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## **Atmospheric Tau Neutrino Interaction and its Identification at JUNO Experiment**

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The Jiangmen Underground Neutrino Observatory (JUNO) is a next-generation neutrino experiment under construction in South China. JUNO has great potential to detect atmospheric neutrinos with good flavor identification capability thanks to the large-scale and high photo-coverage liquid scintillator (LS) detector. There will also be  $\nu_\tau$  produced by the oscillation of the other two flavor neutrinos propagating through the earth, besides the primary atmospheric  $\nu_e$  and  $\nu_\mu$ . The search for atmospheric  $\nu_\tau$  appearance in an LS detector, which complements to that in Cerenkov detectors like Super-K, ORCA or IceCube, can provide an unambiguous confirmation of three-flavor neutrino oscillations. In the meanwhile, the measurement of the inclusive charged-current  $\nu_\tau$  cross section can examine the consistency with the Standard Model prediction. This contribution will mainly focus on two parts: the study of  $\nu_\tau$  interaction features in LS, and the developed methods to identify  $\nu_\tau$  from atmospheric neutrino background in JUNO.

### **Submitted on behalf of a Collaboration?**

Yes

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