

# GLOBAL SIMULATIONS OF MAGNETO-ROTATIONAL SUPERNOVA WITH MRI FOR AN ORIGIN OF R-PROCESS NUCLEOSYNTHESIS

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Recent studies suggest that core-collapse supernovae do not achieve feasible condition for the r-process, based on state-of-the-art hydrodynamical simulations. This means that core-collapse supernovae are hardly considered to be cosmic origin of the r-process. The strong jet-like explosions induced by strong magnetic fields, however, has been paid attention for the ejection of neutron-rich matter.

We investigate magneto-hydrodynamical core-collapse supernovae with the strong magnetic field and rapid rotation in the context of the r-process nucleosynthesis. In this study, we adopt explosion models of magneto-hydrodynamical simulations with neutrino heating and magneto-rotational instability, which were ignored in previous studies. We show ejection process of neutron-rich matter due to the strong activity of magnetic fields around the proto-neutron star.