

Oscillon statistics during preheating

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We analyze the production of inflaton fluctuations during the preheating epoch. By studying the non-linear phases of this scalar formation, we find overdensed space regions that will oscillate forming an oscillon configuration. We also extend the lattice simulations in order to take into account this oscillon creation and investigate the statistics of this production on the dependence of the properties of the inflationary model, i.e., the potential associated to the scalar field. We present the statistical results for the hilltop model for $p = 4, 6, 8$.

[1] S. Antusch, D. Nolde and S. Orani *JCAP* **06** 009 (2015)

[2] S. Antusch, F. Cefalà, D. Nolde and S. Orani *JCAP* **02** 044 (2016)

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