

Abstract Submitted
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Search for high energy neutrinos from Seyfert galaxies using IceCube BEN RELETHFORD, Drexel Univ, ICECUBE COLLABORATION — Since its construction began in 2005, The IceCube Neutrino Observatory, a cubic kilometer Cherenkov detector buried deep in the geographic South Pole ice, has searched for a high-energy astrophysical neutrino flux. In 2013, IceCube observed such a flux deviating at least 5.7σ above atmospheric backgrounds. However, analyses of promising source candidates such as blazars (a type of radio-loud Active Galactic Nucleus, or AGN) and gamma ray bursts have found no evidence of neutrino emission, placing stringent constraints on their possible contribution to the observed extraterrestrial neutrino flux. This analysis considers a numerous yet comparatively low-intensity type of radio-quiet AGN known as Seyfert galaxies as a new candidate source of high energy astrophysical neutrinos. We obtain a catalog of Seyfert galaxies from the 70 month catalog of high-energy x-ray sources as identified by the BAT detector on the *Swift* satellite. We simultaneously study these Seyfert galaxies via a stacking analysis, which is particularly well-suited to a source class with high abundance but relatively low-intensity. This analysis will probe for the first time whether Seyfert galaxies contribute significantly to the observed, but so far unresolved astrophysical neutrino flux.

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