Contribution ID: **249** Type: **Poster supernova**

Accounting for the neutrino sphere width in effective and full calculations of neutrino oscillations

The neutrino flavour evolution in a supernova can be described either in terms of neutrino fields or as the evolution of individual neutrinos. There is no reason to think that the two approaches should give contradicting results, and both has their advantages. One of the advantages of using individual neutrinos is that it becomes clear that the finite width of the neutrino sphere must lead to the averaging over the oscillation phase due to the different emission points, and therefore to a reduction of the effective mixing angle. On this poster, we go into the details of this argument and interpret it in terms of the density matrix formalism by taking into account the often neglected collision term.

Session and Location

Wednesday Session, Poster Wall #8 (Robert-Schumann-Room)

Poster included in proceedings:

yes

Primary author: Dr HANSEN, Rasmus S. L. (Max-Planck-Institut fuer Kernphysik)

Presenter: Dr HANSEN, Rasmus S. L. (Max-Planck-Institut fuer Kernphysik)

Track Classification: Poster (participating in poster prize competition)