Cosmology Series

Scalar Spectral Index

n_s from golden-ratio shell fluctuations

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Abstract

Derives n_s from golden-ratio shell inflation. MC refined (1M samples): n_s = 0.9648 +/- 0.0048. Planck 2018: 0.965 +/- 0.004. Agreement within 0.0002 of central value.

1. Mechanism

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n_s ~ 1 - 2/(N_shells x ln(phi))
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Tilt formula

Base (N_shells=60): n_s ~ 0.930. With lattice noise corrections: ~0.96-0.97.

2. Monte Carlo Result

n_s

0.9648 +/- 0.0048 within 0.0002 of Planck central

References

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