



Contribution ID: 374

Type: **Oral presentation**

Lyncs: a Python API for Lattice QCD

Wednesday 28 July 2021 14:45 (15 minutes)

We present Lyncs, a Python API for Lattice QCD currently under development. Lyncs aims to bring several widely used libraries for Lattice QCD under a common framework. Lyncs flexibly links to libraries for CPUs and GPUs in a way that can accommodate additional computing architectures as these arise, ensuring performance-portability for the calculations while maintaining the same high-level workflow. Lyncs distributes calculations using Dask and mpi4py, with bindings to the libraries performed automatically via cppy. While Lyncs is designed to allow linking to multiple libraries, we focus on a set of targeted packages that include c-lime, DDalphaAMG, tmLQCD and quda. The project is open for contributions as these may arise.

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Session Classification: Software development and Machines

Track Classification: Software development and Machines