

Abstract Submitted
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Equations of state of metals in WDM region IGOR LOMONOSOV,
IPCP RAS, Chernogolovka — We present wide-range semi-empirical EOS model for metals. It fully assigns the free energy thermodynamic potential for metals over entire phase diagram region of practical interest. The model accounts for solid, liquid, plasma states as well as two-phase regions of melting and evaporation. Novel experimental data in WDM region are discussed. They include results of dynamic experiments on shock compression and isentropic expansion of solid and porous metals and information, obtained under conditions of heating by powerful electric current. We present comparison with isobaric expansion, isochoric plasma vessel and “sandwiched” foil experiments for Al, Ti, Fe and W and discuss their consistency with shock-wave data.

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