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Trivializing map as a coarse-graining map

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To deal with the topological freezing in gauge systems, we develop a variant of trivializing map proposed in Luecher 2019. We in particular consider the 2D U(1) pure gauge model, which is the simplest gauge system having the topology. The trivialization is divided into several stages that each stage corresponds to integrating out local degrees of freedom, and thus can be seen as a coarse-graining. The simulation using the map has gain in autocorrelation in wall clock time compared to conventional HMC that likely survives in the continuum limit.

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