

The impact of supernova ejecta on their companion stars and pollution of the synthesized elements at the companion surface

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The progenitors of many supernovae are expected to be in binary systems. After the supernova explosion in a binary system, the companion star may suffer from mass stripping and be shock heated and polluted with heavy elements as a result of the impact of the supernova ejecta. If the binary system is disrupted by the supernova explosion, the companion star is ejected as a runaway star, and in some cases as a hypervelocity star. This talk will present the results of three-dimensional hydrodynamical simulations of the interaction between supernova ejecta and their companion stars, as well as pollution of the synthesized elements at the surface of companion stars during the interaction.

Primary author: LIU, Zhengwei (Yunnan Observatories, CAS)

Co-authors: ROEPKE, Fritz; PAKMOR, Ruediger; HILLEBRANDT, Wolfgang; WANG, Bo; TAURIS, Thomas; HAN, Zhanwen

Presenter: LIU, Zhengwei (Yunnan Observatories, CAS)

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