Contribution ID: **650**   Type: **Invited talk in a parallel session**

Simulating dark matter

Tuesday, 9 July 2024 15:30 (25 minutes)

In this talk I will describe novel techniques to simulate the nonlinear collapse of dark matter in the cosmos. I will then present simulations of the abundance of dark matter halos and subhalos as a function of the properties of dark matter. In addition, I will discuss simulations that focus on the first collapse of dark matter haloes and the emergence of single power law density profiles. Finally, I will mention various implications for the detection of dark matter and it's potential self-annihilation signature.

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Session Classification: Dark matter halos: its nature, modeling & tracers