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Astrophysical J-Factors for Dwarf Spheroidal Satellite Galaxies ANDREW PACE, LOUIS STRIGARI, Texas AM University — Local dwarf spheroidal satellite galaxies are an attractive target for searches of dark matter annihilation. They are dark matter dominated systems with little to no astrophysical backgrounds. The best limits for the indirect detection of dark matter in the 100 GeV range are set with gamma-ray searches of dwarf spherical galaxies with the Fermi Large Area Telescope. One key ingredient in this process is the integrated dark matter distribution (J-Factor) within these galaxies. We present the first calculations of the J-Factor for several recently discovered dwarf spheroidal galaxies and update the J-Factors for other satellites. With our results we create scaling relations for the J-Factor based on the distance, size, and internal motions of the dwarfs. The inclusion of additional satellites with accurate J-Factors will assist in determining the nature of dark matter.

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