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Measurement of TeV neutrinos with FASERnu at the LHC

Tuesday, 3 May 2022 15:00 (20 minutes)

FASERν is designed to directly detect collider neutrinos of all three flavors for the first time and provide new measurements of their cross-sections at energies higher than those detected from any previous artificial sources. In the pilot run data during LHC Run 2 in 2018, we observed the first neutrino interaction candidates at the LHC, opening a new avenue for studying neutrinos from current and future high-energy colliders. In 2022-2025, during LHC Run 3, we expect to collect $\sim$10,000 flavor-tagged charged-current neutrino interactions in FASERν, along with neutral-current interactions. Here we present the physics potentials and status of FASERν.

Submitted on behalf of a Collaboration?

Yes

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