Contribution ID: **420** Type: **Poster reactor**

Waveform Reconstruction of IBD and Muon Events in JUNO

The JUNO (Jiangmen Underground Neutrino Observatory) experiment is a multi-purpose neutrino experiment currently under construction in Jiangmen, China.
The primary goal is to determine the neutrino mass hierarchy by measuring reactor antineutrinos at a baseline of 53 km. The 20 kton liquid-scintillator detector aims at achieving an outstanding energy resolution of $3\%/\sqrt{E(\mathrm{MeV})}$ of Inverse Beta Decay (IBD) events. Hence, the charge and arrival times of individual photons have to be reconstructed with great precision. Furthermore, the suppression of the cosmic muon background is performed by a partial volume veto depending on the first hit time and charge of the muon signals.
The IBD waveform study is based on the deconvolution method, which unfolds the photo-electron hit pattern and the single photo-electron response. The results of IBD photo-electron reconstruction and the reconstruction of the first hit time of muons and the corresponding charge are presented.

Authorship annotation

for the JUNO collaboration

Session and Location

Monday Session, Poster Wall #200 (Ballroom)

Poster included in proceedings:

yes

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