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The search for low-mass axion dark matter with DMRadio

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One of the most well-motivated candidates to be the dark matter is the axion, a particle that is predicted by the solution to another long-standing mystery in physics, the strong CP problem. This talk discusses direct searches for low-mass axion dark matter via its photon interactions. The prototype experiment ABRACADABRA-10 cm developed an innovative lumped-element detection method to search in this mass range and set world-leading limits on axions. It also laid the stage for the DMRadio program, a series of larger detectors that will be capable of finding QCD axions and axion-like particles over a large range of masses below $1 \mu\text{eV}$. Here I review the DMRadio experiments, including ongoing progress and plans for the future.

Submitted on behalf of a Collaboration?

Yes

Author: Dr SALEMI, Chiara (Stanford University and SLAC)

Presenter: Dr SALEMI, Chiara (Stanford University and SLAC)

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