

Neutrino Astronomy of Transient Signals

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The recent discovery of high-energy astrophysical neutrinos has opened a new window to the Universe. However, the sources of those neutrinos are still unknown. Many of the plausible candidates are of transient nature, such as gamma-ray bursts, supernovae, tidal disruption events and flares of active galactic nuclei. Combining neutrino data with electromagnetic (EM) measurements in a multimessenger approach will increase our ability to identify the neutrino sources and help to solve long-standing problems in astrophysics such as the origin of cosmic rays. The systematic search for transient signals is challenging and requires regular all-sky monitoring of the EM sky or rapid real-time follow-up of interesting neutrino events.

I will review the recent progress in probing transient source populations as neutrino sources.

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