

Gravitational Wave Follow-Up Using Low Energy Neutrinos in IceCube DeepCore

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The IceCube DeepCore is a dense infill array of the IceCube Neutrino Observatory at the South Pole. While IceCube is best suited for detecting neutrinos with energies of several 100 GeV and above, DeepCore allows to probe neutrinos with lower energies. We focus on a sample of neutrinos with energies above approximately 10 GeV, which was originally optimised for oscillation experiments. Recently, it has been adapted to enable searches for transient sources of astrophysical neutrinos in the sky. In particular, this low-energy dataset can be used to conduct follow-up searches of gravitational wave transients detected by the LIGO-Virgo instruments. A study of this, which complements IceCube's follow-up of gravitational wave events using high-energy neutrino samples, will be discussed here.

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Collaboration

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other Collaboration

Subcategory

Experimental Methods & Instrumentation

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