Abstract Submitted
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Fermi-LAT gamma-ray observations – potential support for a multicomponent dark matter scenario BAILEY TALLMAN, DRUE LUBANSKI, SPENCER ELLIS, SABRINA HERNANDEZ, DIEGO CRISTANCHO GUERRERO, TREVOR CROTEAU, BRANDON TORRES, CADEN LAFONTAINE, ROLAND ALLEN, Texas A&M University — There is tension between observations of gamma-ray emission from dwarf spheroidal galaxies, and other sources, and the most natural supersymmetric dark matter candidates. On the other hand, several independent analyses suggest that the observed emissions of gamma rays from the Galactic center are consistent with annihilation of dark matter particles of some kind, with masses somewhat below 100 GeV [1-4]. We will describe a multicomponent dark matter scenario with a subdominant neutralino and a dominant higgson [5] of mass $\sim$ 75 GeV which is fully consistent with experiment and observation. [1] Lisa Goodenough and Dan Hooper, arXiv:0910.2998 [hep-ph]. [2] Vincenzo Vitale and Aldo Morselli (for the Fermi/LAT Collaboration), arXiv:0912.3828 [astro-ph.HE]. [3] Christopher Karwin, Simona Murgia, Tim M. P. Tait, Troy A. Porter, and Philip Tanedo, Phys. Rev. D 95, 103005 (2017), arXiv 1612.05687 [hep-ph], and references therein. [4] Rebecca K. Leane and Tracy R. Slatyer, Phys. Rev. Lett. 123, 241101 (2019), arXiv:1904.08430 [astro-ph.HE], and references therein. [5] Reagan Thornberry, Gabriel Frohaug, Caden LaFontaine, Bailey Tallman, Alex Behne, Steven Sellers, Matthew Sadler, and Roland E. Allen, European Physical Journal Special Topics (in press), and references therein.

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