

Towards a Holographic Description of Inflation and Generation of Fluctuations from Thermodynamics

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Recently, Verlinde conjectured that gravity may be an entropic force, arising from thermodynamics on the holographic screen. We investigate the implications of the entropic force formalism on inflationary cosmology. We find the background dynamics of inflation can be dually described in the holographic language. At the perturbation level, two kinds of novel scale invariant scalar fluctuations arise from thermal fluctuations on the holographic screen. These fluctuations can be responsible for CMB anisotropy and structure formation.

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