

Feasibility of detecting B8 solar neutrinos at JUNO

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In this poster we describe in detail the feasibility of detecting ^8B solar neutrino at JUNO with three reaction channels (neutrino-electron elastic scattering, neutrino- ^{13}C charged current, and neutral current interactions). A reduced 2 MeV threshold on the recoil electron energy is achievable with optimized background reduction strategies. The advantage of JUNO for charge and neutral current channel detection is a large amount of ^{13}C (~ 0.2 kt). With ten years of data taking, about 60,000 ES signals and 600 NC/CC signal are expected. This leads to a simultaneous measurement of $\sin^2\theta_{12}$ and Δm_{21}^2 using reactor antineutrinos and solar neutrinos in the JUNO detector.

Poster prize

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