



Identification of Ganymede's magnetospheric regions and associated plasma processes from Galileo multiple flyby observations

Nicolas André (1,2), Renaud Allioux (1,2), Baptiste Cecconi (3), Andrei Fedorov (1,2), Philippe Louarn (1,2)

(1) Université de Toulouse, UPS-OMP, IRAP, Toulouse, France, (2) CNRS, IRAP, 9 Av. colonel Roche, BP 44346, F-31028 Toulouse cedex 4, France (nicolas.andre@cesr.fr), (3) Observatoire de Paris, LESIA, Meudon, France

Ganymede, the largest moon in the Solar System, has an intrinsic magnetic field and its own magnetosphere, embedded within the giant magnetosphere of Jupiter. Ganymede's magnetosphere provide us with a unique environment to study magnetic reconnection, the effects of space weathering on icy surfaces, as well as the electromagnetic connection between a magnetized moon and its planet. The Galileo spacecraft has flown by Ganymede on multiple occasions and the various flyby geometries have given us access to different parts of the interaction regions. In this presentation we will use the complete set of field and particle instruments onboard Galileo in order to give a multi-instrumental description of the large-scale structure of Ganymede's magnetosphere, identifying the different regions and their boundaries, as well as the most important plasma processes operating in this fascinating environment.