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## Simulating thimble regularization of lattice quantum field theories (including LGT)

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Monte Carlo simulations of lattice quantum field theories on Lefschetz thimbles are non trivial. We discuss a new Monte Carlo algorithm based on the idea of computing contributions to the functional integral which come from complete flow lines. The latter are the steepest ascent paths attached to critical points, i.e. the basic building blocks of thimbles. The measure to sample is thus dictated by the contribution of complete flow lines to the partition function. The algorithm is based on a heat bath sampling of the gaussian approximation of the thimble: this defines the proposals for a Metropolis-like accept/reject step. The effectiveness of the algorithm has been tested on a few models, e.g. the chiral random matrix model. We also discuss thimble regularization of gauge theories, and in particular the successful application to 0+1 dimensional QCD and the status and prospects for Yang-Mills theories.

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