

Abstract Submitted
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Directional Reconstruction as a Means of Lowering Thresholds for Point-Source Searches in Askaryan Radio Array¹ BRIAN CLARK, Ohio State Univ - Columbus, ASKARYAN RADIO ARRAY (ARA) COLLABORATION — The Askaryan Radio Array is an ultra-high energy neutrino detector under construction at the South Pole. By deploying arrays of antennas up to 200 m deep into the Antarctic ice sheet, ARA searches for the radio-Chereknov emission associated with neutrino-nucleon showers. Five stations, of the initial proposed 37, have been deployed so far. Past analysis work has focused on searching for (1) a diffuse flux of neutrinos, that is, neutrinos that come from anywhere at any time, and (2) a flux associated with gamma ray bursts, where the search window is narrowed in time, allowing for lower analysis thresholds. In this talk, we will present preliminary work that demonstrates the feasibility of reducing thresholds further by also constraining searches in the direction of the neutrinos producing the radio emission. This ability to search on both time and direction would represent a new search strategy for ARA.

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