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## Digitizing $SU(2)$ gauge fields and what to look out for when doing so

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With the long term perspective of using quantum computers for lattice gauge theory simulations, an efficient method of digitizing gauge group elements is needed. We thus present our results for a handful of discretization approaches for the non-trivial example of  $SU(2)$ , such as its finite subgroups, as well as different classes of finite subsets. We focus our attention on a freezing transition observed towards weak couplings. A generalized version of the Fibonacci spiral appears to be particularly efficient and close to optimal.

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