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## **The search for axion dark matter with a dielectric haloscope: MADMAX**

*Thursday, 1 September 2022 11:00 (30 minutes)*

The QCD Axion is arguably the most elegant candidate to solve the strong CP problem and to explain missing dark matter in our universe. Some compelling theoretical models predict its mass to be around  $100 \mu\text{eV}$ , a range that presently still evades experimental sensitivity. The dielectric haloscope concept has been proposed to change this. The motivation for post-inflationary dark matter axions with mass around  $100 \mu\text{eV}$  will be discussed and the basic concepts of a dielectric haloscope will be introduced. The technological challenges to be solved in order to achieve the necessary sensitivity will be discussed on the basis of the MADMAX experiment.

### **Scientific topic**

Future Facilities

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**Session Classification:** Fundamental interactions