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## Coupling Yang–Mills with Causal Dynamical Triangulations

Tuesday 27 July 2021 13:00 (15 minutes)

In this talk I examine the algorithmic problem of minimal coupling gauge fields of the Yang–Mills type to Quantum Gravity in the approach known as Causal Dynamical Triangulations (CDT) as a step towards studying, ultimately, systems of gravity coupled with bosonic and fermionic matter. I first describe the algorithm for general dimensions and gauge groups and then focus on the results obtained from simulations of 2d CDT coupled to Yang–Mills fields with U(1) and SU(2) gauge groups, where we studied both observables related to gravity and gauge fields, and compared them with analogous simulations in the static flat case.

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