

Abstract Submitted
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Limit On The Neutrino Magnetic Moment Using Super-Kamiokande Solar Neutrino Data DAWEI LIU, Department of Physics & Astronomy, University of California, Irvine, SUPER-KAMIOKANDE COLLABORATION — Nonzero neutrino magnetic moment would mean new physics beyond the standard model. Therefore a search for nonzero neutrino magnetic moment has been conducted using the high statistic 1496 live day solar neutrino data from Super-Kamiokande-I. Specifically, this search looked for distortions to the ^8B solar neutrino energy spectrum. A nonzero neutrino magnetic moment would cause an increase of event rates at lower energies. The search found no clear signal of neutrino magnetic moment. A limit of $\mu_\nu \leq 3.6 \times 10^{-10} \mu_B$ at 90% C.L. on the neutrino magnetic moment has been obtained by fitting to the Super-K day/night energy spectra. The fitting took into account the effects of neutrino oscillation on the shape of energy spectra. With the results from other neutrino experiments constraining the oscillation region, a limit of $\mu_\nu \leq 1.1 \times 10^{-10} \mu_B$ at 90% C.L. was obtained.

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