



ID de Contribution: 22

Type: **Non spécifié**

The Inflationary Butterfly Effect

jeudi 23 mai 2024 11:30 (20 minutes)

“For the first time, we investigate the non-perturbative dynamics of single field inflation with a departure from slow-roll. Using simulations, we find that oscillatory features in the potential can drastically alter the course of inflation, with major phenomenological implications. In certain cases, the entire Universe gets trapped in a forever inflating de Sitter state. In others, only some regions get stuck in a false vacuum, offering an alternative channel for primordial black hole formation. Analogous to the flap of a butterfly, these results show that small-scale phenomena can have profound consequences on the evolution of the entire Universe. This demonstrates the necessity of a non-perturbative approach in the exploration of the small-scale physics of inflation, particularly in the regime relevant for gravitational-wave astronomy.”

Orateur: RENAUX-PETEL, Sébastien (IAP - CNRS)