Inflation as an Information Bottleneck

Wednesday, 26 June 2019 11:00 (30 minutes)

We discuss how tools from information theory combined with machine learning a direct map from the microscopic parameters of a string inflation mechanism to the CMB observables allows us to systematically estimate the observable footprint of the theory uncertainty. We demonstrate this using the example mechanism of single-field axion monodromy inflation. We find that inflation acts as an information bottleneck, with a surprising number of microscopic parameters decoupling from the CMB observables.

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