

Abstract Submitted
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Thresholds in shock response across the elements F.L. BOURNE, N.K. BOURNE, CMEC, School of Materials, University of Manchester, Rutherford Appleton Laboratory, Didcot, Oxfordshire, OX11 0FA, United Kingdom., CMEC TEAM — Compendia of shock data have been assembled across national laboratories across the world. Previous work has shown a threshold in behaviour for materials; the weak shock limit. This corresponds the stress state at which the shock is overdriven in a single front. The shock velocity-particle velocity data for elements and compounds has been systematically analysed to note discontinuities in the data. A range of materials show these features and the form of the discontinuity in each case is analysed. Some correspond to martensitic phase transformations as expected whilst others are more difficult to track down. Particular groups within the elements show characteristic forms according to groupings in the periodic table. The datasets are presented and trends are noted.

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