

Weak Lensing Mass Mapping in the Context of Cosmological Inference

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In this review talk I will present the state of the art in the field of weak lensing mass-mapping, as well as discuss the important and desirable properties in the perspective of performing cosmological inference. Specifically, I will review the most advanced mass-mapping method to date (Remy et al. 2022) which was shown to enable proper sampling of the full Bayesian posterior of the mass-mapping problem, using a combination of physical priors and Diffusion Models.

But I will also detail how mass-mapping is only one intermediate stage of a problem when concerned with constraining cosmological parameters, and demonstrate that mass-mapping is not actually required with Simulation-Based Inference techniques, which directly extract the full information content from the shear field itself.

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