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Type: **Parallel Talk**

## Hamiltonian Truncation on the Lattice

*Monday, 31 July 2023 16:00 (20 minutes)*

Hamiltonian truncation is a quantum variational method that approximates the ground state by minimizing the energy on a finite truncated basis of Hilbert space. A straightforward application of this method to quantum field theory would seem to be hopeless, since generic states in the Hilbert space have an exponentially small overlap with physical states. Nonetheless, this talk will present evidence that Hamiltonian truncation converges as a power law in the computational time on the lattice in finite volume. The talk will also explain why Hamiltonian truncation in the continuum is doomed for all but the simplest low-dimensional quantum field theories.

### Topical area

Theoretical Developments

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