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# Saturn's plasma sheet properties near Titan encounters as derived from ion densities measured by the Cassini/CAPS instrument

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## Abstract

We analyse the ion densities derived in LANL from the data of the Cassini Plasma Spectrometer, for the time period of the prime mission near Titan encounters till the end of May 2008. The objective was to explore the properties of the plasma region near the magnetodisk. The plasma density show periodical fluctuations similar to those observed in the magnetic field data, the intensity of the fluctuation depends on the spacecraft latitude. Along the spacecraft orbit the sign of the radial component of the magnetic field frequently changed. Around those locations we observed enhanced plasma density, the heavy ion density being higher that the proton density. We believe that these are the signatures of a plasma sheet surrounding the magnetodisk. This plasma sheet is denser and wider on the dayside of Saturn, quantitative characterisation was also possible. A peculiar feature of the heavy ion density values is that they are spiky, and do not exhibit smooth variation.