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Accelerating deflation of eigenvalues for fermion matrix inversions on GPUs

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We present a brief overview of deflation algorithms recently implemented in the SciDAC QUDA library
for solving the lattice-Dirac equation with multiple right-hand sides on NVIDIA accelerators.
In particular, we discuss implementation aspects of the mixed precision technique for the eigenvalue deflation which
helps to considerably relax GPU memory requirements while allowing for an appropriate deflation quality in
fermion matrix inverters.
We analyze the efficiency of mixed precision deflation on the examples of HISQ and Wilson twisted mass
ensembles.

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