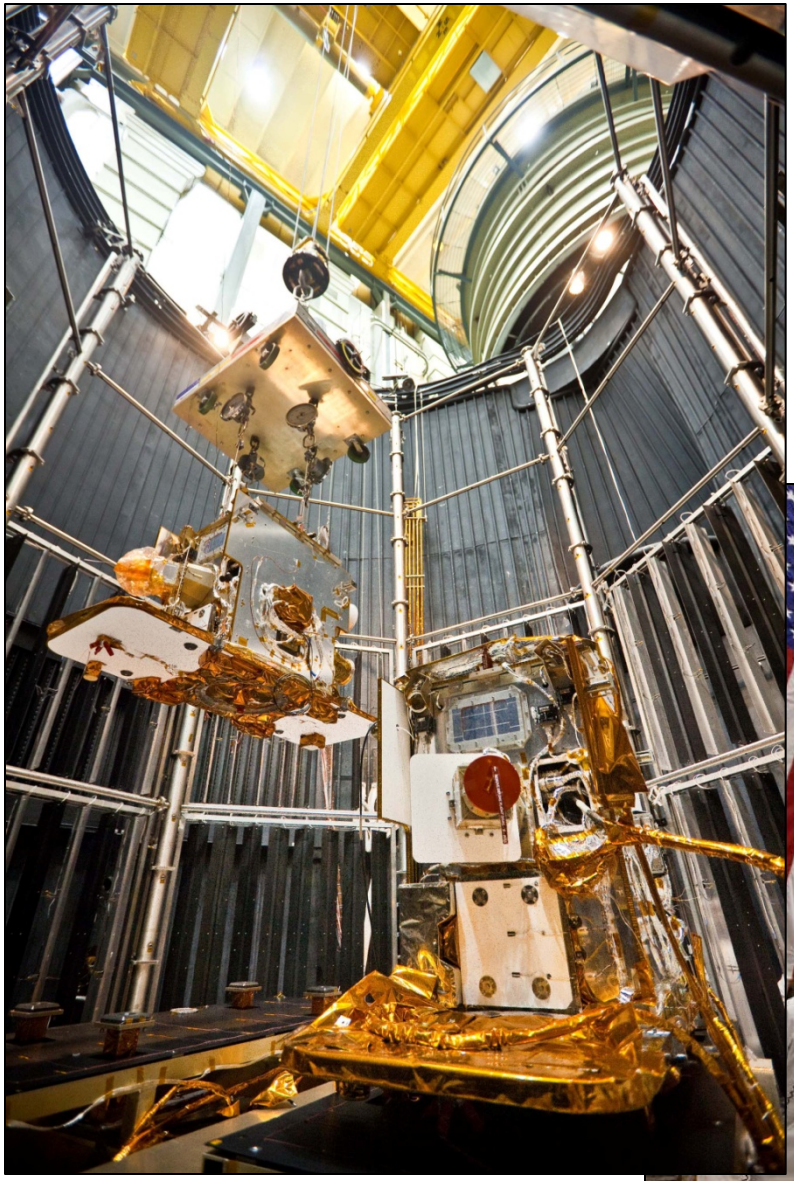
The two spacecraft (GRAIL-A and GRAIL-B) made the trip from Lockheed Martin Space Systems, Denver to the Astrotech payload processing facility in Titusville, FL, aboard a U.S. Air Force C-17. The spacecraft were removed from their shipping containers Monday, May 23.

The launch period opens Sept. 8, 2011, and extends through Oct. 19. For a Sept. 8 liftoff, the launch window opens at 5:37 a.m. PDT (8:37 a.m. EDT) and remains open through 6:16 a.m. PDT (9:16 a.m. EDT).

"NASA's lunar twins have arrived at Cape Canaveral. We're only a few full moons away from a mission that will reveal clues not only into the history of the moon and Earth, but will provide important data for future lunar exploration."

Maria Zuber, GRAIL PI

GRAIL

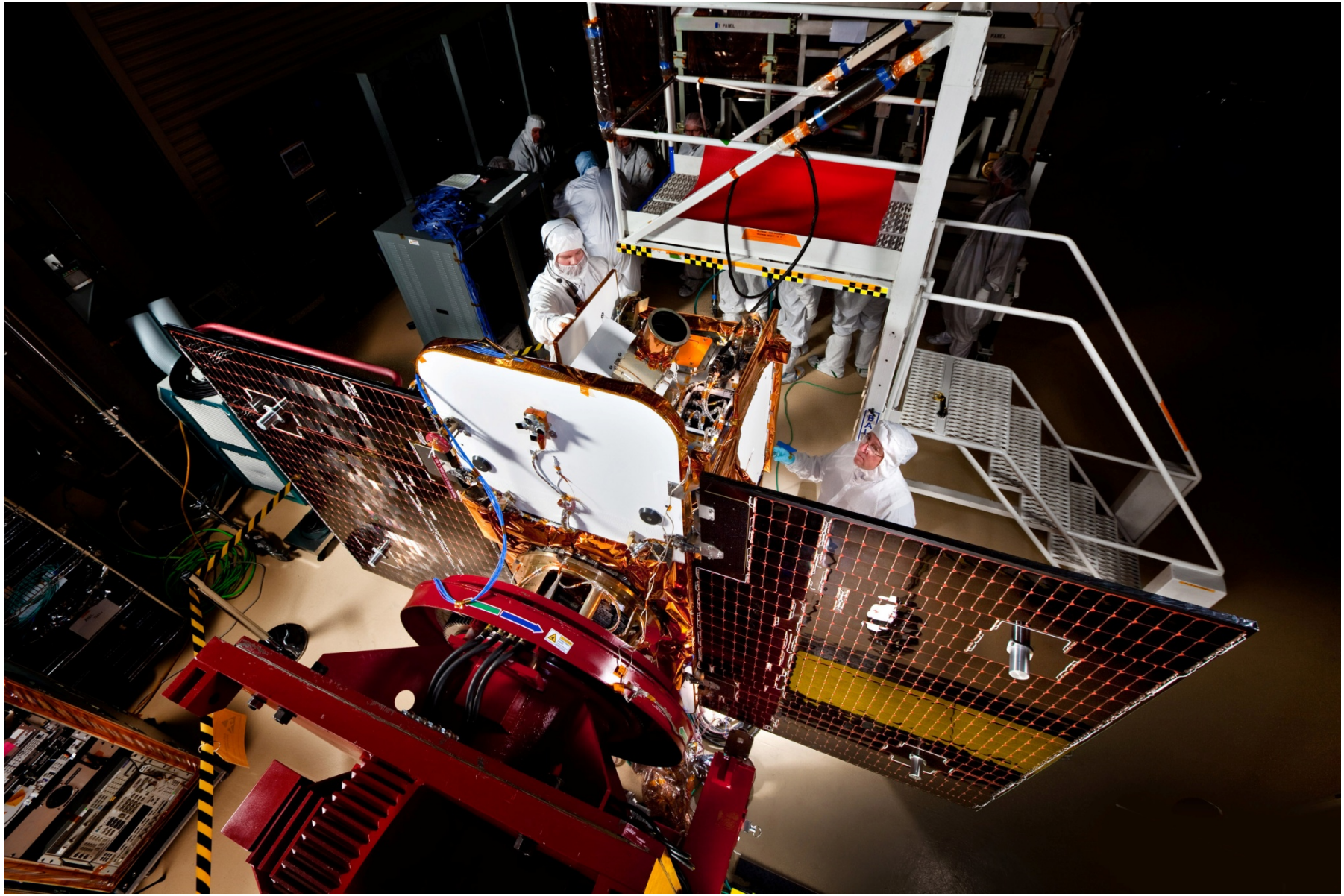


Thermal Vacuum Testing

GRAIL

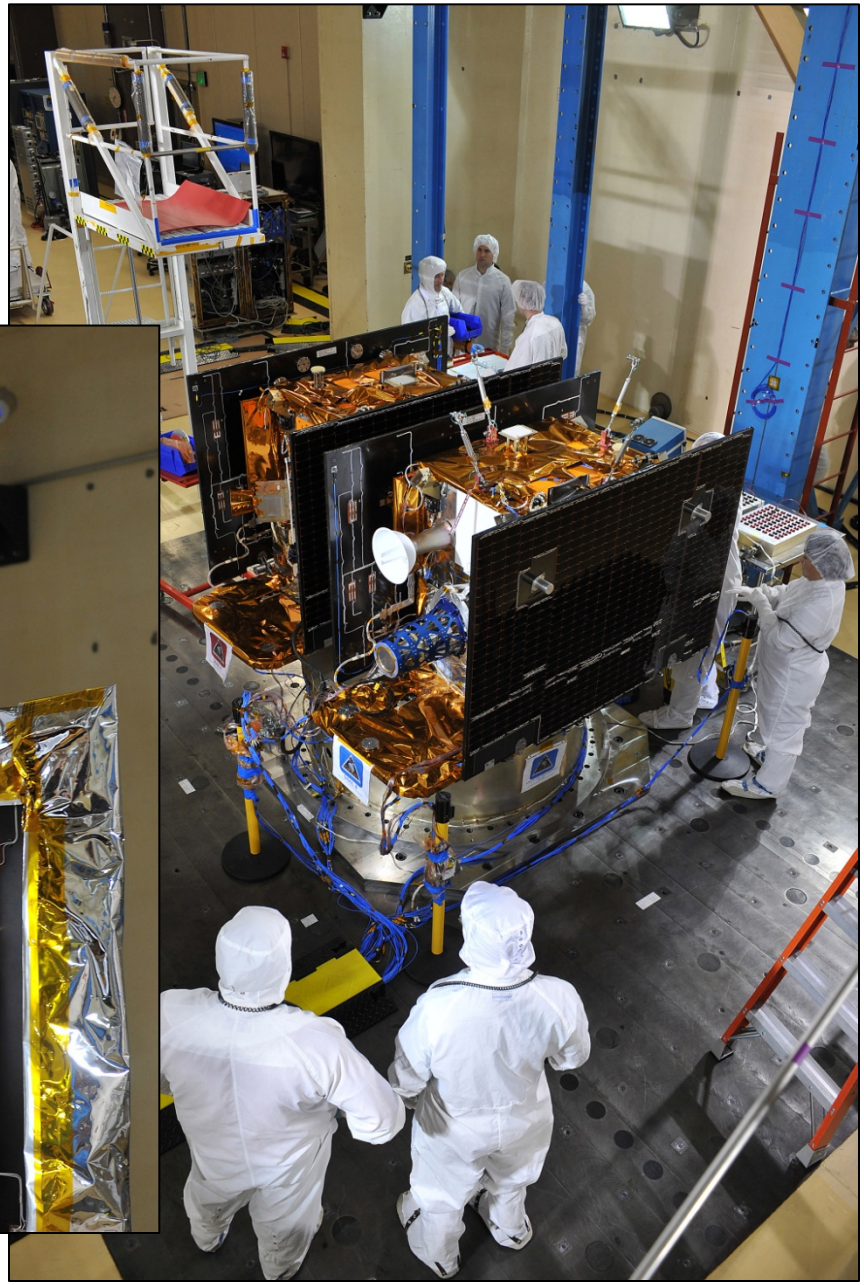
Technicians install lifting brackets prior to hoisting the 200-kilogram (440-pound) GRAIL-A spacecraft out of the vacuum chamber after testing. Along with its twin GRAIL-B, the GRAIL-A spacecraft underwent an 11-day-long test simulating many of the flight activities they will perform during the mission, all while being exposed to the vacuum and extreme hot and cold that simulate space. (Photo: April 29, 2011)

GRAIL



Solar Arrays Deployed

Acoustics Testing

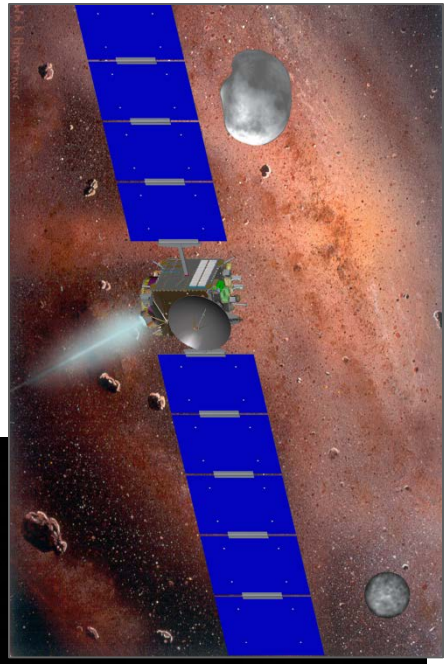


Dawn

The Dawn spacecraft obtained its first image of Vesta, which will help fine-tune navigation during its approach. Dawn expects to achieve orbit around Vesta on July 16, when the asteroid is about 117 million miles from Earth.

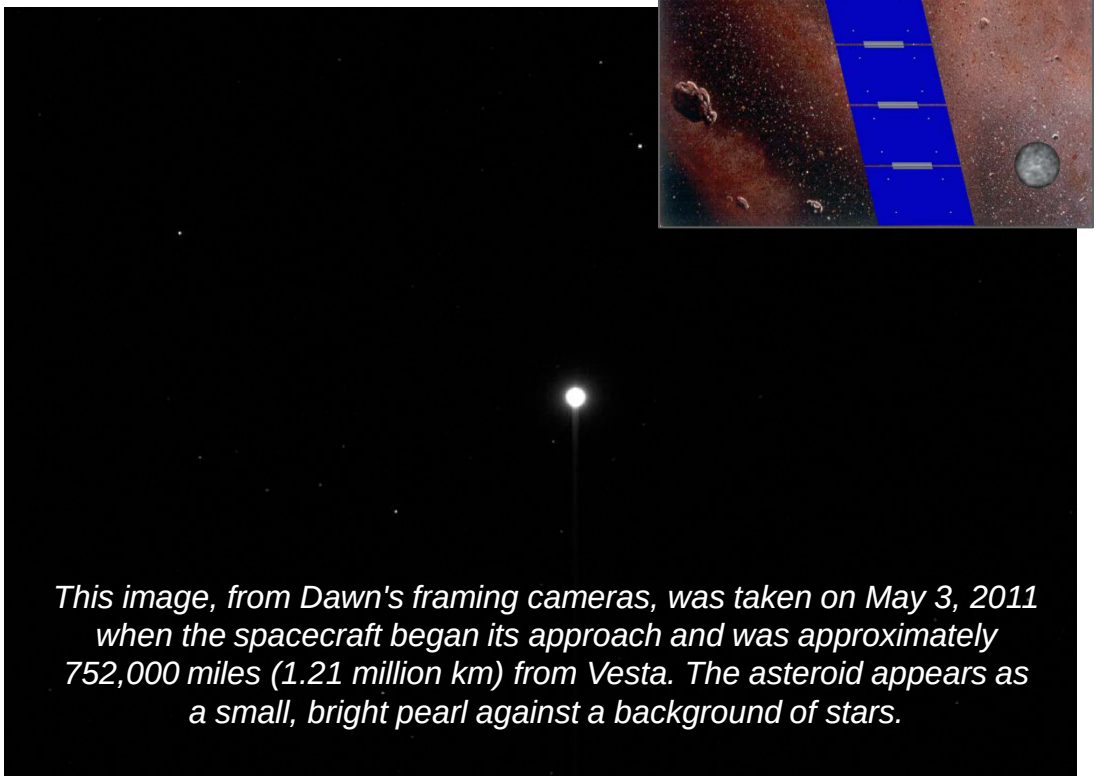
Dawn will start collecting science data in early August at an altitude of approximately 1,700 miles (2,700 km) above the asteroid's surface and will remain in orbit around Vesta for one year.

After another long cruise phase, Dawn will arrive in 2015 at its second destination: Ceres.



Mission Milestones:

- Sep 27, 2007 – Launch (Delta 2925H)
- Feb 17, 2009 – Mars Gravity Assist
- June 01, 2011 – Reaches HST resolution
- July 01, 2011 – Reaches 5X HST resolution
- July 2011 to July 2012 – In Orbit at Vesta
- Feb 2015 to July 2015 – In Orbit at Ceres
- Nov 2015 – End of Mission



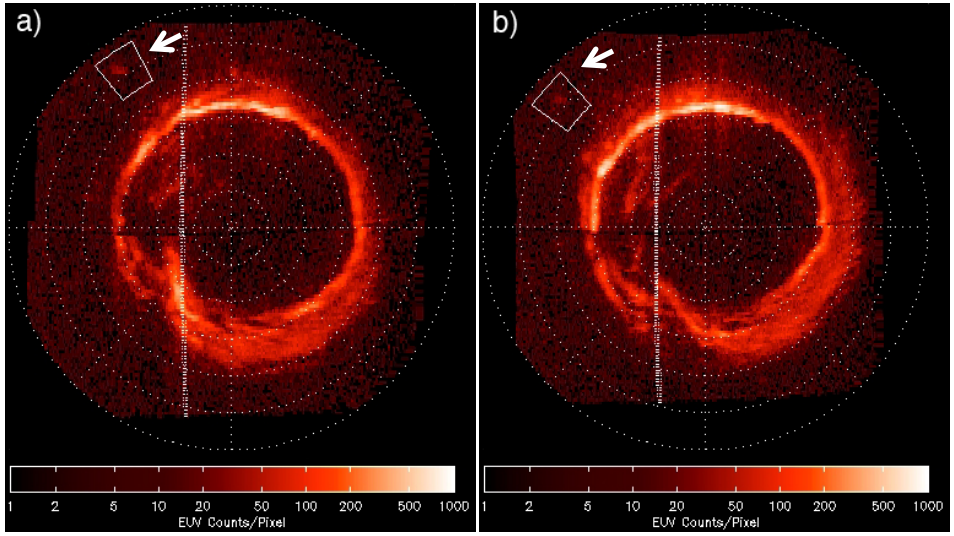
This image, from Dawn's framing cameras, was taken on May 3, 2011 when the spacecraft began its approach and was approximately 752,000 miles (1.21 million km) from Vesta. The asteroid appears as a small, bright pearl against a background of stars.

Discovery of Enceladus' Auroral Footprint

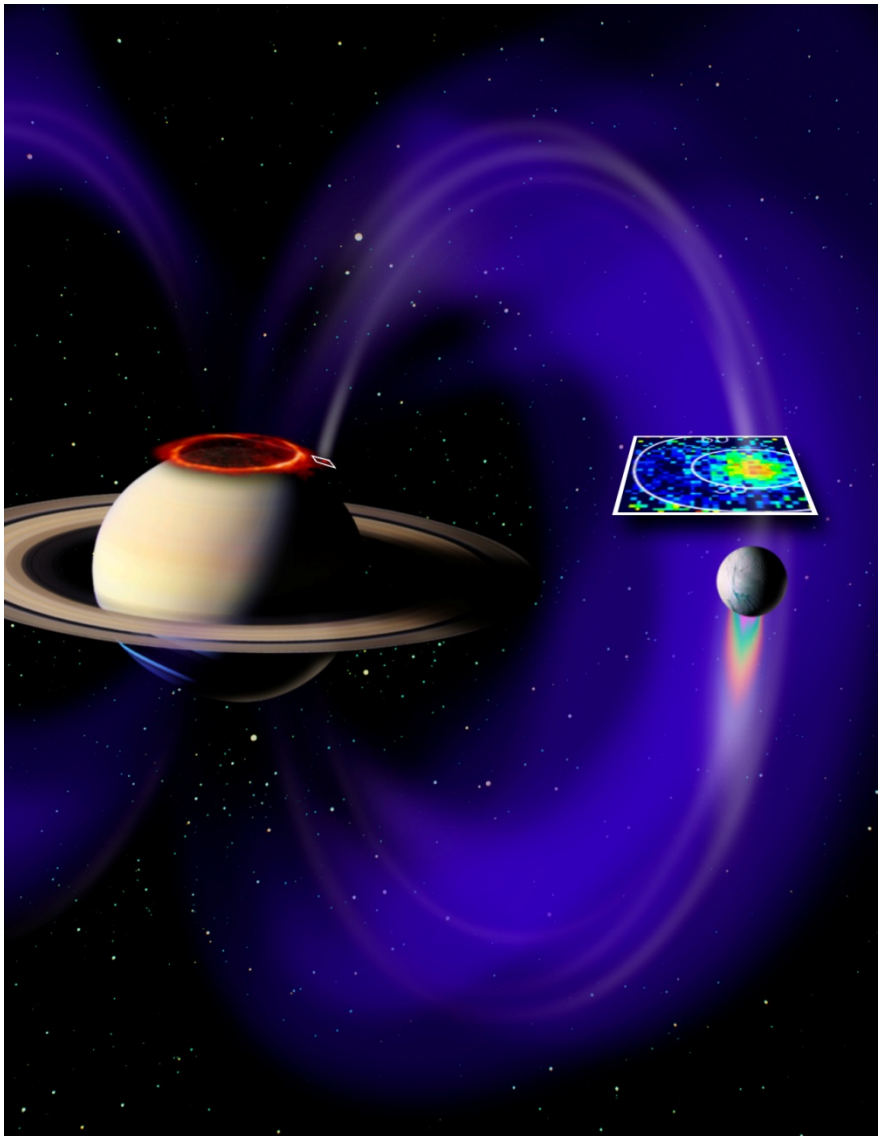
Electrodynamic coupling has been discovered between Enceladus and Saturn, similar to that which links Jupiter with Io.

The footprint varies in emission magnitude more than can be explained by changes in magnetospheric parameters — and as such is probably indicative of variable plume activity.

Pryor et al., *Nature* April, 2011



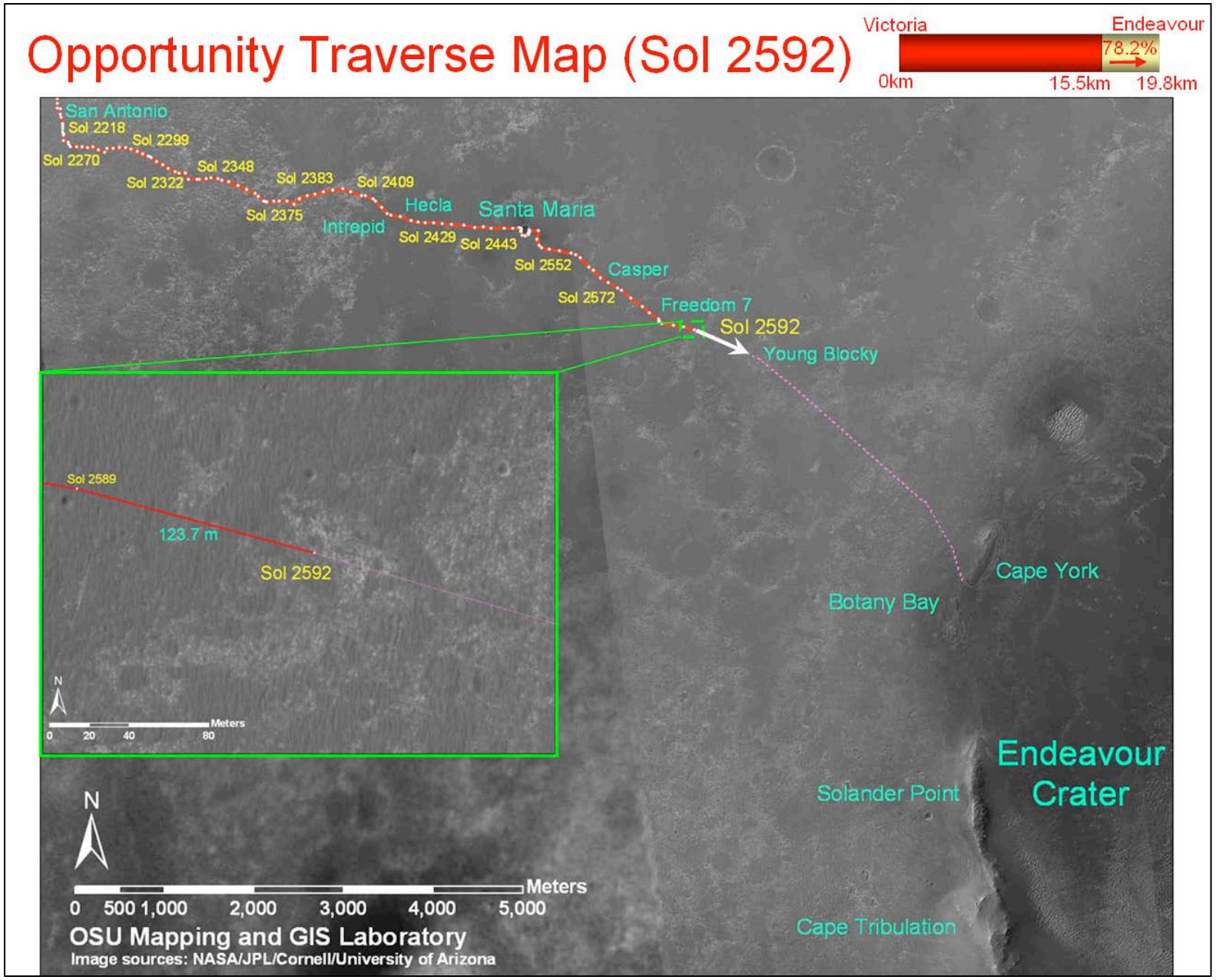
Cassini UVIS images of Saturn aurora and Enceladus footprint (in upper left white box).



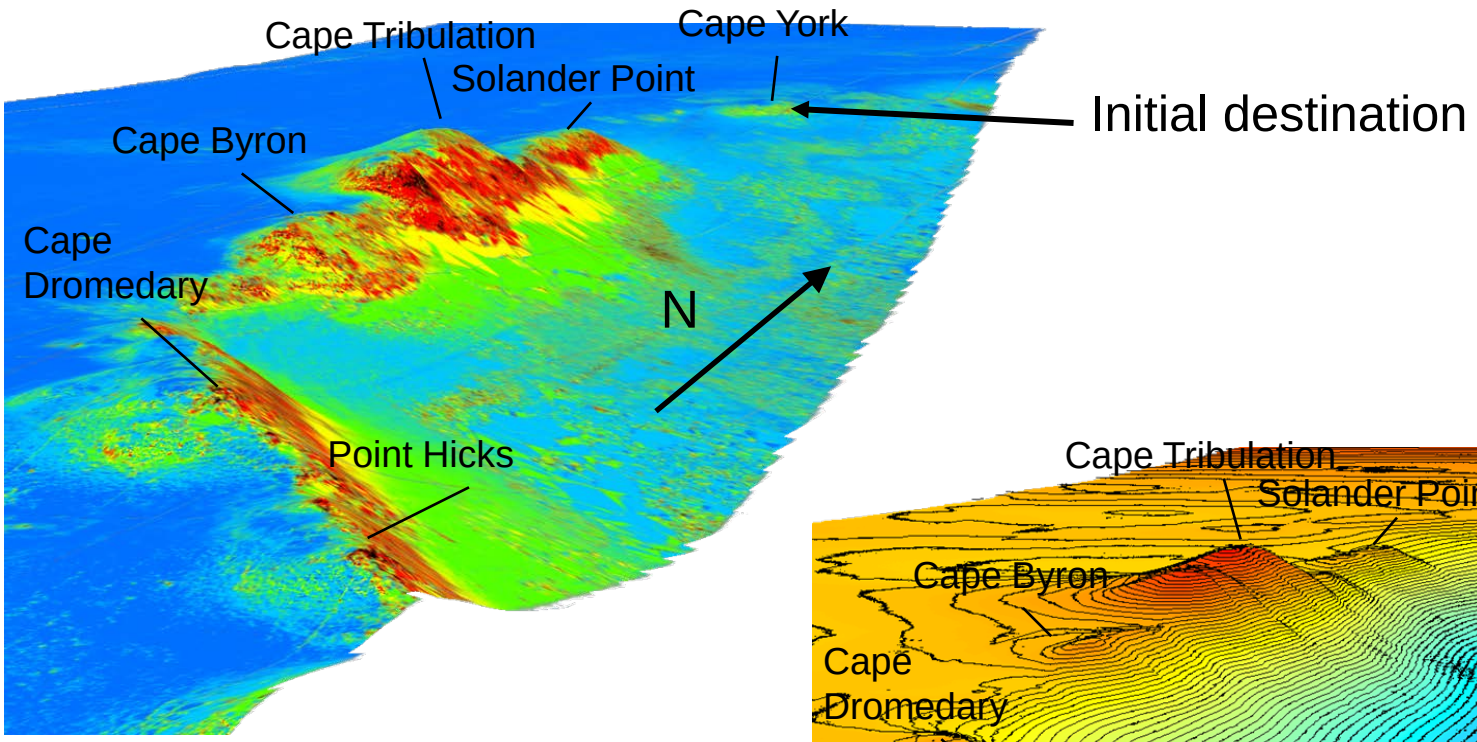
Enceladus is magnetically "connected" to the polar region of Saturn and leaves a footprint, as shown in this artist's conception.

Opportunity's Distance from Endeavour

Release Date: 10-May-2011

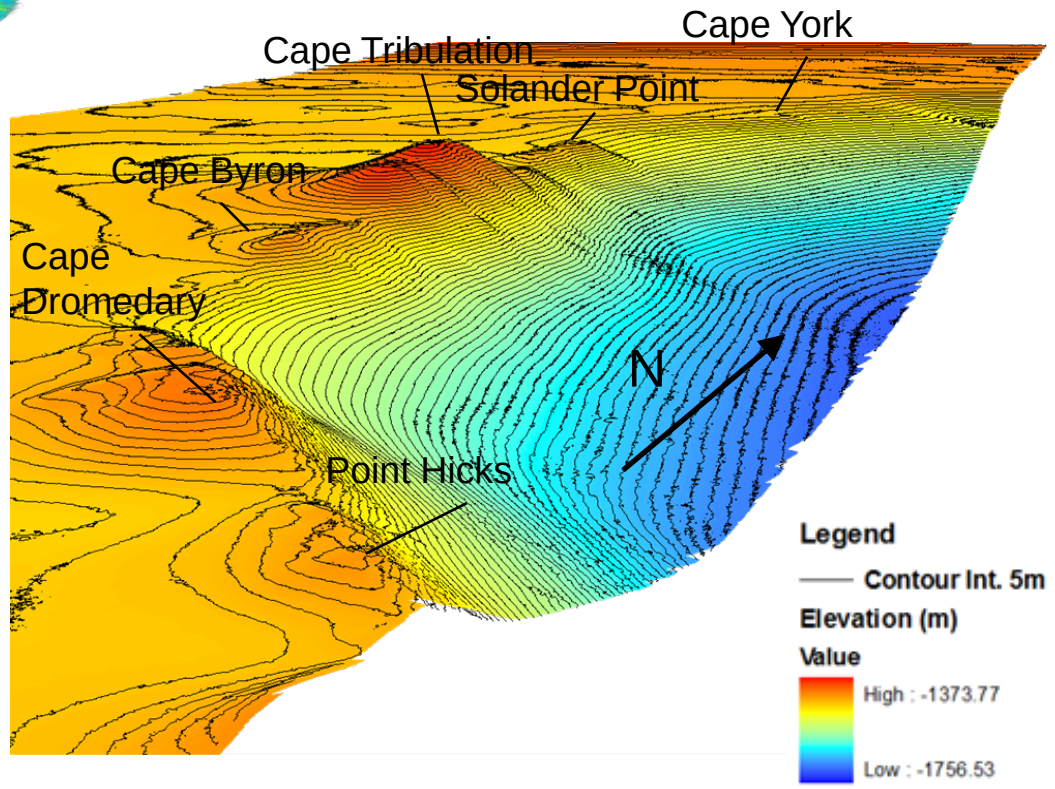


Endeavour Rim Slopes

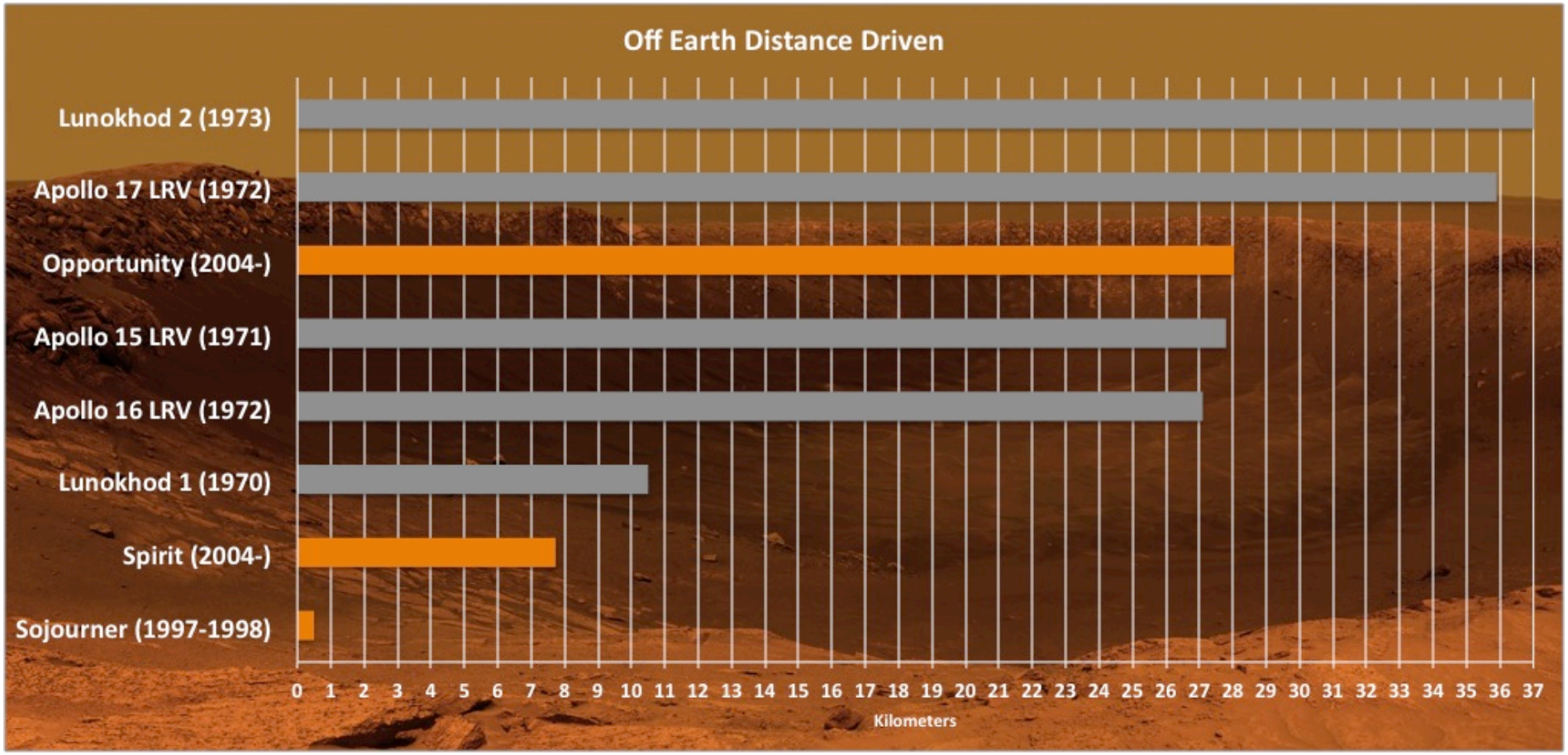


Legend
Slope (Degree)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20
- 20 - 30
- 30- 75



Distance Driven for Off-Earth Surface Vehicles



[1] Source: http://nssdc.gsfc.nasa.gov/planetary/lunar/apollo_lrv.html
[2] Above: Plot of all surface vehicles that have driven off Earth. Orange bars for drives on Mars, grey bars for drives on the Moon. Background image of Santa Maria crater from http://photojournal.jpl.nasa.gov/catalog/PIA13794