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Fast Times at SIDM High(-resolution)

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Dark matter models which admit large non-destructive self-interactions (self-interacting dark matter, or SIDM) are having a moment, for both particle physics and astrophysics reasons. Of particular interest is how halos and the galaxies within them —especially satellites —evolve. In this talk, I will discuss several approaches to modeling satellite galaxy evolution in SIDM, and connecting to different types of astronomical observables. I will show where SIDM parameter inference is more limited by theory than observational systematics, outline paths to more robust and faster predictions, and show opportunities in comparing satellite galaxies to those in the field.

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