## Institut Ruđer Bošković ZAVOD ZA TEORIJSKU FIZIKU

Bijenička c. 54 ZAGREB, HRVATSKA

### SEMINAR ZAVODA ZA TEORLISKU FIZIKU

(Zajednički seminari Zavoda za teorijsku fiziku, Zavoda za eksperimentalnu fiziku IRB-a i Fizičkog odsjeka PMF-a)

# **Double Field Theory and alpha prime corrections**

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IAFE-CONICET-UBA, Buenos Aires, Argentina

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#### Abstract:

String Theory (ST) is an attempt to make General Relativity and Quantum mechanics live together. The universal massless low energy effective action of String Theory coincides with a supergravity action, a particle theory where the fundamental fields involve a metric, a scalar field and a two-form. A difficult task in ST is to find higher-order derivative corrections (alpha prime corrections) to this action that respect the symmetries of ST. On the other hand, Double Field Theory (DFT) is a proposal to incorporate T-duality, a distinctive symmetry of string theory, as a symmetry of a field theory defined on a double configuration space. The idea of this talk is introduce some basics ideas of supergravity and DFT, and show how the latter could be a powerful tool to find alpha prime corrections.

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