

Abstract Submitted  
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**Observed Scaling Relationships between the Dark Matter Halo Parameters and Half-Light Radii of Multiple Galaxy Types.** JUSTIN CRAIG, NAWAJ KC, CASEY WATSON, Millikin University — We present relationships between the half-light radii and best-fit, Burkert dark matter halo parameters of 12 Milky Way dwarf spheroidal galaxies (dSphs). We then show that similar relationships hold for several galaxy types over many orders of magnitude in galaxy size, mass, and luminosity. We determine power-law fits for these relationships that allow astronomers to estimate the properties of a galaxy's dark matter halo simply by measuring its half-light radius.

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