



Properties of the magnetic field and plasma in the kronian magnetotail lobes

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We use Cassini magnetometer and electron spectrometer data to characterize the magnetic field in Saturn's magnetotail lobes throughout the nominal mission, with particular emphasis on the deep tail orbits out to ~ 65 RS in 2006.

We compare the magnetic pressure in the central plasma sheet with that in the lobes to estimate plasma pressures in the plasma sheet and study the radial, local time and longitudinal profiles of lobe magnetic field strength and pressure. Power-law fits for the magnetic field strength and pressure as a function of radial distance are presented. Lobe conditions during "quiet" periods are compared and contrasted with disturbed periods where travelling compression regions and other such structures are observed.

Lastly, we discuss our results in the context of the Earth and Jupiter.