

7th PataTrack Hackathon

Team: Multiple Architectures

Objectives:

Running CMS-Patatrack on multiple architectures. (CUDA, HIP(AMD), X86, ARM, IBM)

- Evaluating different ways (ALPAKA, KOKKOS, QT) on a standalone code (...)
 - Ease of management
 - Integration with CMSSW
 - Performance differences and checks.
- PataTrack Code conversion and performance checks.
- Pull request New Branch for moving the existing code.
- Adding guidelines in README / PataTrack Wiki

Hackathon: Day:1

- Access to the Machines
- Setting up CMSSW and Patatrack development branch with validation and tests
- Setting up Alpaka/Cupla/Kokkos/QT
- Trying out on standalone code - <https://github.com/makortel/pixel-standalone>
- Tests within CMSSW+Patatrack

Day:2

- Tried different examples with Alpaka/Cupla/Kokkos/QT and trying to understand further.
 - Ran the test code on different machines
 - Tests on AMD Readon7 card
 - Tests on V100 card.
 - Tests on x86
- Understanding CMSSW+Patatrack updates needed to add compilation flags and features of Alpaka/kokos using SCRAM