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Type: **Parallel session talk**

BREAD: Broadband Reflector Experiment for Axion Detection

Thursday 24 August 2023 10:15 (15 minutes)

The BREAD Collaboration is establishing a program of broadband searches for terahertz axion dark matter. Its hallmark is a cylindrical metal barrel converting axions to photons, focused by a parabolic reflector to low-noise photosensors. Practically, this novel dish antenna geometry enables enclosure inside standard cryostats and high-field solenoidal magnets. BREAD plans to open multiple decades of unexplored coupling sensitivity across the meV to eV mass range that has long eluded resonant-cavity haloscopes. We present the BREAD conceptual design and science program towards large-scale experiment, proposed in Phys. Rev. Lett. 128 (2022) 131801, with recent R&D experimental progress towards dark photon pilots planned at Fermilab.

Collaboration / Activity

BREAD

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