

Institut de Minéralogie et de Physique des Milieux Condensés
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SÉMINAIRE

Jeudi 20 juin, 14h

*Salle de conférence, 3ème étage, Tour 22-23
INSP, Université P. et M. Curie, 4, Place Jussieu, 75005 Paris*

MARIUS MILLOT

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EXTREME CHEMISTRY OF WARM DENSE MATTER

Laboratory experiments coupling static compression with laser-driven shocks provide access to explore the extreme chemistry of warm dense matter.

I will present recent optical reflectivity and equation of state (pressure, density, temperature) measurements for nitrogen up 800 GPa (8 Mbar), 10 eV (100 000 K) and 4.1 g/cc using laser-driven shocks on precompressed fluid. The ultrafast Doppler interferometry and streaked optical pyrometry data allow to unravel major bonding changes from a molecular to a polymeric fluid and to a degenerate atomic dense plasma.

I will also present new shockwave data on the melting line of Silica at several megabars.