Conference: 2014 Fall American Geophysical Union Meeting
Location: San Francisco, CA
Dates: December 15-19, 2014

A New Global Core Plasma Model of the Plasmasphere

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The Global Core Plasma Model (GCPM) is the first empirical model for thermal inner magnetospheric plasma designed to integrate previous models and observations into a continuous in value and gradient representation of typical total densities. New information about the plasmasphere, in particular, makes possible significant improvement. The IMAGE Mission Radio Plasma Imager (RPI) has obtained the first observations of total plasma densities along magnetic field lines in the plasmasphere and polar cap. Dynamics Explorer 1 Retarding Ion Mass Spectrometer (RIMS) has provided densities in temperatures in the plasmasphere for 5 ion species. These and other works enable a new more detailed empirical model of thermal in the inner magnetosphere that will be presented.