

Causal Dynamical Triangulations on the Computer

Thursday, March 8, 2018 2:00 PM (1 hour)

Causal Dynamical Triangulations (CDT) is a background independent approach to quantum gravity which introduces a lattice regularization.

In this talk, we will describe computational methods of CDT, particularly the Monte Carlo algorithm.

We will discuss what we can measure and, based on that, what phase structure we observe.

We will present how to extract the effective action for a scale factor, which is of physical interest, using the covariance matrix method and the transfer matrix method.

Finally, we will highlight some aspects of code parallelization with the aim at improving the performance and speeding up the thermalization stage.

Presenter: GOERLICH, Andrzej