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Radiation Hydrodynamics Simulations of Interacting Supernovae

Supernovae explosion (SNe) are among the most energetic astrophysical phenomena, where the ejecta from a stellar explosion collides with a dense circumstellar medium (CSM), leading to intense shock interactions and enhanced radiation output. We employ two-dimensional radiation hydrodynamics (RHD) simulations using the CASTRO code, incorporating adaptive mesh refinement (AMR) to model the complex interaction between supernova ejecta and non- uniform CSM. Our study aims to investigate how different CSM structures affect shock propagation.

Section

High Energy

Primary author: HAN, Yi-Chan (National Yang Ming Chiao Tung University)

Presenter: HAN, Yi-Chan (National Yang Ming Chiao Tung University)

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