

Abstract Submitted
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Search for Cosmic Neutrinos Using UHE Upward-Going Muons in SK-II KATIE WEST, Duke University — Astrophysical models predict a diffuse flux of cosmic neutrinos which should be an observable excess to the diffuse flux of atmospheric neutrinos at higher energies. Such high energy neutrinos are postulated to come from cosmic accelerators such as Active Galactic Nuclei (AGN's), and Gamma Ray Bursts (GRB's). This study searches for HE neutrinos (in the 1 TeV range) among Super-Kamiokande II's highest energy sample by looking for ultra-high energy upward-going muons induced by HE neutrinos interacting in the rock beneath the detector. A total of three UHE-upmu candidates were found in 860.37 days of live-time. We are now in the process of determining the efficiencies of the cuts that were made. The search will be used to place a 90% classical confidence level limit on an assumed E^{-2} spectrum for cosmic neutrino flux.

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