

Abstract Submitted
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First limits on the gluon coupling of axionlike dark matter from CASPER-Electric DENIZ AYBAS, Department of Physics, Boston University, CASPER COLLABORATION — The Cosmic Axion Spin Precession Experiment (CASPER) is a table-top search for axionlike dark matter using precision magnetometry and Nuclear Magnetic Resonance techniques. CASPER-Electric searches for the gluon coupling of axionlike dark matter that induces the precession of ^{207}Pb nuclear spins in a poled PMN-PT $[(1-x)\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3 - x\text{PbTiO}_3]$ ferroelectric crystal, which is detected by a resonant LC-circuit coupled to a low-noise amplifier at a temperature of 4 K. I will describe the experimental setup and present results from our measurements that place limits on the gluon coupling of axionlike dark matter near 50 neV mass, approaching the best astrophysical limits.

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