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## A definitive test of cold dark matter

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A fundamental prediction of the cold dark matter cosmology is that the mass function of halos and subhalos should extend to very small masses, of order the mass of the Earth. In constrast, alternative models, like warm dark matter, predict that the halo mass function should be truncated at some mass that dependes on the mass of the dark matter particle. The differences between the mass functions predicted in these models mostly occur on mass scales too small for gas to have been able to cool and make a galaxy. Thus, these discrimating halos are, for the most part, dark and detectable only through gravitational lensing. I will discuss the properties of these halos and subhalos and the prospects of detecting them in future lensing surveys.

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