PHYSICS AND ASTRONOMY
SEMINAR

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Horava-Lifshitz cosmology revisited

Abstract

Horava-Lifshitz gravity was recently proved to be renormalizable and thus is considered as a good candidate for quantum gravity. In this talk I will revisit cosmological implications of the theory. In particular, I will argue that (i) the anisotropic scaling with the dynamical critical exponent $z=3$, which renders the theory renormalizable, provides a solution to the cosmological horizon problem and leads to scale-invariant cosmological perturbations even without inflation and that (ii) the same scaling can solve the cosmological flatness problem if the initial condition of the Universe is set by a small instanton. I will also discuss how (iii) the issue of strong coupling of the scalar graviton can be solved via an analogue of the Vainshtein screening.

Friday, August 24, 2018
11:00 a.m.
ECS   Room 124