Search for high-energy neutrino sources from the direction of IceCube alert events

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What is this contribution about?
We look for time-dependent neutrino emission (transient neutrino sources) at the arrival direction of high-energy neutrino events.

Why is it relevant / interesting?
We don't know where the majority of astrophysical neutrinos come from. The high-energy neutrino IceCube170922A pointed back to the blazar TXS0506+05[1]. There has been neutrino emission from the very same direction of the blazar TXS0506+05 previous to the detection of the high-energy neutrino event.[2] We want to investigate whether there is neutrino emission from other high-energy neutrinos.

What have we done?
We present new improved methods for signal simulation and flare finding.

What is the result?
We will be able to detect sources with a time integrated flux of ~2.7×10^{-2} GeV/cm^2.

1 https://doi.org/10.1126/science.aat1378.
2 https://doi.org/10.1126/science.aat2890