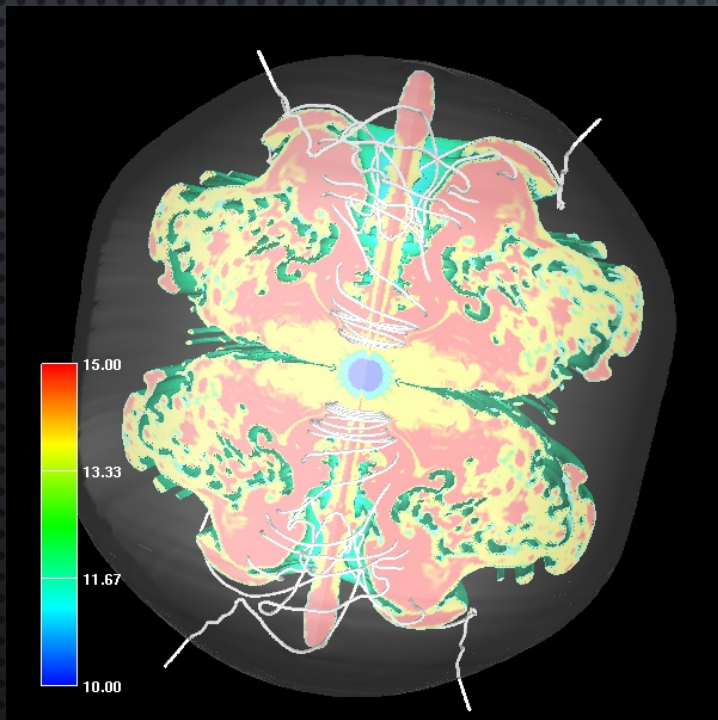


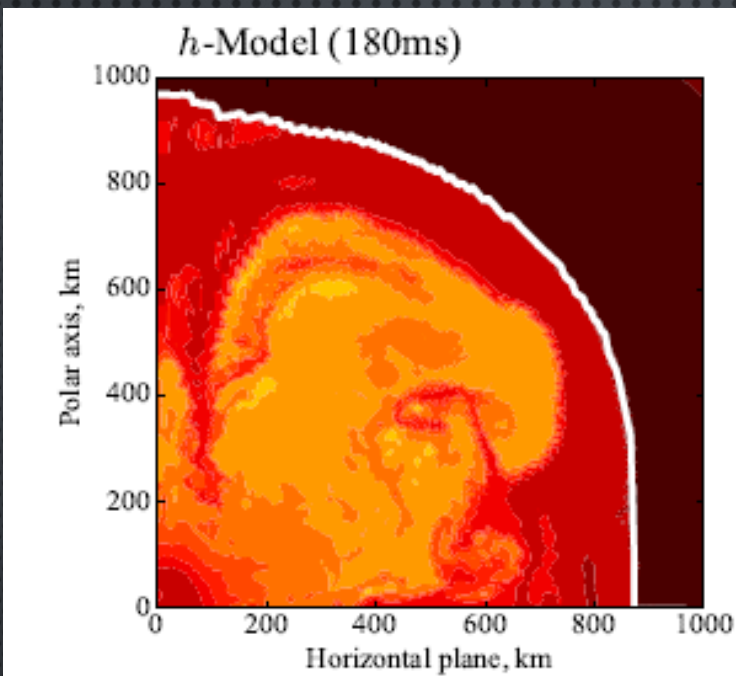
R-process Nucleosynthesis in Magnetically driven Explosion of Core-Collapse Supernovae

N. Nishimura (Keele U.), H. Sawai (RIST/ Waseda U.),
T. Takiwaki (NAOJ), S. Yamada (Waseda U.) and F.-K. Thielemann (Basel)

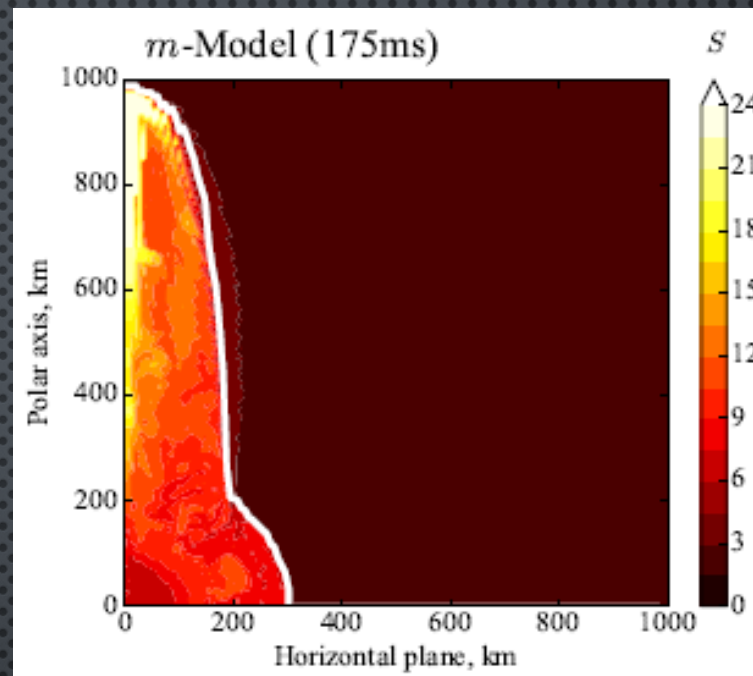


Simulations

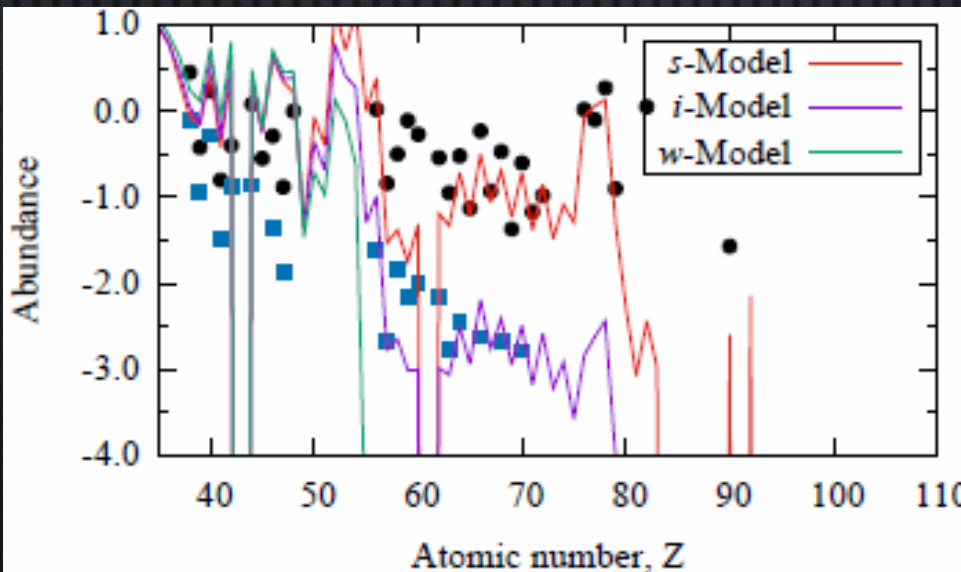
- 2D axisymmetric MHD
- High resolution: $\Delta_{\min}=30\text{m}$
=> capturing MRI
- Neutrino: light bulb with L_{ν} obtained by IDSA in a low resolution simulation
- Y_e evolution
- EOS: Shen
- Progenitor: 15Msun (Woosley+95)
- Weak initial B field: $2 \times 10^{11}\text{G}$
- Rapid initial rotation: $\Omega_{in} = 2.7\text{rad/s}$



Neutrino heating-dominant explosion



Magnetic-dominant explosion



R-process occurs in MD explosion.

In NHD explosion, no feature for r-process.

We found intermediate abundance pattern between the two extremes.

=> Close to that of Honda Star?