

## Planetary Interiors

### *Volatiles Storage in Planetary Interiors*

Most of the volatiles-rich minerals are typical of superficial layers of telluric planets (Earth, Mars), however, the atomic structures of minerals found in deep planetary interiors are never perfect and can incorporate significant amount of various volatiles elements (H, C, S, Halogens, noble gases or highly siderophile elements). The presence of these elements in the lattice of deep minerals in telluric planets can impact many large-scale properties such as viscosity, *electrical and thermic conductivity*, ionic diffusion, melt percolation or melting temperature. For example, for the Earth, water *derived-species* are recurrently proposed as key geodynamic components. Despite major progresses in experimental technics at extreme conditions, spacial detection, numeric geodynamic models, and the calculation capability, many unknowns remain on the capacity of minerals to store volatiles elements. This session aims to bring together studies investigating any aspect of volatiles storage in planetary interiors (e.g., Earth, Mars, Venus). We welcome contributions including, but not limited to: 1) experimental and theoretical investigation; 2) quantification of the transport, fluxes and cycles; 3) advances in quantitative measurement techniques; or 4) data report on observables. Submissions from students and early career researchers are especially encouraged.

Dr H  l  ne Bureau, IMPMC Paris, [Helene.bureau@upmc.fr](mailto:Helene.bureau@upmc.fr)

Dr Sylvie Demouchy, Geosciences Montpellier, [sylvie.demouchy@umontpellier.fr](mailto:sylvie.demouchy@umontpellier.fr)