

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Magnetic enhancement of neutrino oscillations in matter

WILLIAM PORTER, TODD TINSLEY, Hendrix College — Neutrinos produced in supernovae and other astrophysical phenomena are subject to matter-induced flavor oscillations, or the MSW effect. A common characteristic among such events is the intense magnetic field that often is produced. We consider what effects the magnetic field has on matter-induced oscillations. We begin by deriving the correction to the phase difference between two neutrino mass eigenstates to first order in the magnetic field strength. This result is compared to the free field case.

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Date submitted: 22 Oct 2009

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