Abstract Submitted
for the TSF19 Meeting of
The American Physical Society

A dark matter scenario with two stable WIMPs which is consistent with the Fermi-LAT observations of gamma rays from the Galactic center and Omega Centauri CADEN LAFONTAINE, ALEJANDRO ARROYO, REAGAN THORNBERRY, DYLAN BLEND, GABRIEL FROHAUG, ROLAND ALLEN, Texas A&M University — In our multicomponent dark matter scenario [1], the dominant particle – the lightest Higgson H^0 – has a firm upper bound of 125 GeV/c^2 for its mass, while the lightest neutralino χ^0 is subdominant and presumably has a substantially higher mass. The predictions of our scenario are consistent with the Fermi-LAT observations of gamma rays from the Galactic center [2,3] and Omega Centauri [4]. [1] Dylan Blend, Reagan Thornberry, Alejandro Arroyo, Gabriel Frohaug, Caden LaFontaine, and Roland E. Allen, "A multicomponent dark matter scenario and the experimental evidence supporting it", submitted. [2] Christopher Karwin, Simona Murgia, Tim M. P. Tait, Troy A. Porter, and Philip Tanedo, "Dark matter interpretation of the Fermi-LAT observation toward the Galactic Center", Phys. Rev. D 95, 103005 (2017), arXiv:1612.05687 [hep-ph], and references therein. [3] Rebecca K. Leane and Tracy R. Slatyer, Dark Matter Strikes Back at the Galactic Center,arXiv:1904.08430 [astro-ph.HE], and references therein. [4] Anthony M. Brown, Richard Massey, Thomas Lacroix, Louis E. Strigari, Azadeh Fattahi, and Cline Boehm, "The glow of annihilating dark matter in Omega Centauri", arXiv:1907.08564 [astro-ph.HE].

Roland Allen
Texas A&M University

Date submitted: 08 Oct 2019 Electronic form version 1.4