

# FASERCal: High-Energy Neutrino Measurements at FASER

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To address the challenges of higher muon background in addition to the increase in luminosity in LHC Run 4, ETH Zurich proposes a novel detector system which aims to provide highly granular 3D tracking, calorimetry and muon identification with a design that is compact, modular and scalable. The proposed FASERCal detector is designed to detect both charged-current and neutral-current neutrino interactions. FASERCal will consist of 15 modular units, each composed of 20 layers of optically-isolate 1 cm<sup>3</sup> plastic scintillator cubes inspired by the recent upgrade of the T2K near detector and 2 layers of high-resolution pixel detectors. Following the modules, the RearCal will provide an electromagnetic calorimeter containing 25 radiation lengths. Finally, the MuonTag component will consist of absorber and scintillator to provide identification for muons passing through the calorimeter.

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