

Status and Inconsistencies in the Standard LCDM Model: a theoretical cosmologist perspective

Monday, 8 July 2024 11:00 (30 minutes)

In this talk I will give an overview of the status of the Standard LCDM model, from the perspective of a theoretical cosmologist. After a brief overview of the model itself and its fundamental pillars and assumption, I will briefly describe a selection of the very large number of alternatives proposed. Returning to LCDM, this is based on General Relativity (GR), but when it comes to study nonlinear structure formation we use Newtonian simulations. Thus I will focus on the specific problem of understanding gravity on cosmological scales, on the largest ones where perturbative methods can be applied, to the smaller nonlinear scales of clusters and galaxies, down to supermassive black holes.

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