

Abstract Submitted
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Semiempirical models of shear modulus at shock temperatures and pressures VAYTCHESLAV ELKIN, VADIM MIKHAYLOV, TATIANA MIKHAYLOVA — The work is devoted to a comparison of capabilities the Steinberg-Cochran-Guinan and Burakovsky-Preston models of shear modulus offer for the description of experimental and calculated (ab initio) data at temperatures and pressures representative of solid state behind the shock front. Also, the SCG model is modernized by changing from the (P,V) variables to the (V,T) ones and adding a free parameter. The resulted model is then referred to as the (V,T)-model. The three models are tested for 9 metals (Al, Be, Cu, K, Na, Mg, Mo, W, Ta) with using ab initio and experimental values of shear modulus in a wide range of pressures as well as longitudinal sound velocities behind the shock front.

Vaytcheslav Elkin

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