



UNIVERSITY OF MIAMI
COLLEGE of
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Affiliation: University of California, Irvine

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BSM and Neutrino Physics with the FASER Detector

Abstract

The ForwArd Search ExpeRiment (FASER) is located 480 meters downstream of the ATLAS interaction point at the LHC and is positioned along the beam collision axis. The 480 meters of rock and cement between ATLAS and FASER shield FASER from most backgrounds, making it sensitive to feebly interacting particles. This allows FASER to study two main areas of forward physics. The first is BSM searches for feebly interacting particles, where FASER has set world-leading exclusion limits on particles, such as dark photons, axion-like particles, and many more. The second area is neutrino physics, where FASER has detected the first TeV-scale neutrinos, which is a previously unexplored energy regime between fixed target and cosmic neutrino experiments. This talk will discuss the highlights of both the BSM searches and neutrino studies done at FASER.