



Searching for electromagnetic counterparts to high-energy neutrinos.

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Anna Franckowiak (DESY)

The recent discovery of high-energy astrophysical neutrinos has opened a new window to the Universe. In September 2017, the detection of a high-energy neutrino in coincidence with a flaring gamma-ray blazar revealed a first compelling high-energy neutrino source candidate. At the same time, gamma-ray blazars are disfavoured as the dominant neutrino source class. Other plausible source candidates are tidal disruption events, low-luminosity gamma-ray bursts and supernovae. Combining neutrino data with electromagnetic measurements in a multi-messenger approach increases the sensitivity to identify other neutrino sources and helps to solve long-standing problems in astrophysics, such as the origin of cosmic rays. I will review the recent progress in neutrino multi-messenger astronomy and highlight the potential of the Zwicky Transient Facility, a novel optical survey instrument to probe various source classes as neutrino emitters. DESY with its involvement in current and future observatories is well positioned to be a center of multi-messenger astronomy.



Coffee, tea and cookies will be served at 14:45h