



Saturn's planetary magnetic field as observed by the Cassini magnetometer

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We have analyzed Saturn's magnetic field data collected by the Cassini Fluxgate magnetometer instrument during its many orbits around the planet. Firstly, we have estimated and removed the signal generated by the ring current, whose size and magnetic moment are allowed to vary in response to changing magnetospheric conditions. In addition, we have redefined the IAU planetary longitude, by taking into account the new rotation period, as observed by Cassini. In this way, we are able to obtain, for the first time, a measurement of the azimuthal Gauss coefficients. We present internal field models obtained with various inversion techniques, and compare them with past zonal models.