

Melts and glasses from laboratory to planetary interiors

The major transport vectors for heat and mass inside the Earth's mantle are the silicate melts and aqueous fluids. Chemical reactions, ionic diffusion, heat exchange, mass displacements are all favoured by the presence of these agents across the Earth's crust and mantle reservoirs. The liquid state is also prevalent in the outer core where it ensures chemical and thermodynamical exchanges between the base of the mantle and the top of the inner solid core.

But the molten state is also one of the most difficult to study. In parallel to various high-temperature and high-pressure experiments and calculations that address melts directly, studies of glass analogues remain a valuable alternative easily accessible in the laboratory. The purpose of this session is to offer a melting pot for discussion around melts and glasses from various perspectives, both computational and experimental: mineralogy, thermodynamics, geochemistry, geodynamics, seismology, planetology, etc.