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Searching for Beyond the Standard Model Physics with MicroBooNE

Friday 11 February 2022 12:00 (15 minutes)

MicroBooNE is an 85-tonne active mass liquid argon time projection chamber (LArTPC) at Fermilab. It has excellent calorimetric, spatial and energy resolution and is exposed to two neutrino beams, which make it a powerful detector not just for neutrino physics, but also for Beyond the Standard Model (BSM) physics. The experiment has competitive sensitivity to heavy neutral leptons possibly present in the leptonic decay modes of kaons, and also to scalar bosons that could be produced in kaon decays in association with pions. In addition, MicroBooNE serves as a platform for prototyping searches for rare events in the future Deep Underground Neutrino Experiment (DUNE). This talk will explore the capabilities of LArTPCs for BSM physics and highlight some recent results from MicroBooNE.

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