

# **SOURCES AND SINKS OF NEUTRALS AND PLASMA IN THE JOVIAN AND SATURNIAN MAGNETOSPHERES**

JOHN D RICHARDSON 1

1. M.I.T., Cambridge, MA USA, email: [jdr@space.mit.edu](mailto:jdr@space.mit.edu)

Jupiter and Saturn have the two biggest magnetospheres in the solar system, and in each of these magnetospheres one moon seems to be the dominant source of plasma in the inner magnetosphere. At Jupiter, Io have SO<sub>2</sub> volcanos which are the ultimate source of neutrals and plasma for Jupiter's

magnetosphere. The main source of the Saturnian magnetosphere's neutrals and plasma is the icy moon Enceladus, which emits neutrals from a plume near the southern pole. This talk will review current work on the sources and rates of neutral and plasma production in these magnetospheres. We will also discuss the time dependence resulting from changes in these sources and the sinks of plasma lost from the magnetospheres.

Planetary Magnetospheres

John Richardson, M.I.T. Kavli Center, Room 37-655, Cambridge, MA USA 02139,  
Tel: 978-828-6863, e-mail: [jdr@space.mit.edu](mailto:jdr@space.mit.edu)