



ID de Contribution: 14

Type: **Oral presentation**

## **Europa's interaction with the jovian plasma from hybrid simulation**

*mardi 9 février 2021 16:45 (15 minutes)*

Galilean moons are embedded in Jupiter's giant magnetosphere. The jovian plasma particles interact with the atmosphere of the moons, exchanging momentum and energy, and generate different phenomena such as aurora, electric current, etc..

The exploration of the Galilean moons, and in particular Ganymede and Europa considered as potential habitats, are listed among the main objectives of the ESA JUPITER ICY moon Explorer mission. In preparation of future observations, a simulation effort is conducted to describe the Europa/Ganymede moon-magnetosphere system.

LatHyS is a hybrid 3D, multi-species and parallel simulation model which is based on a kinetic description of ions and a fluid description of electrons. It allows to describe the interaction between the jovian plasma and the moon environments. As Ganymede's environment has already been implemented, we propose to enrich the model by completing it with Europa's -jovian plasma interaction and to optimize it in order to improve the accuracy of the results.

### **Field**

Planetology (including small bodies and exoplanets)

### **Day constraints**

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**Classification de Session:** Talk

**Classification de thématique:** Astrophysics