

Muon Induced Fast Neutron Study at JUNO-TAO

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IHEP

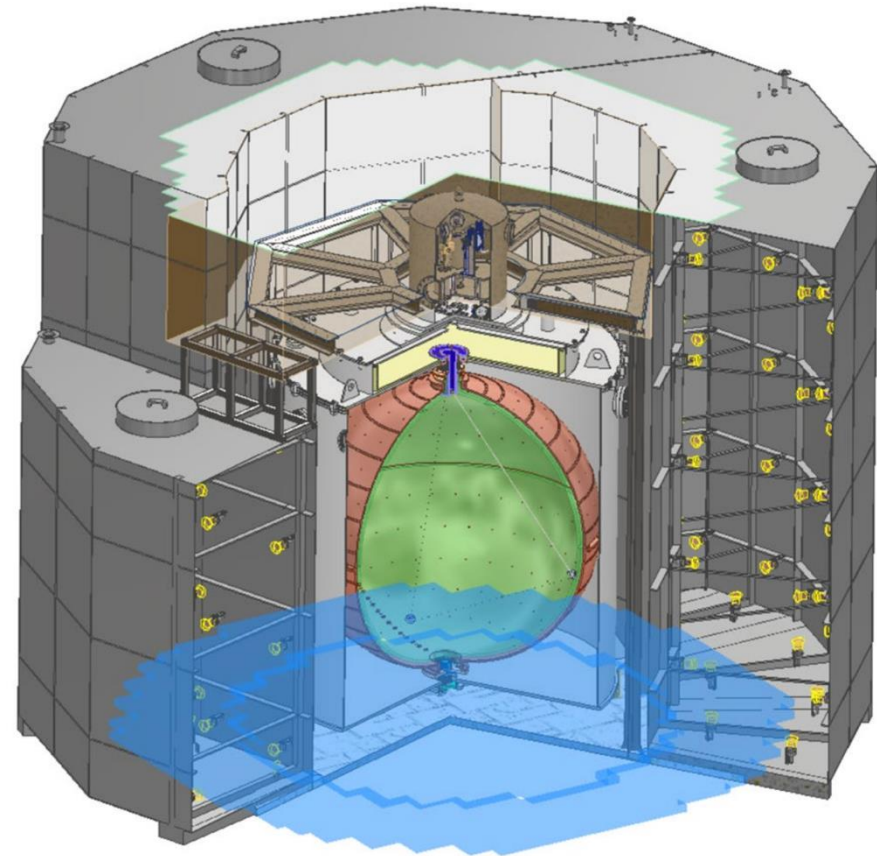
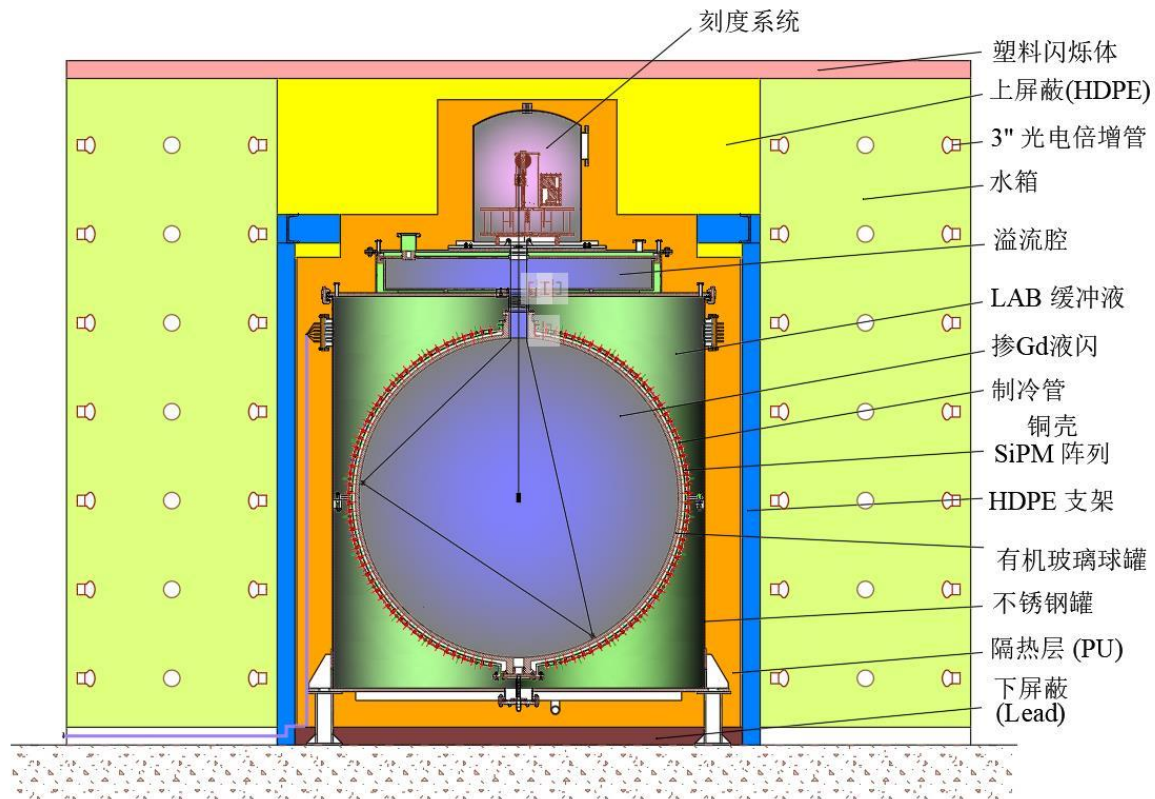
2026.07.17





➤ TAO, Taishan Antineutrino Observatory

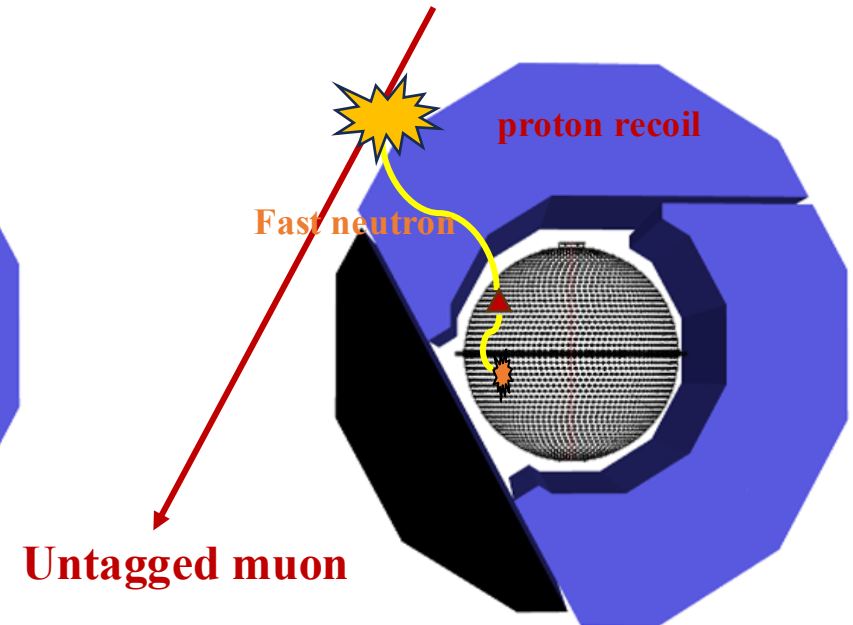
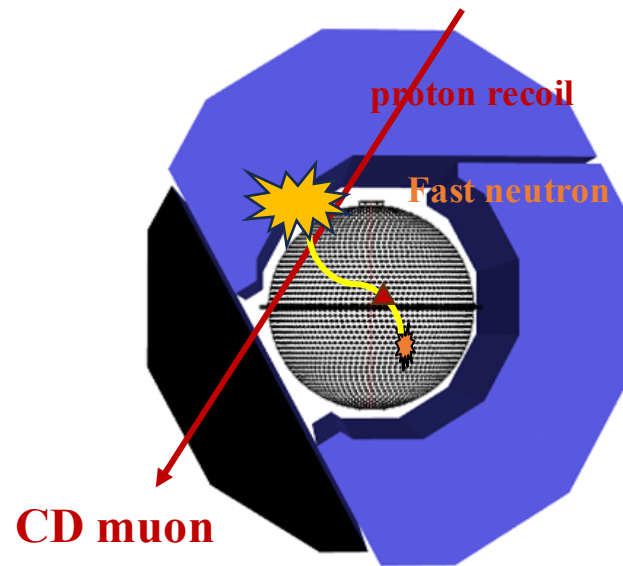
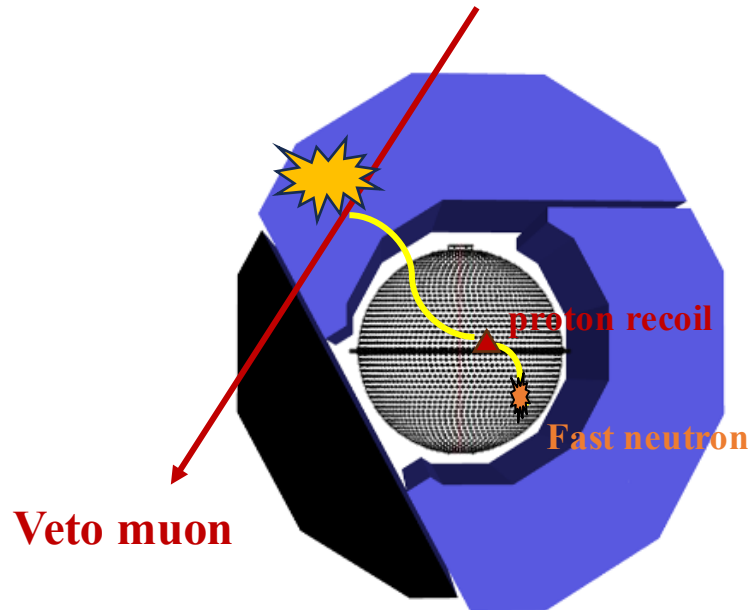
- Provide a reference spectrum for JUNO



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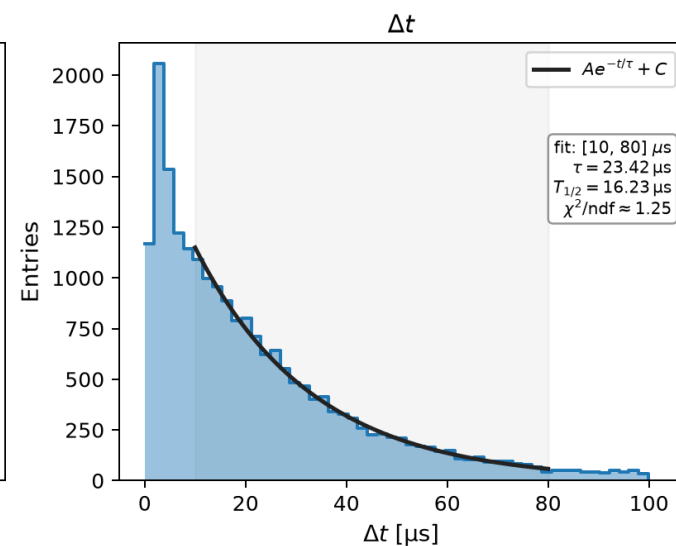
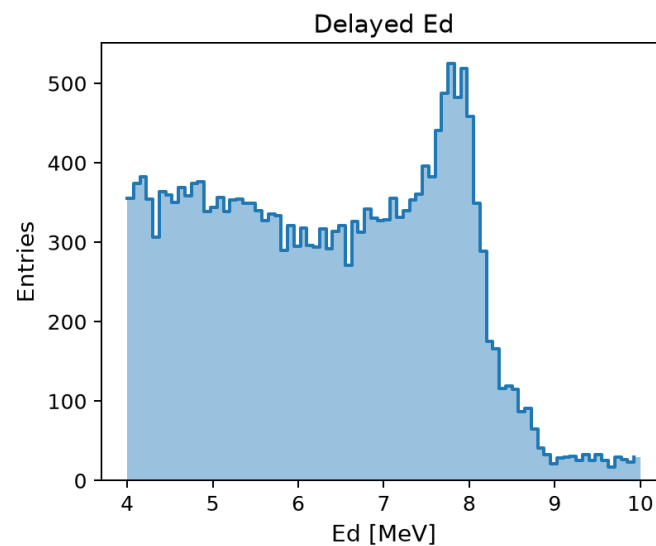
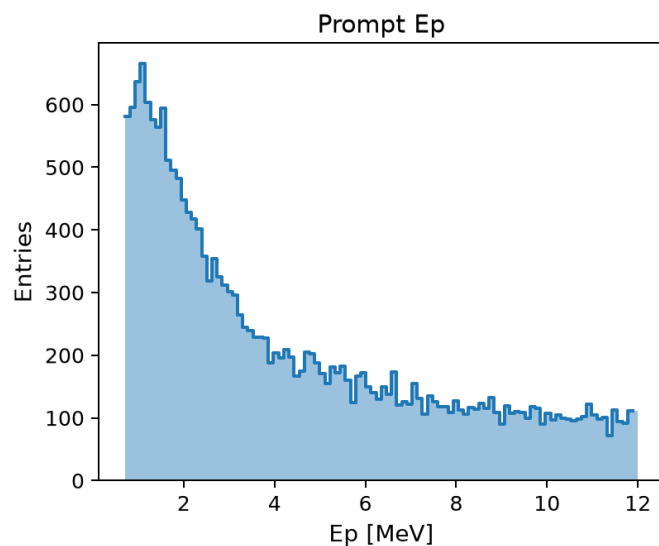
- Fast neutron backgrounds in TAO mainly originate from veto muons, CD muons and untagged muons.
- Fast neutron background events: High-energy neutrons react in the LS, producing
 - **prompt signals via proton recoil.**
 - **delayed signals via neutron capture.**
- These act as **IBD-like events** and **distort the neutrino energy spectrum.**



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fast neutron



double neutron

