Abstract Submitted for the TSS13 Meeting of The American Physical Society

Polynomial preconditioned GMRES-DR¹ QUAN LIU, Baylor University — GMRES-DR (Gneralized Minimal Residual algorithm with Deflated Restarting), developed by Dr. Ronald Morgan in 2002, is a well known algorithm in QCD matrix calculation. We did a modified vertion of regular GMRES-DR by combing it with the polynomial conditioning method, which can help improve the eigenvalue spectrum of the lattice QCD matrix, especially for ill-conditioned matrix with small eigenvalues.

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Date submitted: 08 Mar 2013

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