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Searching for Dark Matter with Gamma Rays

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There is overwhelming evidence that non-baryonic dark matter constitutes about 27% of the energy density of the Universe. Weakly Interacting Massive Particles (WIMPs) are promising dark matter candidates that may produce gamma rays via annihilation or decay in the Universe. These gamma rays would be detected by space-based detectors like the Fermi Large Area Telescope or by ground-based arrays like VERITAS and H.E.S.S. A detection of gamma rays from WIMPs would not only confirm the existence of dark matter through a non-gravitational force, but also indicate the existence of physics beyond the Standard Model. I will present recent results from WIMP searches including looking for gamma-ray spectral lines and gamma-ray excesses in areas of large dark matter concentration like the Galactic center and dwarf spheroidal galaxies. We have entered an exciting era of dark matter searches since we are becoming sensitive to the natural cross section for WIMPs in some mass ranges and annihilation channels.