

Abstract Submitted  
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**IceCube-HAWC realtime coincidence analysis with sub-threshold data** HUGO AYALA, Pennsylvania State University, AMON TEAM, HAWC COLLABORATION, ICECUBE COLLABORATION — Multimessenger astrophysics has become the next step to understand high-energy astrophysical phenomena in the universe. Evidence for the detection of a gamma-ray and neutrino source has been presented for the source TXS 0506+056; however, more detections are needed. We present preliminary results on the generation of real-time ( $\sim 6$  hours) TeV gamma-ray and neutrino multimessenger transient alerts with subthreshold data from the HAWC gamma-ray and IceCube neutrino observatories 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 of potential astrophysical origin. These alerts are being distributed to AMON follow-up partners with a median anticipated delay of six hours due to the timescale of the search with HAWC, which corresponds to a full transit in its field of view. These coincident alerts have an angular resolution of  $\sim 0.2^\circ$  and are well-suited for deep electromagnetic follow-up observations.

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