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Atmospheric Neutrino Oscillations: New Results and the Path Forward

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Atmospheric neutrinos have been crucial in advancing our knowledge of neutrino oscillations. Notably, this source of neutrinos provided one of the first evidences of this phenomenon in the late 20th century. Since then, significant progress has been made, bringing us closer to the so-called precision era of neutrino oscillation physics. SuperK has demonstrated for over three decades that Cherenkov detectors are a powerful instrument for studying neutrinos produced in the atmosphere. This success has inspired a new generation of experiments employing similar technology on a larger scale, whose main goal is to resolve one of the major open questions in particle physics: the neutrino mass ordering. In this talk, I will present an overview of atmospheric neutrino oscillations, highlighting the latest experimental results, recent phenomenological developments, and future prospects in the field.

Collaboration(s)

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