

N_{eff} priors

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Abstract

Try to understand the effect of priors on different parameters on the N_{eff} errors with a Fisher matrix approach. Where should you invest time and money if you really care about the value of N_{eff} ?

INTRODUCTION

THEORY

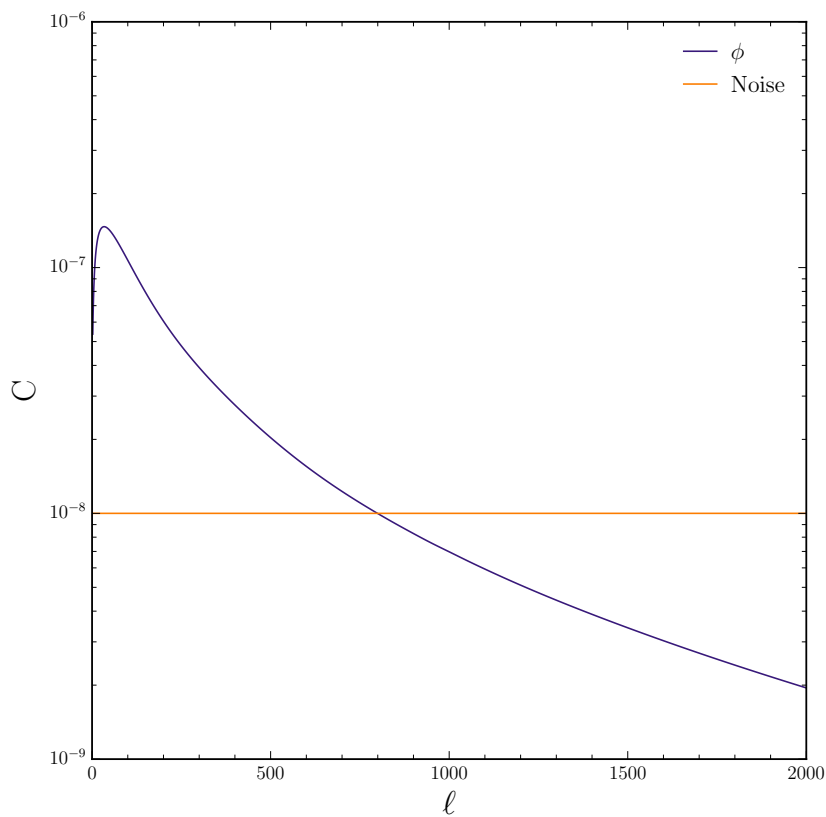


FIG. 1. Lensing potential power spectrum for our fiducial cosmology together with the lensing reconstruction noise N^ϕ used in this work.

$$s \text{ [} \mu\text{K.arcmin} \text{]} \equiv \frac{\text{NET} \text{ [} \mu\text{K} \cdot \sqrt{s} \text{]} \times \sqrt{f_{sky} \text{ [arcmin}^2 \text{]}}}{\sqrt{N_{\text{det}} \times Y \times \Delta T \text{ [s]}}}. \quad (1)$$

$$F_{ij} \equiv - \left\langle \frac{\partial^2 \log \mathcal{L}}{\partial \theta_i \partial \theta_j} \bigg|_{\boldsymbol{\theta} = \boldsymbol{\theta}_0} \right\rangle \quad (2)$$

$$\mathbf{C}_\ell \equiv \begin{pmatrix} C_\ell^{TT} + N_\ell^{TT} & C_\ell^{TE} & C_\ell^{Td} \\ C_\ell^{TE} & C_\ell^{EE} + N_\ell^{EE} & 0 \\ C_\ell^{Td} & 0 & C_\ell^{dd} + N_\ell^{dd} \end{pmatrix}. \quad (3)$$

$$\sigma_i \equiv \sigma(\theta_i) = \sqrt{(\mathbf{F}^{-1})_{ii}} \quad (4)$$

$$F_{H_0H_0} \rightarrow F_{H_0H_0} + \frac{1}{(1\% \times H_{0, fid})^2}, \quad (5)$$

$$T_\nu = \left(\frac{4}{11}\right)^{1/3} T_\gamma \quad (6)$$

DATA

RESULTS

CONCLUSIONS

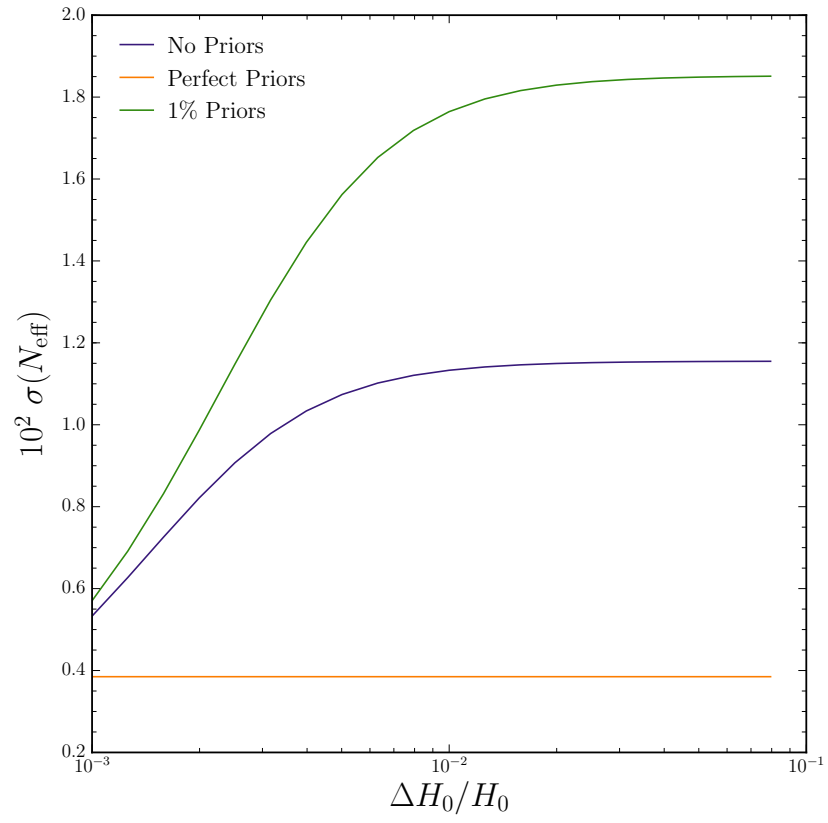


FIG. 2.

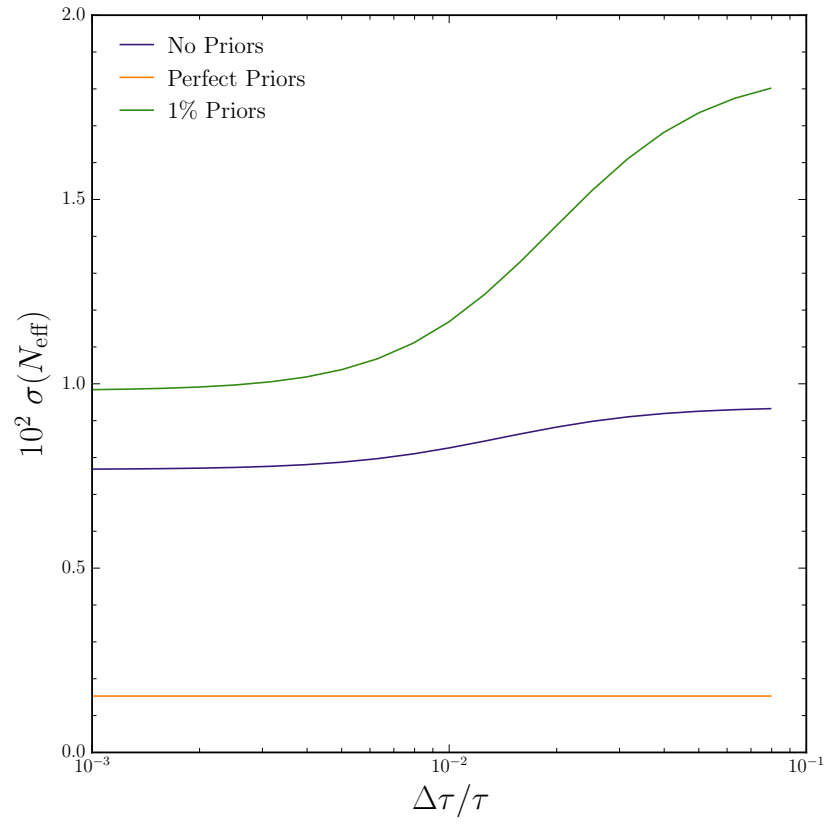


FIG. 3.