Contribution ID: **304** Type: **Talk**

Machine learning for lattice gauge theories

Thursday 6 November 2025 09:15 (35 minutes)

I will briefly review how machine learning can be used in lattice gauge theory simulations and what approaches are currently available. I will then dicuss one specific application in more detail, namely the machine learning of RG-improved gauge actions using gauge-equivariant convolutional neural networks. In particular, I will present scaling results for a machine-learned fixed-point action in 4d SU(3) gauge theory towards the continuum limit. The results include observables based on the classically perfect gradient-flow scales, which are free of tree-level lattice artifacts to all orders, and quantities related to the static potential and the deconfinement transition.

Parallel Session (for talks only)

Plenary talk

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Session Classification: Plenary session