Contribution ID: **72** Type: **Oral**

Recent Solar Neutrino Results From Super-Kamiokande

Tuesday, September 10, 2013 2:20 PM (20 minutes)

"Super-Kamiokande-IV data taking began in September of 2008, and with upgraded electronics and improvements to water system dynamics, calibration and analysis techniques, a clear solar
neutrino signal could be extracted at recoil electron kinetic energies as low as 3.49 MeV. The SK-IV extracted solar neutrino flux between 3.99 and 19.49 MeV is found to be (2.34±0.03(stat.)±0.04(syst.))×10^6 /(cm^2sec). The SK combined recoil electron energy spectrum slightly favors the distorted shape predicted by MSW oscillations. A maximum likelihood fit to the amplitude of the expected solar zenith angle variation of the elastic neutrino-electron scattering rate in SK, results in a day/night asymmetry of -3.2±1.1(stat)±0.5(syst)%. The 2.7 σ significance of non-zero asymmetry is the first indication of the regeneration of electron type solar neutrinos as they travel through Earth's matter. The combination of SK-I, II, III and IV solar neutrino data measure the solar mixing angle to sin^2(θ_{12})=0.342+0.028-0.023 and the solar neutrino mass
splitting to Δm^2 =4.69+1.80-0.83 ×10^(−5) eV^2."

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Session Classification: Low Energy Neutrinos II

Track Classification: Low-Energy Neutrinos (solar, reactor, supernova, and geo neutrinos and also nuclear astrophysics associated with these sources)