

# Neutrino-driven Mass Ejection from the Remnant of the Binary Neutron Star Merger

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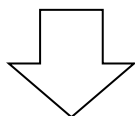
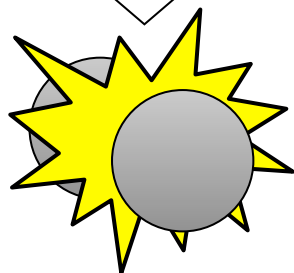
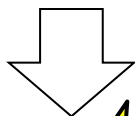
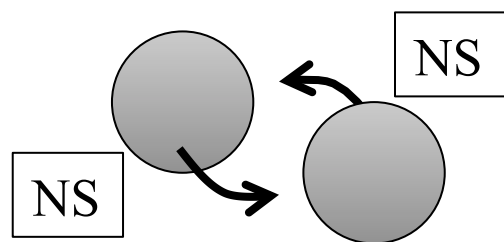


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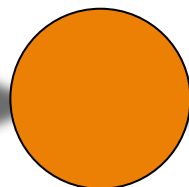


# Remnant of Binary NS merger

( Shibata et al. 05, 06, Sekiguchi et al. 11, Hotokezaka et al. 13)



Accretion  
Disk

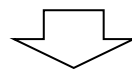


HMNS

Nuclear EOSs that can support  $\sim 2M_{\odot}$  NSs

+

Numerical relativity simulations  
for NS-NS mergers

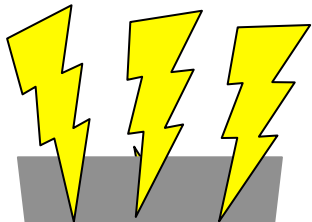


Temporal formation of  
massive neutron star (MNS)  
is the likely path of the merger.

# Neutrino-driven Mass Ejection

© **MNS phase** : Large neutrino luminosity ( $\sim 10^{53}$  erg s $^{-1}$ )

GRB?

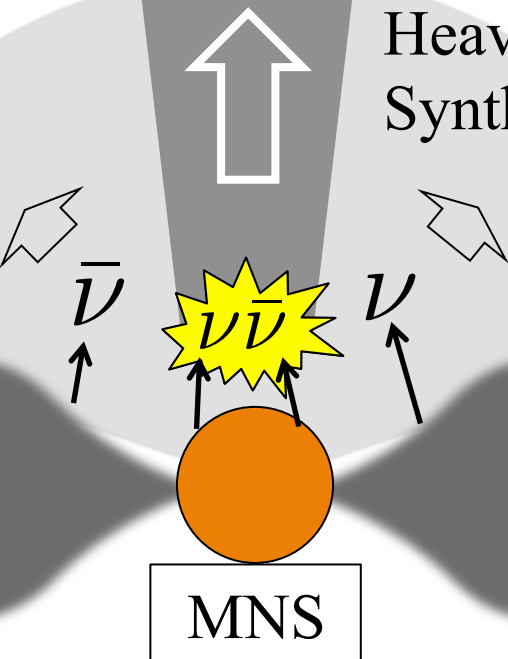


We perform long-term, numerical relativity, neutrino radiation-hydrodynamics simulations for MNS–torus system in order to investigate the properties of  $\nu$ -driven outflow in MNS phase.

Heavy-element  
Synthesis?

**Can neutrinos power gamma-ray bursts?**

**Does  $\nu$ -driven outflow contributes to heavy-element synthesis via the r-process?**



Details → **Please see my poster (I-7)!**