

Implementation of neighboring communication in QWS

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As parallel systems become massive, the neighboring communication in lattice QCD becomes more and more important.

In this talk, I will focus on the implementation of neighboring communication in QCD Wide SIMD library (QWS) for the supercomputer Fugaku.

We adopt the double buffering algorithm and implement it on top of a wrapper library to call the uTofu API, which is a low level interface for the TofuD interconnect.

The wrapper part is independent from the other part of QWS and can be used from the other applications. As an example, we use it in solving 2-dimensional Poisson equation.

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