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

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.

Authorship annotation

for the IceCube and ZTF collaboration

Session and Location

Wednesday Session, Poster Wall #184 (Ballroom)

Poster included in proceedings:

yes

Primary author: Mr RAUCH, Ludwig (DESY)

Presenter: Mr RAUCH, Ludwig (DESY)

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