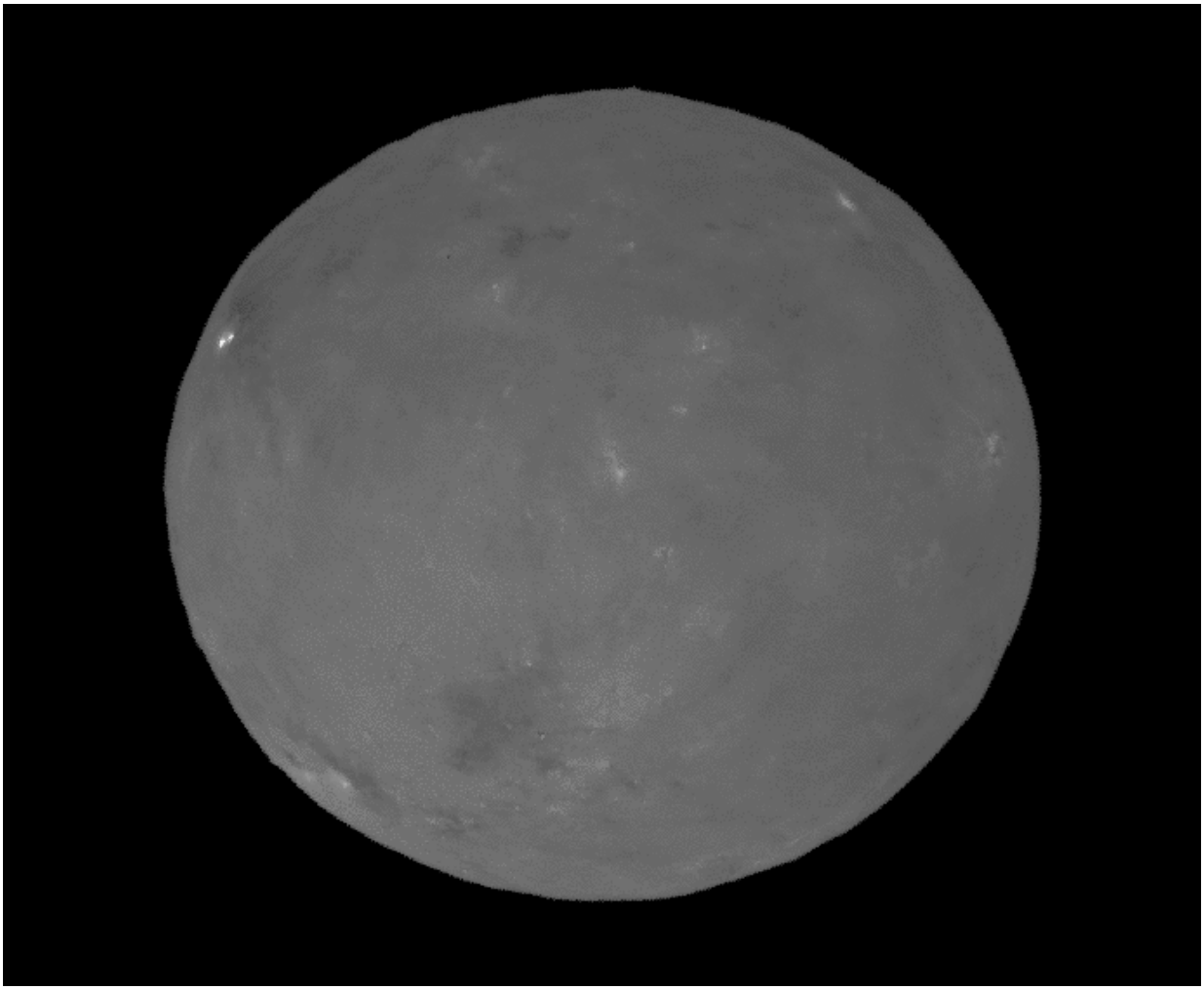
Movie shows Ceres at opposition from sun

May 17 2017, by Elizabeth Landau



NASA's Dawn spacecraft successfully observed Ceres at opposition on April 29, 2017, taking images from a position exactly between the sun and Ceres' surface. Mission specialists had carefully maneuvered Dawn into a special orbit so that the spacecraft could view Occator Crater, which contains the brightest area of Ceres, from this new perspective. This movie shows these opposition images, with contrast enhanced to highlight brightness differences. The bright spots of

Occator stand out particularly well on an otherwise relatively bland surface. Dawn took these images from an altitude of about 12,000 miles (20,000 kilometers). Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

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A new movie shows these opposition images, with contrast enhanced to highlight brightness differences. The bright spots of Occator stand out particularly well on an otherwise relatively bland surface. Dawn took these images from an altitude of about 12,000 miles (20,000 kilometers).

Based on data from ground-based telescopes and spacecraft that previously viewed planetary bodies at opposition, scientists correctly predicted that Ceres would appear brighter from this opposition configuration. This increase in brightness, or "surge," relates the size of the grains of material on the surface, as well as the porosity of those materials. The science motivation for performing these observations is further explained in the March issue of the Dawn Journal blog.

Dawn's observations of Ceres during its more than two years there cover a broader range of illumination angles than almost any body in the solar system. This provides scientists with an opportunity to gain new insights into the surface properties. They are currently analyzing the new data.

The new observations and images were largely unaffected by the loss of function of Dawn's third reaction wheel. The spacecraft is healthy and orients itself using its hydrazine thrusters.

Provided by Jet Propulsion Laboratory