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Effects of the Burkert Dark Matter Density Profile on Dwarf Spheroidal Galaxies ALEXANDER STARON, BENJAMIN AMEND, MICHAEL ZITO, STEPHEN ALEXANDER, Miami University — We present a computational model for calculating the motion of stars in Milky Way dwarf spheroidal galaxies (dSphs) using distributions of baryonic and dark matter. We explicitly calculate the motion of nearly ten-thousand stars in a spherically symmetric gravitational potential. We utilize a Burkert dark matter halo and a Hernquist density profile to model the distributions of dark and baryonic matter respectively. From our simulation, we statistically obtain both the line-of-sight bulk velocity dispersion and dispersion profile for classical Milky Way dSphs. We compare our data with the observations of Walker et al. and the results presented in Salucci et al. We will also compare our data with the Modified Newtonian Dynamics (MOND) calculations made previously with our simulation in Alexander et al.

Alexander Staron
Miami University

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