

Abstract Submitted  
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**AMS-02 observations of antiprotons, and Planck limits on dark matter annihilation – potential support for a multicomponent dark matter scenario** DRUE LUBANSKI , BAILEY TALLMAN , DIEGO CRISTANCHO GUERRERO , SPENCER ELLIS , SABRINA HERNANDEZ , CADEN LA-FONTAINE , TREVOR CROTEAU , BRANDON TORRES , ROLAND ALLEN , Texas A&M University — Several independent analyses of the antiprotons observed by AMS-02 suggest that the observations are consistent with the annihilation of dark matter particles with a mass 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 these results, and also with the Planck limits [6]. [1] Alessandro Cuoco, Michael Krmer, and Michael Korsmeier, Phys. Rev. Lett. 118, 191102 (2017). [2] Ming-Yang Cui, Qiang Yuan, Yue-Lin Sming Tsai, and Yi-Zhong Fan, Phys. Rev. Lett. 118, 191101 (2017). [3] Ilias Cholis, Tim Linden, and Dan Hooper, Phys. Rev. D 99, 103026 (2019), arXiv:1903.02549 [astro-ph.HE], and references therein. [4] Alessandro Cuoco, Jan Heisig, Lukas Klamt, Michael Korsmeier, and Michael Kramer, Phys. Rev. D 99, 103014 (2019), arXiv:1903.01472 [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, “Present and potential future experimental evidence supporting a multicomponent dark matter scenario”, European Physical Journal Special Topics (in press), and references therein. [6] Planck Collaboration, arXiv:1807.06209.

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