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All-sky sensitivity of HAWC to Gamma-Ray Bursts

Tuesday 4 August 2015 16:00 (1 hour)

The High Altitude Water Cherenkov (HAWC) Observatory is a ground-based, TeV gamma-ray observatory in the state of Puebla, Mexico at an altitude of 4100m. Its 22,000 m^2 instrumented area, wide field of view (˜2 sr), and >95% uptime make it an ideal instrument for discovering gamma-ray burst (GRB) emission at ˜100 GeV. Such a discovery would provide key information about the origins of prompt GRB emission as well as constraints on EBL models and the violation of Lorentz invariance. We will present prospects for discovering GRB emission at ˜100 GeV with a simple, all-sky search algorithm using HAWC data that is most sensitive to short GRBs. The search algorithm presented here can also be used to detect other short transients with timescales and fluxes similar to short GRBs.

Collaboration

HAWC

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