

Abstract Submitted
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Multimessenger TeV Gamma and TeV Neutrino Coincidence Alerts from HAWC and IceCube HUGO AYALA, Pennsylvania State Univ, AMON TEAM, HAWC COLLABORATION, ICECUBE COLLABORATION — Multimessenger astrophysics is the next step in high-energy astrophysics. The combination of neutrino, cosmic-ray, gamma-ray and gravitational wave observatories is necessary for the understanding of astrophysical phenomena. We will present preliminary results on the generation of real-time (< 6 hours) TeV gamma-ray and neutrino multimessenger transient alerts. Subthreshold data from the HAWC and IceCube Observatories are transmitted to Penn State via the Astrophysical Multimessenger Observatory Network (AMON). The analysis is based on a likelihood ratio framework, yielding real-time AMON coincidence alerts for HAWC “hot spots” and IceCube neutrinos. These alerts will be distributed to AMON follow-up partners with a median anticipated delay of six hours from HAWC transit, will have angular resolution of $\sim 0.2^\circ$, and will be well-suited for deep electromagnetic follow-up observations. The HAWC and IceCube multimessenger alerts represent one of four real-time electromagnetic and neutrino alert streams that AMON plans to commission by the second half of 2018.

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