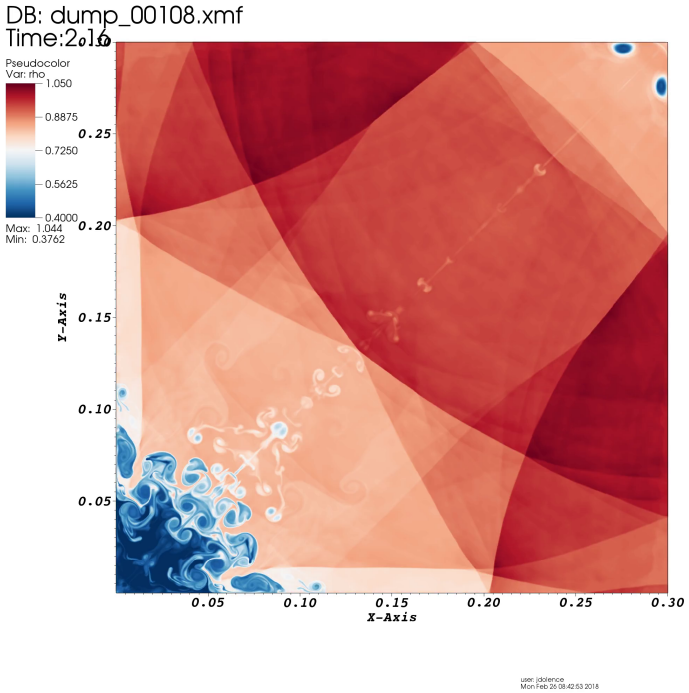
# Explosions of Low-Mass Massive Stars

## Objectives

To construct an effiicient state-of-the-art core-collapse multi-group, multi-species supernova simulation code for 3D, 2D, and 1D explorations of CCSNe .

## Impact

Such a capability, taking advantage of modern HPC architectures, will enable multiple 3D CCSN runs per year to expand the parameter range accessible.




## Accomplishments

The Princeton group has completed its Fornax code development, using it has conducted the first fully 3D simulations without compromising approximations, and arXived the first code paper (Skinner et al. 2018; arXiv:1806.07390). This paper contains numerous verification tests of its hydrodynamics, radiation, and radiation-hydrodynamics capabilities. The code demonstrates both speed and accuracy and is now in production mode.

Citation: Skinner et al. 2018 (arXiv:1806.07390); Contact : Adam Burrows