

Abstract Submitted
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Searching for Dark Matter Axions beyond ADMX Phase II¹ G. CAROSI, S.J. ASZTALOS, C. HAGMANN, D. KINION, Lawrence Livermore National Laboratory, K. VAN BIBBER, Naval Postgraduate School, J. HOSKINS, J. HWANG, C. MARTIN, P. SIKIVIE, I. STERN, N.S. SULLIVAN, D.B. TANNER, U. of Florida, C. BOUTAN, M. HOTZ, D. LYAPUSTIN, L.J. ROSENBERG, G. RYBKA, A. WAGNER, U. of Washington, R. BRADLEY, National Radio Astronomy Observatory, J. CLARKE, U. of California, Berkeley, ADMX COLLABORATION — The next-generation Axion Dark Matter Experiment (ADMX) is currently under construction and will have sensitivity to even pessimistic axion-photon couplings for dark matter axions with masses $< 8 \mu\text{eV}$ (or $m_a c^2 < 2 \text{ GHz}$). In order to extend the detection range to higher masses (8–100 μeV) new technologies must be developed. Here I will discuss the required detector research including development of higher frequency cavity and amplifier systems that can operate near the quantum limit in the 2–25 GHz region, thus allowing for a definitive dark matter axion search at these masses.

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