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Realtime follow-up of astrophysical transients with the IceCube Neutrino Observatory ALEX PIZZUTO, JUSTIN VANDENBROUCKE, University of Wisconsin - Madison, ICECUBE COLLABORATION — Many recent advancements in the field of multi-messenger astronomy have been enabled by improvements in real-time observations. Thanks to its near-100% duty cycle, all-sky field of view, and sensitivity over many decades of energy, the IceCube Neutrino Observatory is well suited to rapidly follow up transients. Since 2016, IceCube has been operating a pipeline using low-latency data to search for neutrinos coincident with interesting objects identified in other messengers such as photons and gravitational waves in real time. Here, we describe the pipeline and summarize the results of the analyses performed. Thus far, the pipeline has helped inform various electromagnetic observing strategies and has constrained neutrino emission from a variety of potential hadronic cosmic accelerators.

Alex Pizzuto
University of Wisconsin - Madison

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