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Validation of the MontePython forecasting tools with Euclid synthetic likelihoods

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We expand and adjust the synthetic Euclid likelihoods of the MontePython software in order to match the exact recipes used
in previous Euclid Fisher matrix forecasts for several probes: weak lensing cosmic shear, photometric galaxy clustering, the cross-
correlation between the latter observables, and spectroscopic galaxy clustering. We also establish which precision settings are
required when running the Einstein–Boltzmann solvers CLASS and CAMB in the context of Euclid.
We show that such MontePython forecasts agree very well with previous Fisher forecasts published by the Euclid Collabo-
ration.
Moreover, to establish the validity of the Gaussian approximation, we show that the Fisher matrix marginal error contours coincide with the credible regions obtained when running Monte Carlo Markov Chains with MontePython while using
the exact same synthetic likelihoods.
These ersatz likelihoods can be used to perform more accurate MCMC forecasts on different parameter extensions and survey settings for various modelling scenarios in preparation for the real analysis with the official likelihood code CLOE.

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Classification de Session: The Galaxy Clustering Spec (GCsp) probe, reference model and performances

Classification de thématique: CLOE, status and performances