Contribution ID: **1061** Type: **Parallel session talk**

Status of JUNO's Taishan Antineutrino Observatory

Friday 19 July 2024 18:15 (15 minutes)

Taishan Antineutrino Observatory is a satellite experiment of JUNO. It consists of a ton-level liquid scintillator detector at 44 meters from a reactor core of the Taishan Nuclear Power Plant. It detects reactor antineutrinos by inverse beta decay. Silicon photomultipliers which have ~95% coverage and ~50% photon detection efficiency are used to collect photoelectrons, resulting in the light yield is ~4500 photoelectrons per MeV. Dark noise of SiPM is suppressed by cooling the detector down to -50 degrees. The main goal of TAO is to get the precise energy spectrum of reactor antineutrinos with very high energy resolution (<2% at 1 MeV). It will deliver a reference energy spectrum for JUNO to reduce the impact from the reactor antineutrino flux and spectrum model uncertainties, provide a benchmark to nuclear databases, and search for light sterile neutrinos with a mass scale around 1 eV.
This talk will show the results of TAO 1:1 prototype and the latest status of final TAO detector.

Alternate track

I read the instructions above

Yes

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Session Classification: Neutrino Physics

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