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Portable Lattice QCD implementation based on OpenCL

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The presence of GPU from different vendors demands the Lattice QCD codes to support multiple architectures. To this end, Open Computing Language (OpenCL) is a viable framework for writing portable code. It is of interest to find out how the OpenCL implementation performs as compared to the code based on a dedicated programming interface such as CUDA for Nvidia GPUs. We have developed an OpenCL backend for our already existing code of the Wuppertal-Budapest collaboration. In this contribution, we show benchmarks of the computationally intensive kernel, namely, the inversion of the Dirac operator on the JUWELS Supercomputer based on Nvidia graphics cards, and compare with the CUDA backend implementation.

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