

Accounting for theoretical uncertainties in LSS analyses

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Current and future large-scale structure surveys increasingly push to smaller scales with improved precision. This poses challenges, as non-linear structure formation is not perfectly understood and modern cosmological simulations and methods derived from them, such as emulators and tuned halo model approaches, do not perfectly agree. As experimental precision and the statistical samples from surveys increase to the point where such discrepancies become relevant, it will lead to biases in cosmological parameter inference unless these theoretical uncertainties are taken into account. I illustrate a proof-of-concept solution for mitigating biases due to theoretical uncertainties for a mission like Euclid, with only a small degradation in parameter sensitivity.

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