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## Metallization and Melting Line of Warm Dense Helium

The properties of matter in the warm dense matter regime are very important for accurate simulations of giant planets. Metallic matter contributes to the dynamo of the planet. If the metallization of helium takes place under planetary conditions, new dynamo models have to be developed. We investigated whether the insulator-metal phase transition is of first order. In the course of the simulations, the need for accurate melting line predictions emerged. We revisited the known ab initio simulation methods for the melting line and came up with a most consistent version of two-phase simulations (TPS).

Talk: English

Slides: English

**Location:** Institute of Physics, Albert-Einstein-Str. 24, HS1