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Atmospheric neutrino oscillations at JUNO

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The Jiangmen Underground Neutrino Observatory (JUNO) is under construction, and represents a major breakthrough on the large-scale, high-precision liquid scintillator (LS) detector. Its primary physics goal is to determine the neutrino mass ordering (NMO), where the predominant sensitivity is from reactor neutrinos, while atmospheric neutrinos collected in JUNO can provide independent inputs. Recent investigations have revealed great potential for determining the directionalities, flavors, and energies of atmospheric neutrinos, which will lead to the enhancement of NMO sensitivity. This talk will report the progresses and status on various aspects of atmospheric oscillation research at JUNO, including atmospheric neutrino flux, neutrino interaction models in LS, discrimination between atmospheric neutrinos and backgrounds, sensitivity evaluation, etc.

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