Scale-dependent bias with primordial higher order non-Gaussianity

~use of integrated Perturbation Theory~

Poster no. 20

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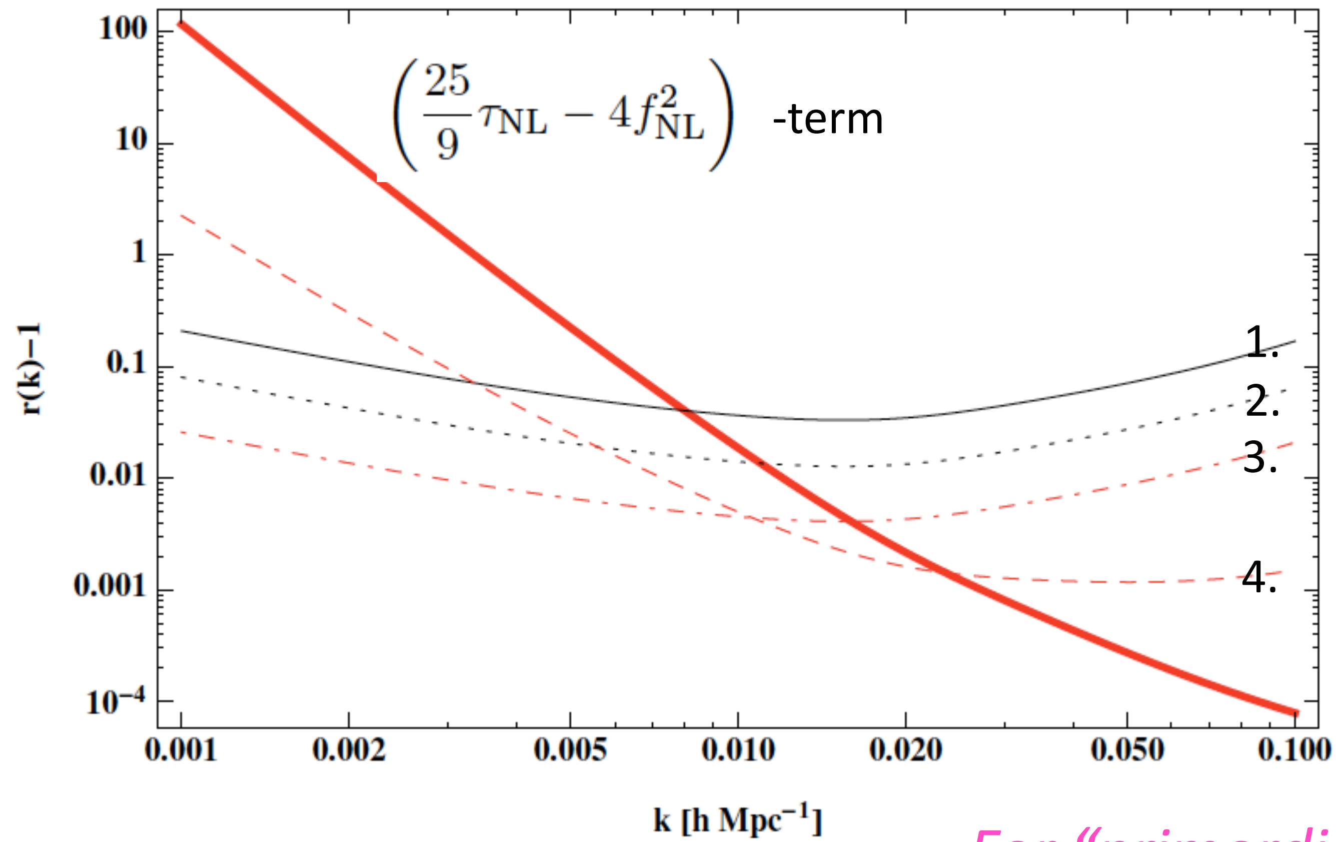
arXiv:1210.2495, in prep.

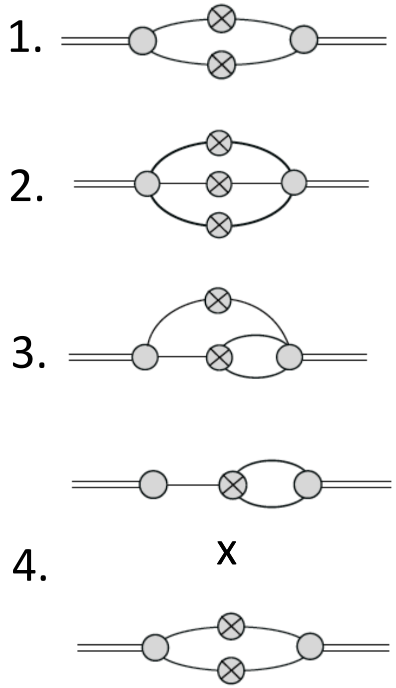
We show a formula for the bias parameters including the effects of the non-zero fNL, gNL and tauNL, based on integrated perturbation theory.

One of the results..

$$r(k) \equiv \frac{P_{\mathrm{m}}(k)P_X(k)}{P_{\mathrm{m}X}(k)^2}.$$

$$r(k) \simeq 1 + \left(\frac{25}{9}\tau_{\mathrm{NL}} - 4f_{\mathrm{NL}}^2\right)\frac{1}{b_1(k)^2\mathcal{M}(k)^2}\left[\int \frac{d^3p}{(2\pi)^3} c_2^{\mathrm{L}}(\mathbf{p},-\mathbf{p})P_{\mathrm{L}}(p)\right]^2$$





$f_{\mathrm{NL}} = 40$ and $\tau_{\mathrm{NL}} = 5 \times 36 f_{\mathrm{NL}}^2/25.$

fixing $z = 1$ and $M = 5 \times 10^{13}\ h^{-1}M_{\odot}$

For "primordial stochasticity",

$$k < O(10^{-2})\ h\mathrm{Mpc}^{-1}$$

is needed ??

See also Baumann et al. (arXiv:1209.2173)