

Clusterization algorithm for sub-MeV events reconstruction in JUNO

A recent under-construction-project Jiangmen Underground Neutrino Observatory (JUNO) will use more than 17, 000 photo-multipliers to reach 3% energy resolution at 1 MeV and its target mass is about 20, 000 ton. With such large size and excellent energy resolution it is promising to have opportunities to improve measurements on the fluxes of low energy part of solar neutrinos given decent purification levels. Meanwhile, new challenges emerge that the dark noise hit from photo-multipliers and pile-up of ^{14}C natural radioactive decay events will worsen both the energy and vertex resolution. A clusterization algorithm is developed to reject hits that are more like dark hits and to separate potential pile-up physics events. In this poster, the physics potential of JUNO detector on solar neutrinos, design of reconstruction algorithms for sub-MeV events and their performances will be presented.

Authorship annotation

on behalf of JUNO collaboration

Session and Location

Wednesday Session, Poster Wall #36 (Auditorium Gallery Right)

Poster included in proceedings:

yes

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