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Gamma-ray Monitoring of Active Galactic Nuclei with HAWC
ROBERT LAUER, University of New Mexico, HAWC COLLABORATION — Active Galactic Nuclei (AGN) are extra-galactic sources that can exhibit extreme flux variability over a wide range of wavelengths. TeV gamma rays have been observed from about 60 AGN and can help to diagnose emission models and to study cosmic features like extra-galactic background light or inter-galactic magnetic fields. The High Altitude Water Cherenkov (HAWC) observatory is a new extensive air shower array that can complement the pointed TeV observations of imaging air Cherenkov telescopes. HAWC is optimized for studying gamma rays with energies between 100 GeV and 100 TeV and has an instantaneous field of view of ˜2 sr and a duty cycle >95% that allow us to scan 2/3 of the sky every day. By performing an unbiased monitoring of TeV emissions of AGN over most of the northern and part of the southern sky, HAWC can provide crucial information and trigger follow-up observations in collaborations with pointed TeV instruments. Furthermore, HAWC coverage of AGN is complementary to that provided by the Fermi satellite at lower energies. In this contribution, we will present HAWC flux light curves of TeV gamma rays from various sources, notably the bright AGN Markarian 421 and Markarian 501, and highlight recent results from multi-wavelengths and multi-instrument studies.

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