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Precision Cosmology and Hubble tension in the era of LSS surveys

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We present a fully relativistic framework to evaluate the impact of stochastic inhomogeneities on the prediction of the Hubble-Lemaitre diagram. To this aim, we relate the fluctuations of the luminosity distance-redshift relation in the Cosmic Concordance model to the intrinsic uncertainty associated to the estimation of cosmological parameters from high-redshift surveys (up to $z = 4$). We apply this framework and, according to the specific of forthcoming surveys as Euclid Deep Survey and LSST, we show that the cosmic variance associated with the measurement of the Hubble constant is at most of 0.1 %. Thanks to our results, we infer that deep surveys will provide an estimation of the the Hubble constant H_0 which will be more precise than the one obtained from local sources, at least in regard of the intrinsic uncertainty related to a stochastic distribution of inhomogeneities.

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