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Analysis of North Sky Cosmic Ray Anisotropy with Atmospheric Neutrinos ELIZABETH WILLS, Drexel Univ, ICECUBE COLLABORATION — Since the discovery of Cosmic Ray anisotropy, no experiment has definitively discovered the source of this unexpected phenomenon. Studying the cosmic rays' neutral daughter particles with pointing capabilities, like neutrinos, could shed new light. This can be done at two levels; a source which produces cosmic rays must also produce high energy astrophysical neutrinos, and low energy atmospheric neutrinos are made when the cosmic rays interact with the atmosphere. This analysis focuses on atmospheric neutrinos detected by IceCube, a Cherenkov detector instrumenting a kilometer cubed of glacial ice at the South Pole. The anisotropy and its energy dependence have been studied in the Southern sky using atmospheric muons by IceCube. In the North, gamma ray detectors, such as HAWC, and Argo-YBJ, have observed this anisotropy in cosmic ray showers. Thus far, no single- detector full-sky map exists of the anisotropy. Using IceCube's neutrino data, we can complement these studies with an exploration of the northern sky anisotropy at higher energies of cosmic rays. This could bring us much closer to understanding the complete picture of this anisotropy across energy levels and the whole sky.

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