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Indirect Dark Matter Detection: Gamma Rays

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The nature of dark matter (DM) remains obscure. On Earth, we have been unable to observe its production at high-energy facilities, and direct, matter-interaction signals are tentative at best. There are regions of the galaxy, however, where the DM density is expected to be many times greater than the local value. Weak self-interaction in such places that produces photons could be observable as an 'indirect detection.' Popular theories predict a high (hundreds of GeV) mass for the DM particle, which places the bulk of such radiation in the gamma-ray regime. Air Cherenkov detectors such as H.E.S.S. and VERITAS, along with the Fermi satellite, represent the state of the art in gamma-ray observation. I will review the current status of DM searches with these instruments, including constraints and possible signals.

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