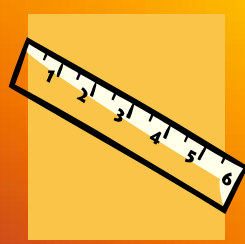




CU Physics Department Particle Seminar

Wednesday, October 24, 2007 705 Pupin Hall 1:00 PM



KamLAND:

Measuring Neutrinos from the Earth, the Sun and Nuclear Reactors

KamLAND is a one-kiloton liquid scintillating detector located in the Kamioka Mine in Kamioka, Japan. Previous KamLAND measurements have shown evidence for neutrino oscillation in reactor anti-neutrinos and indications of geological produced anti-neutrinos. The first phase of KamLAND data taking ended this May with the beginning of the purification of the liquid scintillator. Since the data taking started in 2001 almost 1500 days of data have been taken. A preliminary analysis of this full data set with improvements in calibration and the understanding of backgrounds now verify the spectral distortions predicted by neutrino oscillations at greater than 5σ . This analysis will be presented along with the current status and future plans for geo-neutrino and solar neutrino measurements with KamLAND.



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