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Coulomb and Landau Gauge Fixing in GPUs using CUDA and MILC

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In this work, we present the GPU implementation of the overrelaxation and steepest descent method with Fourier acceleration methods for Landau and Coulomb gauge fixing using CUDA for $SU(N)$ with $N > 2$. A multi-GPU implementation of the overrelaxation method is also presented using MPI and CUDA. The GPU performance was measured on BlueWaters and compared against the gauge fixing of the CPU MILC code.

Primary author: Dr CARDOSO, Nuno (NCSA, University of Illinois)

Presenter: Dr CARDOSO, Nuno (NCSA, University of Illinois)

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