Joint Galileo/Cassini Observations of the Jovian System

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Beginning in October of 2000 and continuing into 2001, the Galileo and Cassini spacecraft are making a historic rendezvous at Jupiter. This dual encounter, made by a pair of probes carrying full complements of remote sensing and fields and particles (in situ) instruments, represents a unique opportunity for coordinated study of the Jovian system. Joint observations target the magnetosphere of Jupiter, the four Galilean moons, the ring system, and Jupiter's atmosphere. They began with simultaneous measurements of the solar wind (by Cassini) and the magnetosphere (by Galileo). During the period October '00 through February '01, Galileo will perform a traverse through the magnetosphere, crossing the bow shock and magnetopause to enter the magnetosphere, and then exiting 3-4 months later. During this time, Cassini will collect complementary data on the solar wind, which will allow for the first detailed studies of the solar wind/magnetospheric interactions. Cassini will also enter the magnetosphere/magnetopause region, providing information on the dynamics of transitional region between the solar wind and the interior of the magnetosphere. Joint remote sensing activities include examinations of Io, searching for changes due to recent volcanism as well as eclipse observations to map out thermal hotspots and analyze auroral glows caused by the interactions between Io's tenuous atmosphere and Jupiter's radiation belts. Other targets of joint studies include the dynamics of Jupiter's ring system, time variability of the Jovian polar aurora, and detailed studies of the dynamics of Jupiter's atmosphere.

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