



Juno ASC observations of low light phenomena on the Jovian night side

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P24B-04: Juno ASC observations of low light phenomena on the Jovian night side

Tuesday, 11 December 2018

17:30 - 18:00

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The Juno spacecraft entered into a highly elliptic polar orbit about Jupiter on the 4th of July 2016. The orbit and attitude profile of the spinning spacecraft is, orbit by orbit, optimized to afford the best viewing conditions for Juno's science instruments. The orbit plane progressively drifts from dawn-dusk towards noon-midnight, as Jupiter moves about the sun. By 2020, perijove will have advanced from dusk to midday, with each 53-day orbit increasing local time by ~15 minutes. Juno's magnetometer investigation is mapping the Jovian magnetic field with unprecedented accuracy, for which each of its two vector magnetometers is paired with two star trackers (ASCs) providing attitude determination whenever viewing the celestial sphere. Juno's evolving orbit and attitude profile will, however, for a short period around the perijove, bring Jupiter through the field of view of the ASC cameras. The ASC cameras will view the night side of Jupiter during these perijove passes. Jupiter will be viewed at high slant angles, typically from the horizon to the terminator; this vantage point will naturally preclude a study of details, but yields an excellent overview of luminous night side phenomena. The ASC cameras have thus far been acquiring low-light wide-field images of these regions. We present an overview of the ASC night-side Jupiter observations obtained during the first 14 orbits, including giant lightning discharges, large scale nocti-luminescent cloud top phenomena, and perspective views of the Great Red spot facilitating an assessment of cloud height.

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