Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Magnetic field dependence on neutrino-induced electron-positron creation rates[1] HANNAH MCWILLIAMS, Hendrix College — The study of neutrino processes in magnetic fields are immensely important for astrophysical phenomena where neutrino interactions are the dominant mode of energy loss and large fields exist. In this talk I will present a phenomenological relationship for the production rate of one such process, the creation of electron-positron pairs $\nu \rightarrow \nu\ e\ \bar{e}$, as a function of the magnetic field. I will show that above the critical magnetic field strength and at large neutrino energies there exists a power law dependence on the magnetic field.

[1]This work is supported by the Hendrix Odyssey Program and the Arkansas Space Grant Consortium

Todd Tinsley
Hendrix College

Date submitted: 19 Nov 2010 Electronic form version 1.4