Pizza Seminars

Cosmology meets astrophysics: on the lensing is low problem

by Jonás Chaves-Montero (IFAE)

📅 Wednesday 23 Nov 2022, 13:00 → 14:00 Europe/Madrid

📍 IFAE Seminar Room (IFAE)

Description	We live in the golden age of astronomy: a plethora of ground- and space-based telescopes observe the sky through an extensive range of wavelengths with unprecedented precision. As a result, systematics and model shortcomings are progressively overturning statistical errors as the primary source of uncertainty in cosmological studies. This effect is especially significant for small scales as these are the best constraint by galaxy surveys and are affected by a large variety of galaxy formation effects. In this talk, I discuss a surprising result of recent small-scale analyses: LCDM-based models optimised to reproduce the clustering of massive galaxies overestimate their gravitational lensing by 30%; this is the so-called "lensing is low" problem. Using state-of-the-art galaxy formation models, I show that this discrepancy results from ignoring multiple galaxy formation effects in standard theoretical models rather than from tensions within the LCDM paradigm itself. Therefore, I conclude that it is crucial to develop more sophisticated models for analysing the upcoming generation of large-scale surveys.
Organized by	Cosimo Nigro, Clara Fernández, Elia Bertoldo
Registration	✏️ *You are registered for this event.*

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