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## Towards precision simulations for Cluster Cosmology

*Friday, 26 August 2022 11:40 (40 minutes)*

The next galaxy cluster survey has the potential of being a very competitive cosmological probe. The main cosmological inference done with clusters is the so-called number counts, within which the halo mass function (HMF) is a vital theoretical quantity. This talk revises the calibration of the HMF, focusing on the numeric and theoretical systematic effects from the simulation's purely numerical aspects to the baryonic feedback. While statistical and numerical systematic errors marginally impact the final cosmological constraints forecasted for future surveys, different halo definitions, and baryonic physics can systematically bias the results, raising awareness on the need for better understanding the connection between simulations and observations clusters are identified consistently in both.

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