

Abstract Submitted
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Design of Superconducting Magnetic Shielding for an Axion Detector JORDAN DARGERT, SUYESH KOYU, ANDREW GERACI, University of Nevada, Reno, UNIVERSITY OF NEVADA, RENO COLLABORATION, PERIMETER INSTITUTE FOR THEORETICAL PHYSICS, WATERLOO COLLABORATION, INDIANA UNIVERSITY COLLABORATION — A new experiment has recently been proposed [1] that can detect the Peccei-Quinn (PQ) axion, a hypothetical particle whose detection could explain Dark Matter's existence and the smallness of the neutron electric dipole moment. Using a new form of Nuclear Magnetic Resonance, the method can probe well into the PQ axion decay range. Additionally it does not rely on cosmological assumptions. In this poster, I will discuss the design of a superconducting magnetic shield that is required for reducing background magnetic fields in the experiment.

[1] A. Arvanitaki and A. A. Geraci, arxiv: 1403.1290, Phys. Rev. Lett. (accepted) 2014.

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