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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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