

Multigrid for Wilson Clover Fermions in Grid

Monday, 23 July 2018 16:50 (20 minutes)

With the ever-growing number of computing architectures, performance portability is an important aspect of (Lattice QCD) software.

The Grid library provides a good framework for writing such code, as it thoroughly separates hardware-specific code from algorithmic functionality and already supports many modern architectures.

The Regensburg group (RQCD) decided to deprecate its Xeon Phi version of the DD- α AMG multigrid solver and implement this algorithm in Grid.

We describe our implementation, review the coding efforts, and summarize our experiences with the Grid library.

We present the solver's features and compare its performance with other multigrid implementations.

Primary author: Mr RICHTMANN, Daniel (University of Regensburg)

Co-author: Prof. WETTIG, Tilo (University of Regensburg)

Presenter: Mr RICHTMANN, Daniel (University of Regensburg)

Session Classification: Algorithms and Machines

Track Classification: Algorithms and Machines