



First results from the ionospheric radio occultations of Saturn by the Cassini spacecraft.

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The first set of near-equatorial occultations of the Saturn ionosphere was obtained by the Cassini spacecraft between May and September of 2005. The occultations occurred at near-equatorial latitudes, between 10° North and 10° South, at solar zenith angles from about 84° to 97°. The entrance observations correspond to dusk conditions and the exit ones to dawn. An initial look at the data indicates that the average peak densities are lower and the peak altitude higher at dawn than at dusk, possibly the result of ionospheric decay during the night hours. There are also significant differences between individual dawn and dusk occultations; the initial thought is that this variation may be connected to changes in the water inflow into the upper atmosphere and/or variations in the particle impact ionization rates.