

Abstract Submitted
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Equation of State and Transport Data for Initially Wide Band Gap Materials from 0.1 to 10 Mbar¹ GILBERT COLLINS, RYAN RYGG, JON EGGERT, AMY LAZICKI, DAMIEN HICKS, PETER CELLIERS, Lawrence Livermore National Laboratory, PAUL LOUBEYRE, STEPHANIE BRYGOO, CEA, France — We present a suite of new shock compression data (pressure, temperature, density and reflectance) on originally large band-gap fluids including CO₂ and Kr from 0.1 to 10 Mbar. Initial densities and pressures for these samples are tuned using diamond anvil cell containers. Shock data starting from initial cryogenic-liquid densities show insulator to conductor transitions at shock pressures less than 1 Mbar for Kr and near 2 Mbar for CO₂. By comparing shock data at different initial densities we estimate the specific heat over the pressure range where significant ionization occurs.

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