

Abstract Submitted  
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**Fermi-LAT gamma-ray observations – potential support for a multicomponent dark matter scenario** BAILEY TALLMAN, CADEN LA-FONTAINE, DIEGO CRISTANCHO GUERRERO, SABRINA HERNANDEZ, TREVOR CROTEAU, BRANDON TORRES, SPENCER ELLIS, 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  $\sim 72$  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]. [4] Rebecca K. Leane and Tracy R. Slatyer, Phys. Rev. Lett. 123, 241101 (2019), arXiv:1904.08430 [astro-ph.HE]. [5] Caden LaFontaine, Bailey Tallman, Spencer Ellis, Trevor Croteau, Brandon Torres, Sabrina Hernandez, Diego Cristancho Guerrero, Jessica Jaksik, Drue Lubanski, and Roland Allen, Universe 7, 270 (2021), arXiv:2107.14390 [hep-ph], and references therein.

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