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Tuning the Riemannian Manifold Hybrid Monte Carlo with Fermions

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The Riemannian Manifold HMC (RMHMC) is designed to tackle critical slowing down by utilizing a rational function of the $SU(3)$ gauge covariant laplace operator in place of the canonical mass term in the HMC algorithm. The RMHMC has been demonstrated to be effective at increasing the rate of change of long distance modes. We present the results of the recent studies done to tune the algorithm and improve its efficiency.

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