

## **Geomorphology of Vesta**



(a) HAMO digital terrain model of Vesta. Red shows high regions, while blue represents low. Features of note are labeled. (b) The LAMO geologic map of Vesta.

## The complex geomorphology of 4Vesta suggests that it is an intermediate planetary body, somewhere between an asteroid and a planet

- NASA's Dawn spacecraft arrived at Vesta on July 16, 2011, and stayed in orbit for fourteen months.
- Dawn found that Vesta's surface is characterized by numerous geomorphic features, including large troughs around the equatorial region, enigmatic dark material, considerable mass wasting, and impact craters of all sizes, with a variety of ejecta blankets.
- The large impact basin Rheasilvia was observed at Vesta's south pole, as was predicted by images from the Hubble Space Telescope. The underlying, older large basin Veneneia was also discovered.
- Vesta is fully differentiated, with a crust, mantle and core.
- Volcanism was expected on Vesta, because of the mineralogy of the HED meteorites. Evidence of subsurface intrusive activity has been detected; however, direct surface evidence for volcanic activity on Vesta is lacking.

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