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**Effects of Self Interacting Dark Matter on the Formation of Satellite Galaxies** ADITYA DHUMUNTARAO, CARL GARDNER, Arizona State University — Based on the standard model of cosmology, dark matter accounts for 26% of the matter in the universe and is essential for the formation and preservation of galaxies. The standard model, however, describes dark matter as collisionless, thus the dark matter particles interact with each other and other particles only through gravity and possibly the weak force. Self interacting dark matter is a hypothetical variation of dark matter consisting of particles with strong self-interactions and has been postulated to resolve a number of conflicts between observations and simulations on the galactic scale and smaller. Using computational models, we present a study of how a variant of SIDM influences the formation of dwarf satellite galaxies.

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