



Contribution ID: 54

Type: **Parallel talk**

The UV structure of Horava gravity

Thursday, 22 June 2017 15:15 (15 minutes)

We complete the renormalization program of (projectable) Horava gravity. We show that the theory is renormalizable in any space-time dimension, preserving scaling and gauge invariance of the counter-terms at any order in the loop expansion. Later, we focus on 2+1 dimensions, where we show that the renormalization group flow of the marginal couplings contains a UV fixed point leading to asymptotic freedom.

These two results together imply that 2+1 Horava gravity is a complete theory of Quantum Gravity with dynamical degrees of freedom. This theory can thus be used as a toy-model to study fundamental aspects of quantum gravity.

Presentation type

Parallel talk

Primary author: HERRERO VALEA, Mario (Ecole Polytechnique Federale de Lausanne (CH))

Co-authors: SIBIRYAKOV, Sergey (CERN & EPFL & INR RAS); BLAS TEMINO, Diego (CERN); Prof. BARVINSKY, Andrei; Dr STEINWACHS, Christian

Presenter: HERRERO VALEA, Mario (Ecole Polytechnique Federale de Lausanne (CH))

Session Classification: Parallel II