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SOLAR EVENT SIMULATIONS USING HAWC SCALER SYSTEM

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The High Altitude Water Cherenkov Observatory (HAWC) is an air shower array located near the volcano Sierra Negra in Mexico. The observatory has a scaler system sensitive to low energy cosmic rays (the geomagnetic cutoff for the site is 8 GV) suitable to perform studies of cosmic ray transients of solar origin such as Ground Level Enhancements (GLEs) and Forbush Decreases (FDs). One important step before using the scaler data to do solar analysis is to simulate HAWC's response to solar induced phenomena. In this work, we use HAWC effective areas from different array configurations (different number of detectors and photomultiplier tubes per detector) to perform simulations of FDs and GLEs.

Collaboration

HAWC

Registration number following "ICRC2015-I"

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