

Plasma Waves in Saturn's Magnetosphere

G. B. Hospodarsky*⁽¹⁾, J. D. Menietti⁽¹⁾, D. Pisa^(1,2), W. S. Kurth⁽¹⁾, D. A. Gurnett⁽¹⁾, A. M. Persoon⁽¹⁾, O. Santolik⁽²⁾, J. S. Leisner^(1,3), and T. F. Averkamp⁽¹⁾

(1)University of Iowa, Iowa City, IA

(2) Institute of Atmospheric Physics CAS, Prague, 141 31, Czech Republic

(3) SDSE, LLC., Silver Spring, MD, 20910, USA

The Radio and Plasma Wave Science (RPWS) investigation, part of the Cassini mission at Saturn, has detected a variety of radio and plasma waves in the magnetosphere of Saturn. These emissions include whistler mode chorus and hiss, lightning-produced whistlers, high latitude auroral hiss, electrostatic electron cyclotron harmonic (ECH), upper hybrid resonance (UHR) and Langmuir wave emissions, Z- and O-mode narrowband emissions, and Saturn kilometric radiation (SKR). Plasma waves have also been detected in association with the Saturnian moons, including Enceladus, Rhea and Dione. We review these observations and discuss the various properties of these waves.