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EFTofLSS meets simulation-based inference: σ_8 from biased tracers

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Modern cosmological inference typically relies on likelihood expressions and covariance estimations, which can become inaccurate and cumbersome depending on the scales and summary statistics under consideration. Simulation-based inference, in contrast, does not require an analytical form for the likelihood but only a prior distribution and a simulator, thereby naturally circumventing these issues. In this talk, we will explore how this technique can be used to infer σ_8 from a forward model based on Lagrangian Perturbation Theory and the bias expansion. The power spectrum and the bispectrum are used as summary statistics to obtain the posterior of the cosmological, bias and noise parameters via neural density estimation.

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