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SU(N) eigenstates with Physics-Informed Neural Networks

Friday 5 December 2025 11:00 (40 minutes)

We propose a novel algorithm for the solution of the Schrödinger equation of SU(N) lattice gauge theories. Physics-Informed Neural Networks (PINNs) are employed to find the coupling flow of the eigenstates, starting from the strong coupling limit and evolving adiabatically towards the continuum limit at $1/g \rightarrow \infty$. For each strong-coupling eigenstate, the trained network provides a representation of the wavefunction, and during the training also its energy is learned as a parameter.

Special requests

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Session Classification: Talks