

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

In-situ characterization of a SQUID MSA located within the Axion Dark Matter eXperiment¹ ANDREW WAGNER, University of Washington, ADMX COLLABORATION² — The Axion Dark Matter eXperiment (ADMX) is designed to detect ultra-weakly interacting relic axion particles by searching for their conversion to microwave photons in a resonant cavity immersed in a high magnetic field. A SQUID micro-strip amplifier (MSA) is used as the first stage amplifier in ADMX to achieve a near quantum limited system noise temperature. The in-situ characterization of a SQUID MSA within this large experiment and high magnetic field environment is presented. The possibility of improving the sensitivity of ADMX with Josephson parametric amplifiers and superconducting qubits is also discussed.

¹Supported by DOE Grants DE-FG02-97ER41029, DE-FG02-96ER40956, DE-AC52-07NA27344, and DE-AC03-76SF0009

²Axion Dark Matter eXperiment

Andrew Wagner
University of Washington

Date submitted: 15 Nov 2013

Electronic form version 1.4