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Hamiltonian Truncation and Effective Field Theory*

Thursday, 26 May 2022 10:00 (1 hour)

Hamiltonian truncation is a non-perturbative numerical method for calculating observables of a quantum field theory by truncating the Hilbert space to states with energy below a maximum energy cutoff. In this talk I will present an effective field theory approach to Hamiltonian truncation, which provides a systematic way of improving the calculations without increasing the energy cutoff. I will demonstrate this with numerical results for the two dimensional phiˆ4 theory, and talk about future applications of this method to more complicated theories.

Presenter: FARNSWORTH, Kara (Case Western Reserve University)