

Abstract Submitted
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Three flavor oscillation analysis of atmospheric neutrinos in Super-Kamiokande ROGER WENDELL, SUPER-KAMIOKANDE COLLABORATION — Recently the flavor composition of the neutrino mass states has been measured with increasing precision. However, the ν_e component of the third state, controlled by the mixing angle θ_{13} , together with the ordering of the neutrino masses remain unknown issues. Under the normal (inverted) hierarchy there is known resonant enhancement (suppression) of the $\nu_\mu \rightarrow \nu_e$ three-flavor oscillation probability in matter for several GeV neutrinos with long baselines when $\theta_{13} > 0$. Conversely, anti-neutrinos experience suppression (enhancement). Expanding the standard oscillation analysis to incorporate all active neutrino flavors, Super-Kamiokande (SK) can exploit this asymmetry to address these open questions. The SK-I and II atmospheric neutrino data has been combined and fit under a three-flavor oscillation model for both hierarchies. The results are consistent with previous analyses and zero θ_{13} .

Roger Wendell

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