

Searching for Optical Counterparts to High-Energy Neutrino Sources with the Zwicky Transient Facility

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Abstract content

The IceCube neutrino observatory has detected a flux of extragalactic neutrinos. However, the origin of the neutrinos is still unknown. Among the possible candidates are Gamma-Ray Bursts (GRBs), Core-Collapse Supernovae (SNe), Active Galactic Nuclei (AGN) and Tidal Disruption Events (TDEs) - all are accompanied by a characteristic optical counterpart. Therefore, the goal is to identify the neutrino sources by detecting their optical counterpart with the Zwicky Transient Facility (ZTF). ZTF features a high cadence all-sky survey enabling a real time correlation of optical transients with high energy neutrino candidates. A summary of the planned neutrino science program with ZTF will be presented.

Primary author(s) : Dr. RAUCH, Ludwig (DESY)

Presenter(s) : Dr. RAUCH, Ludwig (DESY)

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