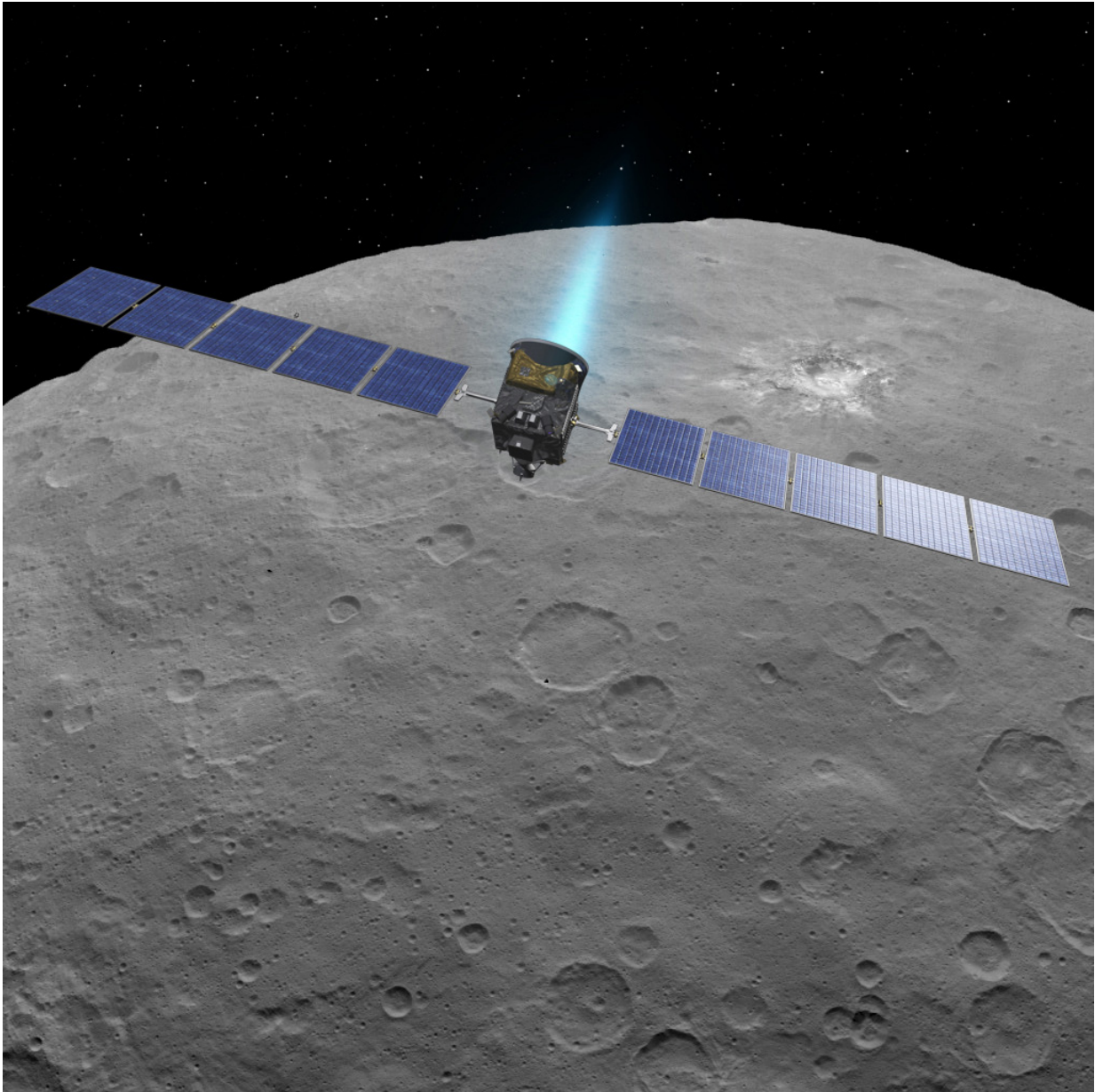


Dawn sets course for higher orbit

August 31 2016, by Elizabeth Landau



This artist concept shows NASA's Dawn spacecraft above dwarf planet Ceres, as

seen in images from the mission. Credit: NASA

After studying Ceres for more than eight months from its low-altitude science orbit, NASA's Dawn spacecraft will move higher up for different views of the dwarf planet.

Dawn has delivered a wealth of images and other data from its current perch at 240 miles (385 kilometers) above Ceres' surface, which is closer to the [dwarf planet](#) than the International Space Station is to Earth. Now, the mission team is pivoting to consider science questions that can be examined from higher up.

After Dawn completed its prime mission on June 30, having surpassed all of its scientific objectives at Vesta and at Ceres, NASA extended the mission to perform new studies of Ceres. One of the factors limiting Dawn's lifetime is the amount of hydrazine, the propellant needed to orient the spacecraft to observe Ceres and communicate with Earth. By going to a higher orbit at Ceres, Dawn will use the remaining hydrazine more sparingly, because it won't have to work as hard to counter Ceres' gravitational pull.

"Most spacecraft wouldn't be able to change their [orbital altitude](#) so easily. But thanks to Dawn's uniquely capable ion propulsion system, we can maneuver the ship to get the greatest scientific return from the mission," said Marc Rayman, chief engineer and mission director, based at NASA's Jet Propulsion Laboratory, Pasadena, California.

On Sept. 2, Dawn will begin spiraling upward to about 910 miles (1,460 kilometers) from Ceres. The altitude will be close to where Dawn was a year ago, but the orientation of the spacecraft's orbit—specifically, the angle between the orbit plane and the sun—will be different this time, so

the spacecraft will have a different view of the surface.

The mission team is continuing to develop the extended mission itinerary and will submit a full plan to NASA next month.

Provided by NASA

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