

Abstract Submitted
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Equation of State for Cerium at High Dynamic Pressures¹ KONSTANTIN V. KHISHCHENKO, JIHT RAS, Moscow, Russia — Equations of state for matter over a wide range of pressures and temperatures are required for hydrodynamic simulations of processes in shock-compressed media. In this work, a new semiempirical equation of state for cerium is proposed with taking into account the polymorphic phase transformations, melting, evaporation, and ionization. Results of calculations of thermodynamic parameters of this metal in different phase states are compared with available experimental data at high dynamic pressures.

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