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EAS 2023

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Organiser



Partner

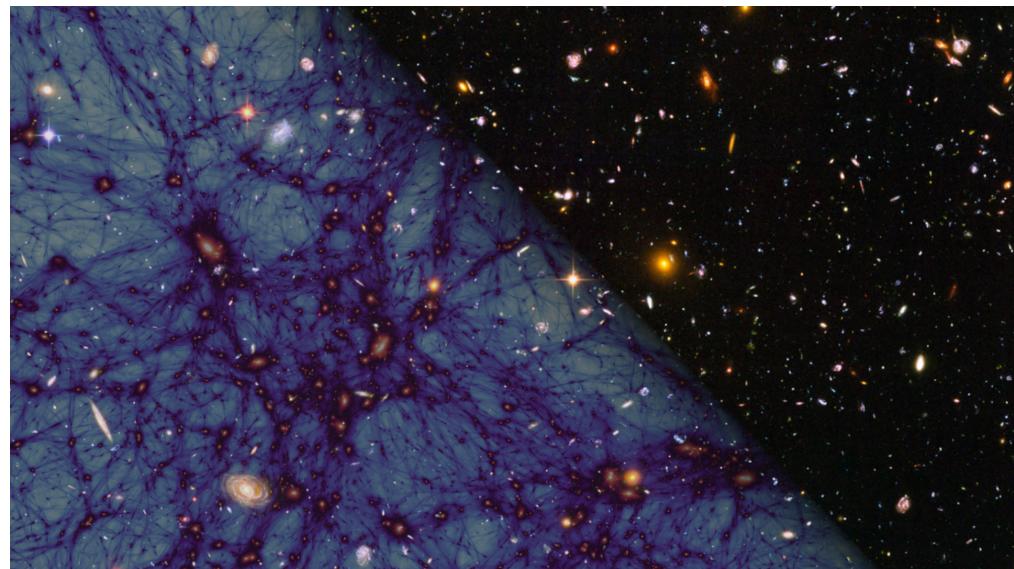
KUONI
TUMLARE

Congress

Symposium S10

12-13 July 2023

In the new era of cosmological surveys: from precision and accuracy to tensions and anomalies



News: (webpage still under development)

Aims and scope

The upcoming generation of large-scale surveys (e.g., DESI, LSST, and Euclid) will observe enormous cosmological volumes with unprecedented precision. As a result, these surveys hold the promise of cosmological constraints with precision competitive with CMB experiments. On the other hand, current cosmological surveys deliver constraints that show significant tensions with more traditional approaches, in some cases up to 5 sigmas (e.g., the Hubble parameter, σ_8 , etc). These tensions may be the result of model shortcomings, systematic effects, or even a missing element in our current understanding of the Universe. Therefore, to determine the origin of these tensions, it is necessary to utilize the full constraining power that new surveys will provide, which requires using more realistic theoretical models and non-traditional cosmological observables.

The primary objective of this session is to discuss the most recent developments in the extraction of statistical information from different types of observables, understanding of systematic effects and in modelling techniques to constrain the cosmological model. The main topics of discussion will be:

Programme

- Cosmological constraints from the non-linear regime
- Large-scale structure probes beyond the 2-point statistics
- Understanding of the H_0 tension between early- and late-Universe measurements
- Observations of the local density and velocity fields

Invited speakers

- Carolina Cuesta-Lázaro, ICC
- Ariel Sanchez, MPE

Scientific organisers

- Maciej Bilicki, CTP PAS, chair
- Jonás Chaves-Montero, IFAE, chair
- Sergio Contreras, DIPC, chair
- Wojciech Hellwing, CTP PAS, chair

- Nandita Khetan, DARK, chair
- Tomás E. Müller Bravo, ICE-CSIC, chair
- Tom Collett, ICG
- Cristina Jiménez Palau, ICE-CSIC
- María Kopsacheili, ICE-CSIC
- Lucía A. Pérez, Princeton University
- Mat Smith, CNRS | IN2P3
- Idit Zehavi, CASE
- Lisa Kelsey, ICG

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European Astronomical Society

