

## **MAGNETOSPHERIC ELECTRON DENSITIES AT HIGH LATITUDES AS MEASURED BY THE IMAGE RADIO PLASMA IMAGER**

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Among other capabilities, the Radio Plasma Imager (RPI), aboard the IMAGE satellite, can be used effectively as a topside sounder. Inversions performed on returns from X-mode waves guided along magnetic field lines can yield electron densities along that field line. At L-shells above the plasmopause, these measurements during quiet times are used to construct an empirical model of the polar cap electron density profile in three dimensions.