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Collective flavor transitions of supernova neutrinos

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When the neutrino density is very high, as in core-collapse supernovae, neutrino-neutrino interactions are not negligible and can appreciably influence the evolution of flavor. The physics of these phenomena is briefly highlighted, and their effects are shown on observable energy spectra from a future galactic supernova. Detection of such effects could provide a handle on two unknowns: the neutrino mass hierarchy, and the 1-3 mixing angle.

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