

Abstract Submitted
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Helium Recovery at the Axion Dark Matter Experiment KELLY

OLSEN, University of Washington, ADMX COLLABORATION — ADMX (Axion Dark Matter eXperiment) is a search for the axion, an elementary particle first postulated to solve the strong CP problem and later realized to be a promising dark matter candidate. ADMX stimulates the resonant conversion of axions into detectable photons. However, because the expected power resulting from the conversion is so weak, sophisticated cryogenic electronics are necessary to amplify the signal and minimize thermal noise. The low temperature refrigeration and superconducting magnets require prodigious amounts of liquid helium. I will discuss the closed loop recovery and reliquefaction system that allows ADMX to continue operating at low temperatures with minimal helium loss.

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