

How I Learned to Stop Worrying and Love The Central Limit Theorem

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ABSTRACT

abstract here

Subject headings: methods: statistical — galaxies: statistics — methods: data analysis — cosmological parameters — cosmology: observations — large-scale structure of universe

1. Introduction

- Talk about the use of Bayesian parameter inference and getting the posterior in LSS cosmology
- Explain the two major assumptions that go into evaluating the likelihood
- Emphasize that we are not talking about non-Gaussian contributions to the likelihood
- Emphasize the scope of this paper is to address whether one of the assumptions matters for galaxy clustering analyses.

2. Gaussian Likelihood Assumption

- Depending on Hogg’s paper maybe a simple illustration of how the likelihood assumption

3. Quantifying Likelihood non-Gaussianity

3.1. Mock Catalogs

- brief description of the mock catalogs
- Kitaura et al. (2016); Sinha et al. (2017)

3.2. k -NN Nonparametric Divergence Estimation

- Poczos et al. (2012); Krishnamurthy et al. (2014)

4. Estimating the Non-Gaussian Likelihood

4.1. Independent Component Analysis

5. Impact on Parameter Inference

- explain importance sampling

6. Discussion

- Will it matter for future surveys?
- Likelihood free inference

7. Summary

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