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Implications of tension between observations of the bright Galactic Center Excess and dim dwarf galaxies RYAN KEELEY, KEVORK ABAZAJIAN, Univ of California - Irvine — We incorporate Milky Way dark matter halo profile uncertainties, as well as an accounting of diffuse gamma-ray emission uncertainties in dark matter annihilation models for the Galactic Center Extended gamma-ray excess (GCE) detected by the Fermi Gamma Ray Space Telescope. The range of particle annihilation rate and masses expand when including these unknowns. However, two of the most precise empirical determinations of the Milky Way halo's local density and density profile leave the signal region to be in considerable tension with dark matter annihilation searches from combined dwarf galaxy analyses for single-channel dark matter annihilation models. Accordingly, we accurately quantify this tension in a joint likelihood analysis. We determine which particle dark matter models are favored in the case of a high local dark matter density scenario and in the case where dark matter differentiates between the GC and dwarfs, specifying what part of the parameter space for such models is most favored. Intended for the focus session on the GeV excess

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