

Abstract Submitted
for the APR13 Meeting of
The American Physical Society

A variable-resolution search for non-virialized halo axions¹ J. HOSKINS, U. of Florida, ADMX COLLABORATION, ADMX-HF COLLABORATION — Flows of non-thermalized halo axion dark matter would be characterized by very low velocity dispersion and perhaps a higher than average local density. The Axion Dark Matter eXperiment (ADMX) High Resolution (HR) Channel searches for these flows by converting the axions into microwave photons and looking for a peak in the power spectrum with spectral broadening of order 1 Hz or lower. With a resolution as fine as 40 mHz, the HR Channel would be sensitive to such a population of axions. Performing searches at different resolutions permits axion density limits to be placed on flows of varying dispersions. Here we present preliminary results for a range of sub-hertz resolution searches in the 800 MHz range (3.3 micro-eV).

¹Supported by DOE Grants DE-FG02-97ER41029, DE-FG02-96ER40956, DE-AC52-07NA27344, DE-AC03-76SF00098, NSF Grant 1067242, and the Livermore LDRD program.

Jeff Hoskins
U. of Florida

Date submitted: 11 Jan 2013

Electronic form version 1.4