

Searching for collider neutrinos with FASER

Thursday, September 4, 2025 11:23 AM (22 minutes)

The ForwArD Search ExpeRiment (FASER) is designed to search for particles produced in the far-forward region of pp collisions at the LHC at CERN. Its primary goals are to detect high-energy neutrinos and light, feebly interacting new particles predicted by extensions of the Standard Model. Since its inception in 2022, FASER has collected close to 200/fb of data during LHC Run 3, leading to groundbreaking results on collider neutrinos. These include the first ever observation of electron and muon neutrinos produced at a particle collider, measurements of their interaction cross sections, and the first differential cross section and flux measurements of muon and anti-muon neutrinos in the TeV range. In this talk, an overview of the detector, recent neutrino results, and future prospects of FASER will be presented.

Author: THOR, Simon (ETH Zurich (CH))

Presenter: THOR, Simon (ETH Zurich (CH))

Session Classification: WG2

Track Classification: NuFACT 2025: WG2 - Neutrino Scattering