

# Recent FASER Results and Development of Neutrino Energy Reconstruction for the FASERnu Detector

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The ForwArD Search ExpeRiment (FASER) is located at the LHC at CERN, investigating long-lived, weakly interacting particles produced in the far-forward region of the ATLAS interaction point. The FASER $\nu$  detector is composed of alternating emulsion films and tungsten plates, with multiple yearly exposures, and focuses on high-energy collider neutrino interactions in the TeV regime, with the goal of extending current cross-section measurements in this new energy range. Both electron and muon neutrinos were detected by FASER $\nu$ , and the first cross-section measurements in this energy range have been performed. To improve future results, the incident neutrino energy must be reconstructed using topological and kinematic variables of final state particles. For this purpose, we investigate the use of Neural Network techniques for the energy reconstruction. In this poster, recent FASER results and neutrino energy reconstruction methods developed are reported.

## Poster prize

Yes

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