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Quantum field theory on a causal set

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Causal set theory, originally introduced by Rafael Sorkin, is a model of spacetime as a partially ordered set: an element of a set corresponds to a point in spacetime, while partial ordering corresponds to lightcone causal relation. There is no coordinate system: all of the geometry is to be deduced from partial ordering alone. Consequently, one has to rewrite Lagrangians in quantum field theory in such a way that would avoid derivative signs or anything else with Lorentz index. In my talk I will discuss some of the ways of doing so (both the ones introduced by myself and by others).

Primary author: SVERDLOV, Roman (University of New Mexico)

Presenter: SVERDLOV, Roman (University of New Mexico)

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