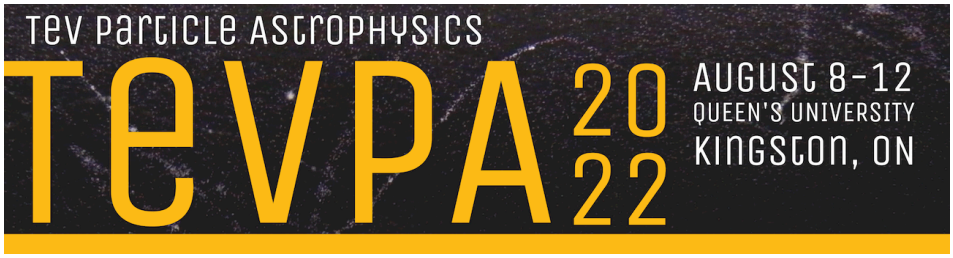

Contribution ID: **55** Type: **Parallel Talk**

Searches for IceCube-neutrino counterparts to gravitational wave events

Thursday 11 August 2022 14:20 (20 minutes)

The IceCube Neutrino Observatory at the South Pole has detected an astrophysical flux of high-energy neutrinos. Searches for the sources of these astrophysical neutrinos are performed with these detections which have energies above several 100s of GeV. A dense infill array called DeepCore lowers IceCube's energy threshold to a few GeV, enabling additional searches for low-energy astrophysical transients. Compact binary mergers can leave their gravitational-wave signatures in the LIGO and Virgo detectors, and could be a possible source of astrophysical neutrinos. Here, we will focus on neutrino follow-up searches of gravitational-wave transients detected by LIGO-Virgo. We present analyses that search for high (>1 TeV) and low (<1 TeV) energy neutrino counterparts from the O1, O2 and O3 runs of LIGO-Virgo. The sensitivities of these analyses, and the unblinded results, will be discussed.

Collaboration name

IceCube Collaboration

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Session Classification: Gravitational Wave and Multimessenger

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