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Gravity from worldlines

Tuesday, 10 September 2019 17:15 (45 minutes)

In this talk I will present the first-quantized description of Einstein gravity in terms of a point particle model with N=4 local worldline supersymmetries. In particular, I will discuss how the quantum consistency of the underlying first-quantized system produces fully nonlinear Einstein field equations for the target space metric, thus showing that this is not a peculiarity of string theory.
As a warmup, I will first present the simpler case of a worldline model with N=2 supersymmetries, describing Yang-Mills, and then move to the recently found results for gravity.

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