

About me

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DESY Tracking Meeting

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About me

- Computer Scientist

Affiliations

- ATLAS external group member
- PhD Student at UHH in the Scientific Computing Group of Prof. Thomas Ludwig
- Member of DASHH **Data Science** in **HH** (Helmholtz Graduate School for the Structure of Matter)

My research in a nutshell

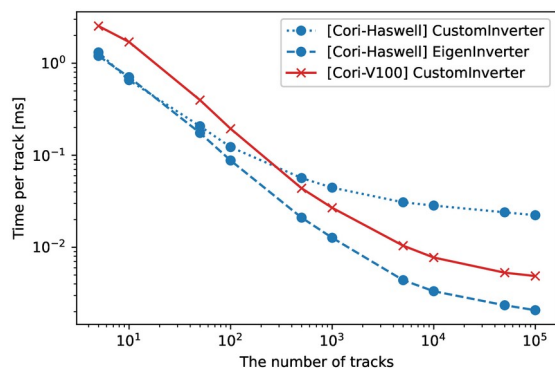
- Performance optimizations for the particle reconstruction software
 - hand-tuned CPU multi-threading & CUDA implementations
 - source-to-source translation of C++ code to different parallel backends to target different architectures (CPU/GPU)
- DESY supervisor: Nick Styles



My research

Previous contributions

- CPU parallelizations & performance studies for [\[ACTS\]](#) project
- (+ Xiaocong + Nick) Prototype for Kalman Filter for track fitting on the GPU



Plot from article [\[DOI\]](#)

On-going work

- Building a prototype clang-tool to rewrite C++ code & generate support code (e.g. memory transfer operations) to enable the execution in parallel environments (multi-threading on CPU or GPU)
- Toy example using trivially copyable data structures already in place
- Extending the functionality to more complex data structures & algorithms