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Particle Physics at LPTHE

Mercredi 8 Juin 2022, 14 :00
LPTHE, Library, 4th floor
Domaines : astro-ph—hep-ph—hep-th

Titre : *Primordial black holes from supercooled first-order phase transition*

Orateur : **Yann Gouttenoire (Tel Aviv University)**

Résumé : *Cosmological first-order phase transitions are said strongly supercooled when the nucleation temperature is much smaller than the critical temperature. They are typical of potentials which feature nearly scale-invariance, for which the bounce action decreases only logarithmically with time. The phase transition takes place slowly and the probability distribution of bubble nucleation time is maximally spread. Hubble patches which get percolated later than the average are hotter than the background after reheating and potentially collapse into black holes. We discuss the formation of primordial black hole by supercooled first-order phase transitions and we present two classes of particle physics models predicting such transitions.*