

Quantum diffusion during inflation and primordial black holes

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I will explain how primordial black holes can form from perturbations seeded during inflation and how their abundance can be calculated in the framework of stochastic inflation. This formalism incorporates quantum backreaction of the small-wavelength fluctuations on the large distances dynamics of the Universe. If quantum corrections are small, the probability distribution of density fluctuations is well approximated by a Gaussian. If they are large, the PDF has a different profile with a longer tail and leads to constraints different from the ones usually derived.

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