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Balades Quantiques de le LPENS

Jeudi 1 Décembre 2022, 12 :45
LPENS, L367
Domaines : cond-mat

Titre : *Can we prove that cosmic structures are of quantum mechanical origin ?*

Orateur : **Vincent Vennin (LPENS)**

Résumé : *In the early universe, quantum vacuum fluctuations are amplified and stretched to large distances, giving rise to cosmological over-densities that seed the large-scale structure of our universe. However, astronomers usually analyze the data with purely classical techniques and apparently never need to rely on a quantum formalism to understand them. So are there observational signatures of the quantum origins of primordial perturbations ? If confirmed, would that challenge foundational aspects of quantum mechanics ?*