



Dipartimento di Fisica
Università di Cagliari
INFN, Sezione di Cagliari



HIGH ENERGY PHYSICS COLLOQUIA

15 maggio 2019 · ore 16:00 · aula D

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AN INTRODUCTION TO ASYMPTOTICALLY SAFE GRAVITY

Abstract

In this talk I will review the status of art of Asymptotically Safe Gravity, a particular approach to quantum gravity based on pure Quantum Field Theory, but complemented by the modern, Wilsonian idea of renormalization. According to the "Asymptotic Safety conjecture", first postulated by Weinberg, quantization of gravity might result in a (non-perturbatively) renormalizable quantum field theory, whose continuum limit is determined by a non-trivial fixed point of the gravitational renormalization group flow. After summarizing the key ideas of the theory, I will discuss recent developments and future perspectives. Some of the phenomenological implications of Asymptotic Safety in astrophysical and cosmological contexts will also be presented.

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