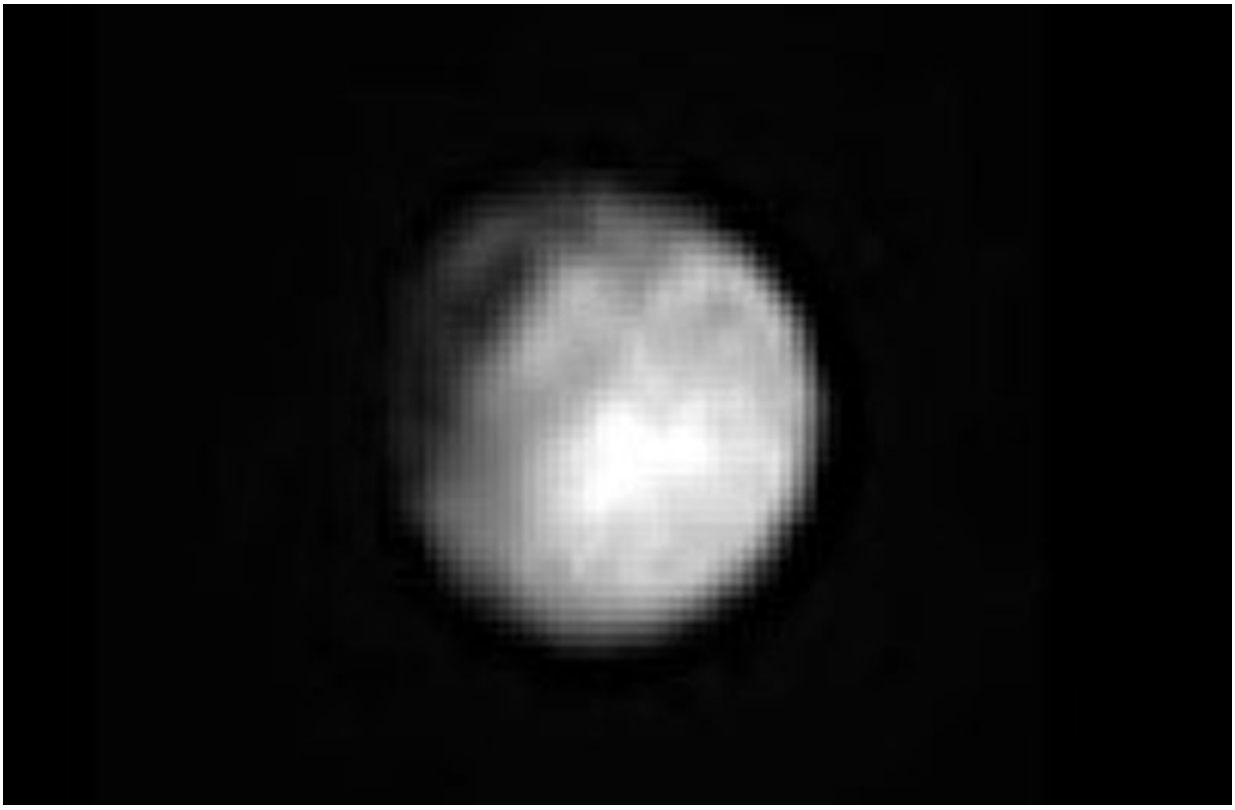
# Is that a big crater on Pluto? Pyramidal mountain found on Ceres

July 1 2015, by Bob King



Pluto with its enigmatic “crater” photographed on June 27. The apparent row of three depressions near the bottom of the globe are most likely artifacts from processing. Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

You're probably as eager as I am for new images of Pluto and Ceres as

both New Horizons and Dawn push ever closer to their respective little worlds. Recent photos, of which there are only a few, reveal some wild new features including what appears to a large crater on Pluto.

In the end, this apparent large impact might only be a contrast effect or worse, an artifact of over-processing, but there's no denying its strong resemblance to foreshortened, shadow-filled craters seen on the Moon and other moons. It's also encouraging that an earlier photo from June 27 shows the same feature. But the "crater" is just so … big! Its size seems disproportionate to the Pluto's globe and recalls Saturn's 246-mile-wide moon Mimas with its 81-mile-wide crater Herschel.

Astronomers speculate the impact that gouged out Herschel came perilously close to shattering the moon to pieces. If it does turn out to be an crater, Pluto's surface opposite the impact will likely show many fractures. Not to be outdone, the dwarf planet's largest moon, Charon, is starting to show a personality of its own with a prominent dark north polar cap.

Since polar caps are normally bright, icy features, some have referred to this one as an "anti-polar cap". Speaking of ice, the bright rim around Pluto in the photo above may be nitrogen frost condensing out of Pluto's scant atmosphere as it slowly recedes from the Sun. Think how cold it must have to get for nitrogen to freeze out. How about -346° F (-210° C)! For new images of the Pluto system, be sure to check the New Horizons LORRI gallery page.

Closer to home, new photos of Ceres show a peculiar, pyramid-shaped mountain towering 3 miles (5 km) high from a relatively smooth region between two large craters. Mountains poking from crater floors aren't unusual. They're tossed up after the crust later rebounds after a large impact. What makes this one unusual is the lack of an associated crater. Moreover, the mountain's pale hue could indicate it's younger than the

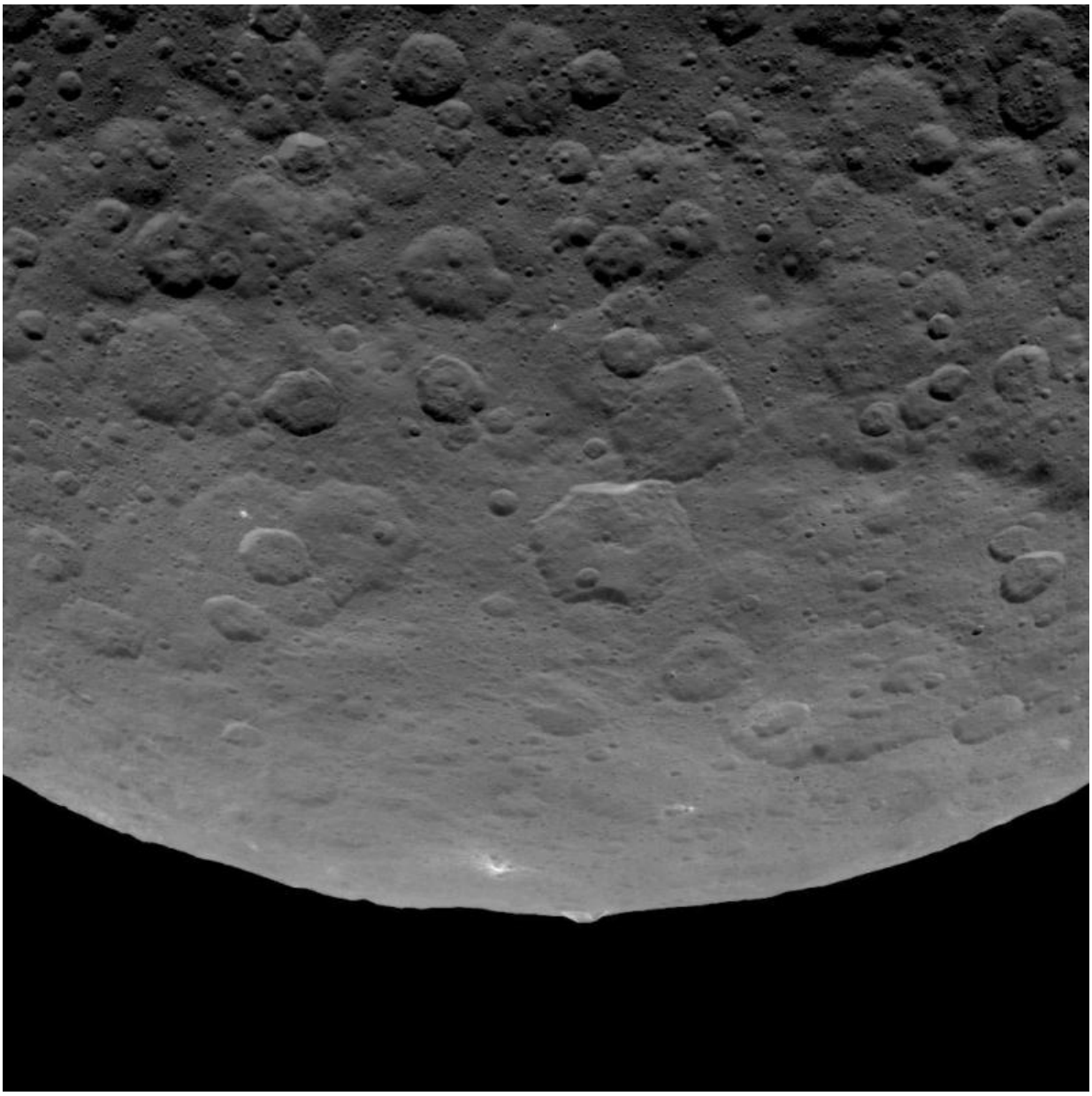
surrounding landscape. As far as we can tell, it's the only tall mountain on the face of the dwarf planet.

The latest photo of Pluto (lower left) and its largest moon Charon taken on June 29. A large possible crater-like feature is visible at lower right. Charon shows intriguing dark markings. Pluto's diameter is 1,471 miles (700 miles smaller than Earth's Moon); Charon is 750 miles across. Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

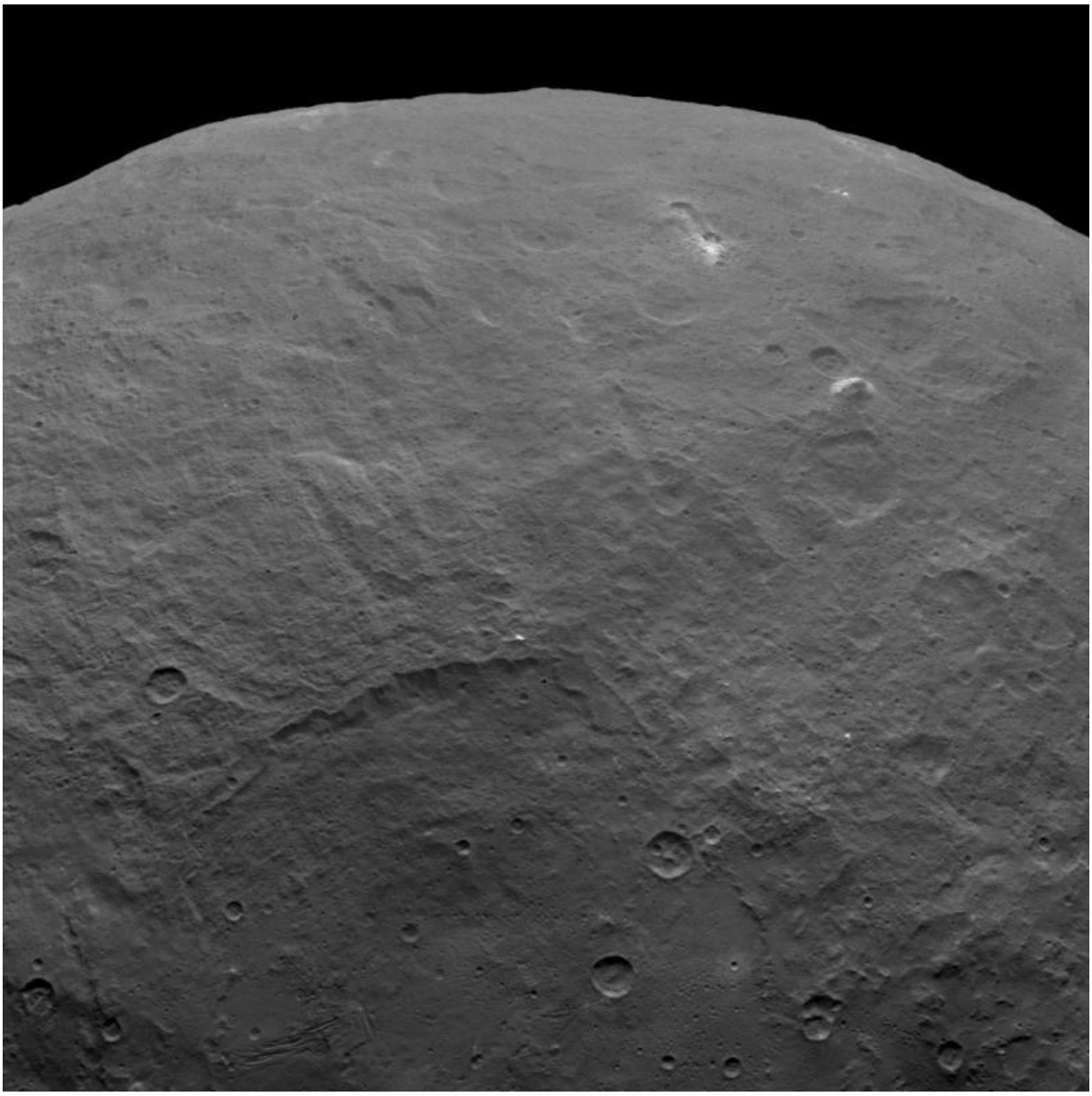
The Dawn team also photographed that cluster of white spots again, this time with a very shot exposure in to eke out more details. What do you think? If you're as interested in asteroids as I am, Italian astrophysicist Gianluca Masi, a frequent photo contributor to Universe Today, will host a special live Asteroid Day event today starting at 6 p.m. CDT (23:00

UT). Masi will review near-Earth asteroids, explain discovery techniques and observe several in real time.

Pluto (right) and Charon, showing an unusual dark north polar cap or “anti-cap” in a photo taken by New Horizons’ long-range camera on June 19, 2015. The two were about 20 million miles away at the time. Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

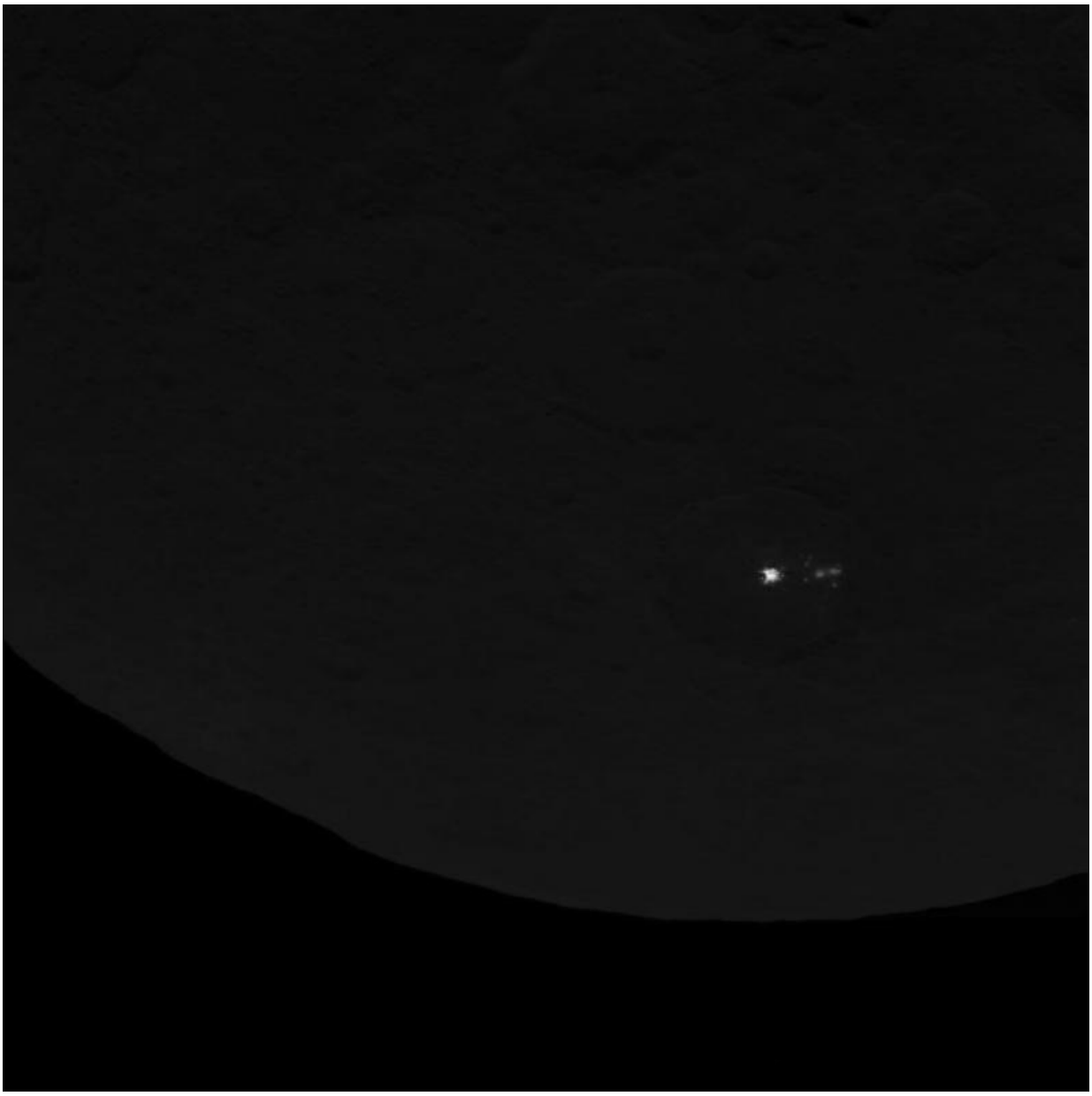


Dawn took this photo of an intriguing pyramidal mountain (top center) on Ceres on June 14 from an altitude of 2,700 miles. It rises 3 miles above a relatively smooth surface. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

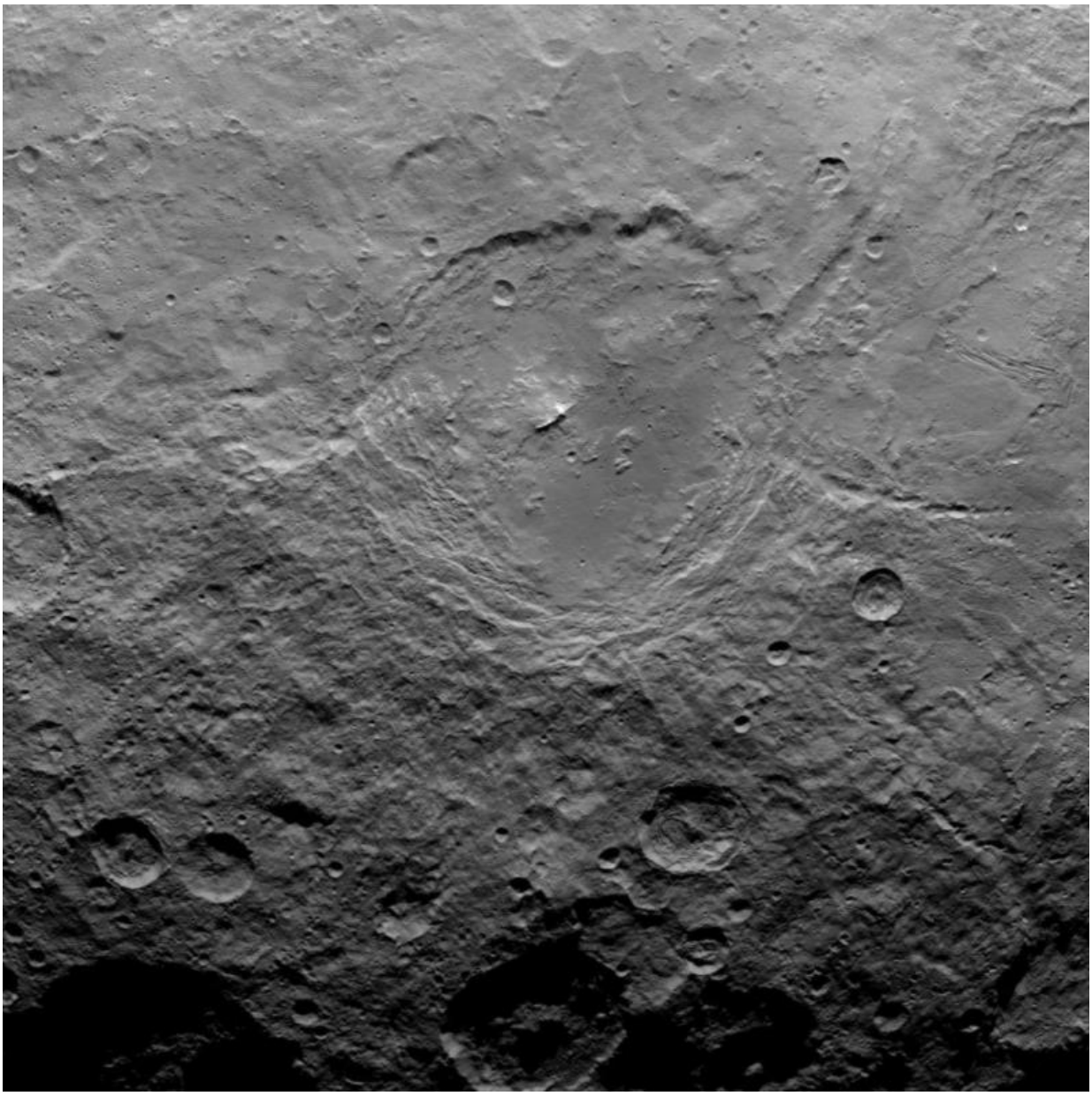


Another more overhead view of the mountain (right of center) taken by NASA's Dawn probe on June 6. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Cropped version of the photo above. Notice the striations on the mountainside possibly from landslides. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA



The Dawn team greatly underexposed Ceres in order to tease out more details from the white spot cluster in this image made on June 15 from 2,700 miles altitude. I've lightened the limb of Ceres to provide context. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA



Dawn photographed the large crater at left along with an interesting chain of craters and possible fault or collapse structures. Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

Source: Universe Today