

Hunting for electron-neutrino lepton number crossings in core-collapse supernovae

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Motivation

- ELN crossings can trigger fast neutrino flavor conversions in supernovae, potentially impacting the explosion and nucleosynthesis
- We want to know:
 1. Do ELN crossings occur in supernovae?
 2. Are they affected by the physics in the SN core?

Conclusions

- Conditions favorable for the occurrence of flavor conversion are present for all models
- The appearance of ELN crossings subtly depends on the SN microphysics and proto-neutron star convection

