Contribution ID: **26** Type: **Parallel**

First searches for axion and dark photon dark matter with MADMAX

Monday 7 July 2025 14:40 (17 minutes)

The MAgnetized Disk and Mirror Axion eXperiment (MADMAX) is a future experiment aiming to detect dark matter axions from the galactic halo by resonant conversion to photons in a strong magnetic field. It uses a novel concept based on a stack of dielectric disks in front of a mirror, called booster, to enhance the potential signal from axion-photon conversion over a significant mass range. In its final version, MADMAX aims to scan the uncharted QCD axion mass range from 40 to 400 mu-eV, favoured by post-inflationary theories.
Several small scale prototype systems have been tested these last three years, allowing to validate the dielectric haloscope concept and perform competitive axion and dark photon dark matter searches. This talk will present the current status of the experiment and its prototypes, including the results achieved so far, the ongoing research and development and the remaining challenges.

Secondary track

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