

δn formalism and non-perturbative curvature perturbation during inflation.

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Contrary to what it is typically done in the literature, we re-formulate the δN formalism by using the e-folding number n counted forward in time. Taking advantage of the complete (anti-)correlation of the initial field perturbation $\delta\phi_0$ with its conjugate momenta $\delta\pi_0$, we find a simple formula to calculate the non-linear curvature perturbation as well as its PDF by using the δN method reformulated in terms of n , the δn formalism. We will also explore the connection of the δn formalism with the non-linear equation of motion for the curvature perturbation at superhorizon scales.

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