Contribution ID: **346**   Type: **Parallel Talk**

Euclidean, Weak-Field General Relativity on the Lattice

Tuesday, 1 August 2023 14:50 (20 minutes)

I will discuss a discretization of Euclidean, weak-field General Relativity allowing the generation of a Markov chain of dynamic, pure gravity spacetimes at non-zero temperature via Metropolis algorithm with importance sampling. A positive action conjecture is implemented on the lattice, ensuring a probabilistic interpretation of exp(-S) and that dS=0 yields the Einstein field equations. Preliminary results demonstrating discretization and finite volume systematic effects will be presented and the coupling of dynamic spacetime to the QCD vacuum will be discussed.

Topical area

Theoretical Developments

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Session Classification: Theoretical Developments