SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 26 Janvier 2021, 14 :00
APC, https ://u-paris.zoom.us/j/87016236807?pwd=SkJNU0Q1d1lYU1BxZzlvZXpKblkzQT09
Domaines : gr-qc

Titre : *A numerical approach to stochastic inflation and primordial black holes*

Orateur : **Eemeli Tomberg (NICPB)**

Résumé : *Primordial black holes are a dark matter candidate, which may originate from strong perturbations created during inflation. These perturbations can be studied using the formalism of stochastic inflation. I present a numerical approach to this problem, where the stochastic dynamics is solved by generating a large number of random realizations. This makes it possible to go beyond analytical approximations and take into account additional effects such as backreaction between the perturbations and the background. I show that in an example model with an inflection point potential and ultra-slow-roll inflation, compatible with CMB measurements, stochastic effects produce a highly non-Gaussian tail for the perturbations, which changes the predictions for black hole production significantly.*