

Sensitivity analysis of JUNO to large extra dimensions

The upcoming JUNO (Jiangmen Underground Neutrino Observatory) project is a multipurpose neutrino experiment that has as main purpose to determine the hierarchy of massive neutrino states with a confidence level between 3σ and 4σ by collecting data for a period of six years. Also JUNO will determine with a precision better than 1% the oscillation parameters $\sin^2 \theta_{12}$, Δm_{21}^2 and $|\Delta m_{31}^2|$ and will measure the neutrinos produced by supernova explosions, geo-neutrinos, solar and atmospheric neutrinos. JUNO will have an energy resolution $3\% \sqrt{E_{\text{vis}}/1\text{MeV}}$ which can be used to put bounds on new physics. We shall do a sensitivity analysis of JUNO to large extra dimensions, considering that the space-time has four flat space dimensions, and we shall compare our results with the ones obtained by other researchers in the experiment Daya Bay.

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