PROCEEDINGS OF SCIENCE

LeapfrogLayers: A Trainable Framework for Effective Topological Sampling

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We introduce LeapfrogLayers, an invertible neural network architecture that can be trained to efficiently sample the topology of a 2D $U(1)$ lattice gauge theory. We show an improvement in the integrated autocorrelation time of the topological charge when compared with traditional HMC, and propose methods for scaling our model to larger lattice volumes.

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References

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