

ICHEP2012



Contribution ID: 632

Type: **Parallel Sessions**

Prospects of investigating reactor neutrino anomaly with 3-16 m baseline

Friday, July 6, 2012 10:15 AM (15 minutes)

Results from reactor neutrino experiments show a repeating pattern of a small constant deficit at baselines between 16 m and 1-2 km as described in the paper by Mention et al. Proposed explanation of the deficit is so called reactor neutrino anomaly that requires existence of a non-standard neutrino oscillation with a very short baseline. Convincing independent confirmation of this result can come from the observation of the same pattern in the large liquid scintillator detector with the radioactive anti-neutrino source in the 100 kCi range as suggested by Cribier et al. In this talk we will investigate potential for the reactor neutrino anomaly measurement with the highly radioactive anti-neutrino source deployed in the veto region of the KamLAND detector with oscillation baseline between 3 and 16 m.

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Session Classification: Room 220 - Neutrinos / QCD, Jets, Parton Distributions - TR6

Track Classification: Track 8. Neutrinos