

Searching for neutrino transients below 1 TeV with IceCube

Friday 16 July 2021 19:18 (12 minutes)

Recent observations of GeV gamma-rays from novae have led to a paradigm shift in the understanding of these objects. While it is now believed that shocks contribute significantly to the energy budget of novae, it is still unknown if the emission is hadronic or leptonic in origin. Neutrinos could hold the key to definitively differentiating between these two scenarios, though the energies of such particles would be much lower than are typically targeted with neutrino telescopes. IceCube's densely instrumented DeepCore sub-array provides the ability to reduce the threshold for observation from 1 TeV down to approximately 10 GeV. We will discuss recent measurements in this low energy regime, details of a new sub-TeV selection, and prospects for future searches for transient neutrino emission.

Keywords

Sub-TeV; Neutrino Astronomy

Collaboration

IceCube

other Collaboration

Subcategory

Experimental Results

Primary authors: LARSON, Michael (University of Maryland); VANDENBROUCK, Justin (University of Wisconsin Madison); PIZZUTO, Alex (University of Wisconsin Madison)

Presenter: LARSON, Michael (University of Maryland)

Session Classification: Discussion

Track Classification: Scientific Field: NU | Neutrinos & Muons