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Results from a modulation sensitive search for non-virialized halo axions[1] J. HOSKINS, University of Florida, ADMX COLLABORATION, ADMX-HF COLLABORATION — Flows of non-virialized axions may exist within the Milky Way halo. These flows are expected to have very low velocity dispersions, leading to correspondingly narrow peaks in the measured power spectra. Further, they may also contribute significantly to the local density of dark matter. A search for such flows has been performed by the Axion Dark Matter eXperiment Phase I at spectral resolutions of 84 mHz, 168 mHz, 546 mHz, and 1.09 Hz. Signal modulation due to terrestrial motion becomes significant at or below resolutions of order 1 Hz. Annual and daily modulation amplitudes of 250 Hz and 2 Hz were accounted for when identifying potential axion signals. This search produced limits on the local density of non-virialized axions over the 3.36–3.69 μeV mass range.

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