

Abstract Submitted  
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**Very-high temperature molecular dynamics of dense plasmas.** FLAVIEN LAMBERT, JEAN CLÉROUIN, STÉPHANE MAZEVET, DOMINIQUE GILLES — Finite temperature Orbital Free DFT coupled consistently with molecular dynamics is applied to the hot-dense plasma regime up to 1000 eV and  $100 \text{ g cm}^{-3}$ . Results obtained on dense iron and boron plasmas are compared with all-electron Quantum MD and effective classical theories like OCP and Yukawa OCP. A prescription on ionization for the classical model is made through the structural properties. Emphasis is also done on a comparison between Kubo-Greenwood and Ziman theories on dc conductivity in the very dense regime.

Jean Clérouin  
Commissariat à l'Énergie Atomique

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