



Contribution ID: 1037

Type: Oral Presentation

QEX: a framework for lattice field theories (15' + 5')

Friday, 5 August 2016 15:15 (20 minutes)

We present a new software framework for simulating lattice field theories. It features an intuitive programming interface, while simultaneously achieving high performance supercomputing, all in one programming language, Nim. With a macro system based on its abstract syntax tree, the language enables us to check and optimize our code at compile time. It also allows us to code intrinsics that map directly to machine instructions, and generates efficient native code. We will give an introduction to the high level interface of the framework, and discuss the current status of the code and future plans.

Primary authors: OSBORN, James (Argonne National Laboratory); JIN, Xiao-Yong (Argonne National Laboratory)

Presenter: JIN, Xiao-Yong (Argonne National Laboratory)

Session Classification: Computing

Track Classification: Computing and Data Handling