

Abstract Submitted
for the DFD19 Meeting of
The American Physical Society

Modeling Astrophysical Transients with Smooth Particle Hydrodynamics¹ CHRIS FRYER, Los Alamos National Laboratory — Mesh free methods, and smooth particle hydrodynamics in particular, have been used extensively in modeling astrophysical transients. The ability of SPH to conserve angular momentum, easily include detailed microphysics, and to resolve the mass over large distance scales makes it an ideal method for many problems. I will present an overview of the wide variety of astrophysical transients modeled with smooth particle hydrodynamics, including supernovae, gamma-ray bursts and merging neutron stars. I will focus on the specific strengths and current issues using these methods to model these problems.

¹This work was supported by the US Department of Energy through the Los Alamos National Laboratory.

Chris Fryer
Los Alamos National Laboratory

Date submitted: 17 Jul 2019

Electronic form version 1.4