2nd Workshop on Microwave Cavities and Detectors for Axion Research

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Searching for Low Mass Axions with an LC Circuit

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Axions are a promising cold dark matter candidate. Using the conversion of axions to photons in the presence of a magnetic field haloscopes can be employed to detect axions as is done in microwave cavity searches such as ADMX. To search for lighter, low frequency axions in the unexplored sub 100 neV (50 MHz) range a tunable LC circuit has been proposed. Progress in the development of such an LC circuit based search will be presented. This will include preliminary results from prototypes using electrical tuning, superconducting inductive loops, and aluminum shielding.

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