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Dilaton Quantum Gravity

Tuesday 24 September 2024 14:30 (1h 40m)

In this talk, I will present the Dilaton Quantum Gravity in the context of the Asymptotic Safety Scenario. We consider a scalar field non-minimally coupled to gravity a la Brans-Dicke and after deriving the corresponding flow equations for the couplings (now functions of the scalar field), we first explore the behavior of the system on its fixed point. Performing a large field expansion in terms of the scalar field we find a constant dependence on it and use the latter as input for the computation of the full dependence of the functions on the scalar field, still on the fixed point. We then flow away from the UV using different perturbations around the fixed point as our initial conditions and derive the infrared functions of the theory.

Presenter: KOGIOS, Athanasios

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