



Detection of Plasma from Dione and Tethys and Their Trojans

J. L. Burch, J. Goldstein, D. T. Young, and A. D. DeJong

Southwest Research Institute, San Antonio TX, USA (jburch@swri.edu/+1 210-522-2526)

Analysis of Cassini Plasma Spectrometer data indicates that Saturn's moons Dione, Tethys, Helene, Telesto, and Polydeuces are significant sources of plasma. Observations suggest that interchange injections transport plasma from these moons outward through Saturn's magnetosphere. Unlike Enceladus, none of these moons produces a fully developed plasma torus partly because the sources are weaker but also because the plasma is transported efficiently outward through the magnetosphere by interchange. Efficient ejection of plasma from these icy moons may exceed expectations from sputtering. One possibility is that these bodies possess active outgassing as is known to be the case for Enceladus.