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## The GeV Galactic Center Excess: Implications for Particle Physics

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A spatially extended excess of ~1-3 GeV gamma rays from the region surrounding the Galactic Center has been observed, consistent with the emission expected from annihilating dark matter. Recent improvements in analysis techniques have found this excess to be robust and highly statistically significant, with a spectrum, angular distribution, and overall normalization that is in good agreement with that predicted by simple annihilating dark matter models. For example, the signal is very well fit by a 31-40 GeV dark matter particle annihilating to b quarks with an annihilation cross section of  $\sigma v = (1.7-2.3) \times 10^{-26} \text{ cm}^3/\text{s}$ . I will discuss the varieties of particle physics models that can account for this signal, and discuss the prospects for observing such particles in direct detection experiments and at the LHC.

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