

Tonale Winter School on Cosmology 2023

Working Group Questions

Full-Sky Surveys - Barbara Sartoris

Tutorial 1: Analysis of “Secondary” Cosmological Probes

We will address the following questions:

- How does the probe depend on cosmology?
- What are the current challenges limiting the use of the probe?
- What characteristics should a future experiment have to best utilize that observable?
- How can we combine “secondary” and standard probes to effectively constrain cosmological parameters?

Tutorials 2 and 3: Analysis of Different Approaches and Problems in Cluster Cosmology

Considering the main analyses conducted on the largest cluster samples in various wavebands:

- What are the main differences between the analyses?
- Why do they need to be conducted with different approaches?
- What are the primary problems and tensions identified in comparison to other probes?
- What are the main limitations of cluster cosmology, and how do these problems affect the final constraints provided?

Tutorial 4: Current Problems and Future Experiments

List the current problems, tensions, and limitations for the main cosmological probes.

- Can the combination of different probes overcome some of our current limitations?

- What will be the main issues with future surveys, and how can we deal with them?

List of relevant papers to be used

<https://arxiv.org/pdf/2201.07241.pdf>

<https://arxiv.org/pdf/2104.04538.pdf>

<https://arxiv.org/pdf/1812.01679.pdf>

<https://arxiv.org/pdf/1502.01597.pdf>

<https://arxiv.org/pdf/2002.11124.pdf>