



Analysis of plasma waves observed within local plasma injections within Saturn's magnetosphere

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Plasma injections have been reported to be a prolific feature of Saturn's inner magnetosphere. They are characterized by flux tubes of warm, tenuous plasma superposed on a cooler, locally produced plasma background. The injected plasma disperses in energy due to gradient and curvature drifts as the flux tube transports. The plasma waves within these injections are very intense and narrow-banded, resembling electrostatic cyclotron harmonics. We model the electron plasma distributions within these regions to conduct a linear dispersion analysis of possible wave modes. We compare these results to the observations in an effort to better understand the physical processes operating in these interesting events.