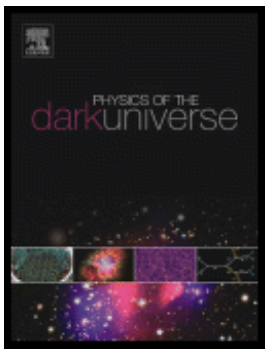

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Global Analyses of Oscillation Neutrino Experiments

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Abstract

In this talk I summarize the present status of the determination of neutrino masses and mixing from global analysis of solar, atmospheric, reactor, and accelerator neutrino data in the framework of three-neutrino oscillations and some extended scenarios.

1. Introduction: The New Minimal Standard Model

At the time of TAUP13 neutrino oscillation experiments have established with good precision that (1):

- Atmospheric ν_μ and $\bar{\nu}_\mu$ disappear most likely converting to ν_τ and $\bar{\nu}_\tau$. The results show an energy and distance dependence perfectly described by oscillations.
- Accelerator ν_μ and $\bar{\nu}_\mu$ disappear over distances of $\sim$ 200 to 700 Km. The energy spectrum of the results show a clear oscillatory behaviour.
- Solar ν_e convert to ν_μ or ν_τ. The observed energy dependence of the effect is well described by neutrino conversion in the Sun matter according to the MSW effect (2).
- Reactor $\bar{\nu}_e$ disappear over distances of $\sim$ 200 Km. The observed energy spectrum shows an oscillatory behaviour with a wavelength distinct from the one observed in accelerator ν_μ disappearance and compatible with the required parameters for MSW conversion in the Sun.
- Accelerator ν_μ appear as ν_e at distances $\sim$ 200 to 700 Km.
- Reactor $\bar{\nu}_e$ disappear also over distances of $\sim$ 1.5 Km.

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