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Seminar of the theory group of APC

Mardi 3 Octobre 2017, 14 :00
APC, 483 A - Malevitch
Domaines : hep-th

Titre : *Solving the flatness problem with an anisotropic instanton in Horava-Lifshitz gravity*

Orateur : **Shinji Mukohyama (Yukawa Institute for Theoretical Physics, Kyoto University)**

Résumé : *The first half of this talk reviews the basic construction and some known cosmological implications of a renormalizable theory of gravitation called Horava-Lishitz gravity. In particular, I will explain that (i) the anisotropic scaling with the dynamical critical exponent z=3 renders a field theory of gravity renormalizable, that (ii) the same anisotropic scaling solves the horizon problem and leads to scale-invariant cosmological perturbations even without inflation and that (iii) the infrared instability of the so-called projectable version of the theory can be tamed under a certain condition. We then propose a possible solution to the cosmological flatness problem, in which we assume that the initial condition of the Universe is set by a small instanton respecting the same anisotropic scaling.*