

Abstract Submitted
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International Shock-Wave Database: Systematization of Experimental Data PAVEL R. LEVASHOV, KONSTANTIN V. KHISHCHENKO, IGOR V. LOMONOSOV, DMITRY V. MINAKOV, ALEXEY S. ZAKHARENKO, JIHT RAS, Moscow, Russia — In this work, we announce the creation of the International Shock-Wave Database (ISWDB). Shock-wave and related dynamic material response data serve for calibrating, validating, and improving material models over very broad regions of the pressure–temperature–density phase space. Our objectives are (i) to develop a database on thermodynamic and mechanical properties of materials under conditions of shock wave and other dynamic loadings, selected related quantities of interest, and the meta-data that describes the provenance of the measurements and material models, and (ii) to make this database available internationally thru the Internet, in an interactive form. The development and operation of the ISWDB will be guided by input from a steering committee. The database will be installed on two mirrored web-servers, one in Russia and the other in USA. The database will provide access to original experimental data on shock compression, non-shock dynamic loadings, isentropic expansion, measurements of sound speed in the Hugoniot state, and time-dependent free-surface or window-interface velocity profiles. We believe that the ISWDB will be a useful tool for the shock-wave community.

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