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The Open Effective Field Theory of Inflation

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There is an increasing interest in the interplay between Open Quantum Systems and Inflationary Physics. A time-dependent background and limited access to the degrees of freedom invites the use of Open Quantum systems. It provides a more general framework than the unitary time evolution of a pure state. In this talk, we develop a local EFT for the scalar curvature perturbations subject to the dynamics of an open quantum system. We focus on recovering the scale-invariant power spectrum and its amplitude as a function of the dissipation (among other EFT parameters). Our results largely generalize the setup of warm inflation to general non-equilibrium cases. We also explore the different shapes of the bispectrum and the dictionary between our formalism and the Langevin equation.

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