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Capabilities of IceCube's Gamma-Ray, Optical and X-Ray Follow-Up Programs

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The IceCube Neutrino Observatory is a 1 km^3 detector for Cherenkov light in the ice at the South Pole. Although the presence of a diffuse astrophysical neutrino flux has been confirmed, its origin has yet to be resolved.

Given the current constraints on continuous point source searches, transient and variable objects emerge as promising, detectable source candidates. IceCube boosts the sensitivity to these types of sources by alerting third-party observatories of neutrino events clustered in space and time, as well as astrophysical neutrino candidates.

This talk will showcase the different neutrino-triggered multi-messenger programs in IceCube along with their results and prospects.

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