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HAWC detection of SNR W28

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The W28 supernova remnant is a promising site for studying the acceleration and propagation of Galactic cosmic rays. Its proximity to dense molecular clouds provides a natural environment for cosmic-ray interactions and γ-ray production. We use data from the High-Altitude Water Cherenkov (HAWC) Observatory to investigate the very-high-energy (VHE; >100 GeV) γ-ray emission from the W28 region. We characterize the morphology of the emission and compare its spatial distribution with the surrounding molecular-cloud environment. HAWC detects significant VHE γ-ray emission from the region, providing an opportunity to probe the connection between the SNR, cosmic rays, and nearby molecular material. Our analysis aims to constrain the origin and propagation of the particles responsible for the observed γ-ray emission.

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