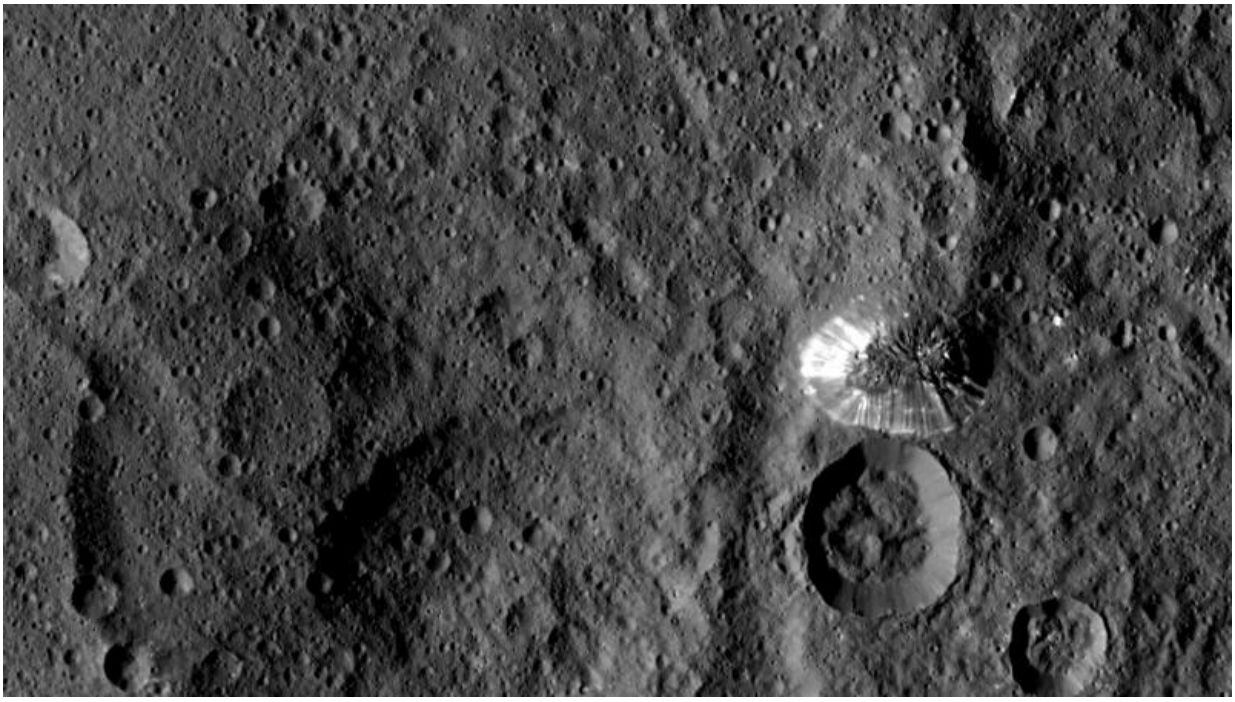
Dawn spacecraft sends sharper scenes from Ceres

August 25 2015



NASA's Dawn spacecraft spotted this tall, conical mountain on Ceres from a distance of 915 miles (1,470 kilometers). The mountain, located in the southern hemisphere, stands 4 miles (6 kilometers) high. Its perimeter is sharply defined, with almost no accumulated debris at the base of the brightly streaked slope. The image was taken on August 19, 2015. The resolution of the image is 450 feet (140 meters) per pixel. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

The closest-yet views of Ceres, delivered by NASA's Dawn spacecraft,

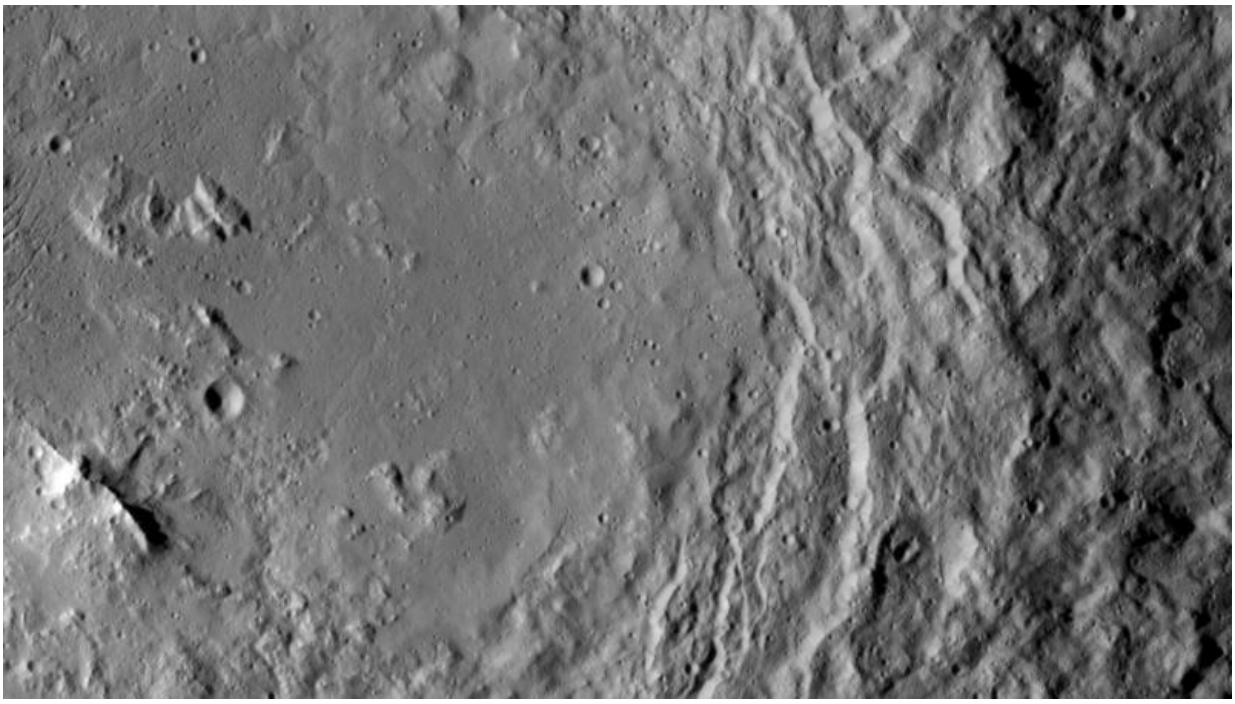
show the small world's features in unprecedented detail, including Ceres' tall, conical mountain; crater formation features and narrow, braided fractures.

"Dawn is performing flawlessly in this new orbit as it conducts its ambitious exploration. The spacecraft's view is now three times as sharp as in its previous mapping orbit, revealing exciting new details of this intriguing dwarf planet," said Marc Rayman, Dawn's chief engineer and mission director, based at NASA's Jet Propulsion Laboratory, Pasadena, California.

At its current orbital altitude of 915 miles (1,470 kilometers), Dawn takes 11 days to capture and return images of Ceres' whole surface. Each 11-day cycle consists of 14 orbits. Over the next two months, the spacecraft will map the entirety of Ceres six times.

The spacecraft is using its framing camera to extensively map the surface, enabling 3-D modeling. Every image from this orbit has a resolution of 450 feet (140 meters) per pixel, and covers less than 1 percent of the surface of Ceres.

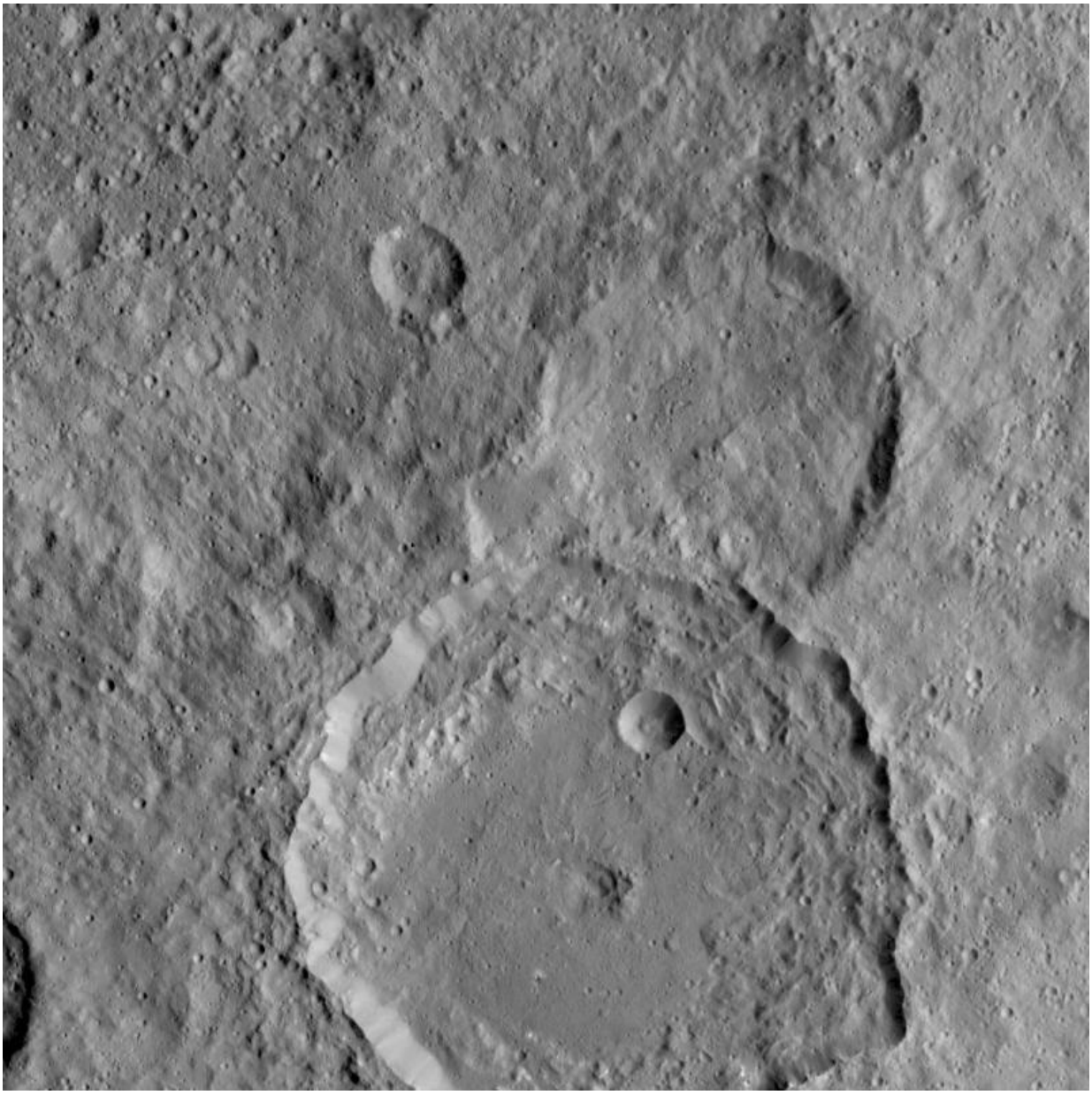
At the same time, Dawn's visible and infrared mapping spectrometer is collecting data that will give scientists a better understanding of the minerals found on Ceres' surface.



NASA's Dawn spacecraft took this image that shows a mountain ridge, near lower left, that lies in the center of Urvara crater on Ceres. Urvara is an Indian and Iranian deity of plants and fields. The crater's diameter is 101 miles (163 kilometers). This view was acquired on August 19, 2015, from a distance of 915 miles (1,470 kilometers). The resolution of the image is 450 feet (140 meters) per pixel. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Engineers and scientists will also refine their measurements of Ceres' gravity field, which will help mission planners in designing Dawn's next orbit—its lowest—as well as the journey to get there. In late October, Dawn will begin spiraling toward this final orbit, which will be at an altitude of 230 miles (375 kilometers).

Dawn is the first mission to visit a dwarf planet, and the first to orbit two distinct solar system targets. It orbited protoplanet Vesta for 14 months in 2011 and 2012, and arrived at Ceres on March 6, 2015.



NASA's Dawn Spacecraft took this image of Gaue crater, the large crater on the bottom, on Ceres. Gaue is a Germanic goddess to whom offerings are made in harvesting rye. The center of this crater is sunken in. Its diameter is 84 kilometers (52 miles). The resolution of the image is 450 feet (140 meters) per pixel. The image was taken from a distance of 915 miles (1,470 kilometers) on August 18, 2015. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Provided by NASA

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