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Search for Correlations of High-Energy Neutrinos with Infrared Flares in AGNs

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The IceCube Neutrino Observatory issues real-time high-energy neutrino alerts and has released its first catalog (IceCat-1). However, the origin of these high-energy neutrinos remains largely unknown. Active galactic nuclei (AGNs) with variability are promising candidate sources. Previous studies have suggested a temporal correlation between high-energy neutrino alerts and infrared flares. In this contribution, we perform a spatial and temporal correlation analysis between a sample of AGNs (selected from the AllWISE catalog and cross-matched with the fourth Fermi-LAT catalog) in the infrared band and the latest IceCube high-energy neutrino alerts. Additionally, we investigate the multi-wavelength behavior of promising source candidates, from radio to γ -rays. We will present the results of these searches.

Collaboration(s)

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