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JUNO Atmospheric Neutrino Mass Ordering Sensitivity

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The Jiangmen Underground Neutrino Observatory is a 20~kton and $3\%/\sqrt{E(\mathrm{MeV})}$ energy resolution multi-purpose liquid scintillator detector located at a 700~m underground laboratory in the south of China (Jiangmen city, Guangdong province). The exceptional energy resolution and the massive fiducial volume of the JUNO detector offer great opportunities for addressing many essential topics in neutrino and astroparticle physics. JUNO's primary goals are to determine the neutrino mass ordering and precisely measure the related neutrino oscillation parameters. By looking at the visible signal of the final states, JUNO has excellent potential in atmospheric neutrino event energy and direction reconstruction. Thus, the atmospheric neutrino measurement at JUNO can provide vital information for neutrino physics. This poster presents the JUNO mass ordering sensitivity analysis of the atmospheric neutrinos. With the potential of energy, direction reconstruction, and particle identification performance, atmospheric neutrinos at JUNO can help determine the neutrino mass ordering.

In-person participation

No

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