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Computation of the Principal Deuterium Hugoniot with quantum Monte Carlo NORM TUBMAN, University of Illinois Urbana-Champaign, DAVID CEPERLEY, University of Illinois at Urbana Champaign — We have performed extensive calculations of the principal deuterium Hugoniot using the Coupled Electron Ion Monte Carlo method (CEIMC). In this method we use Monte Carlo to simulate both the electronic and ionic degrees of freedom. We will discuss finite size effects, effects of zero point motion of the ions, as well as convergence issues with the simulation. We compare the predicted Hugoniot with previous simulations and experimental results.

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