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BSM searches at the MicroBooNE experiment

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MicroBooNE is an 85-tonne active mass liquid argon time projection chamber (LArTPC) at Fermilab. With an excellent calorimetric, spatial and energy resolution, the detector was exposed to two neutrino beams between 2015 and 2020. These characteristics make MicroBooNE a powerful detector not just to explore neutrino physics, but also for Beyond the Standard Model (BSM) physics. Recently, MicroBooNE has published a search for heavy neutral leptons and Higgs portal scalars from kaon decays. In addition, MicroBooNE has developed tools for a neutron-antineutron oscillation search for the upcoming Deep Underground Neutrino Experiment (DUNE). This talk will explore MicroBooNE's capabilities for BSM physics and highlight its most recent results.

Submitted on behalf of a Collaboration?

Yes

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