Acts Parallelization Meeting

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November 1, 2024

acts-project/traccc: PRs merged between 2024-10-19 and 2024-11-01 I

- ⎇ **Add an option for align vector for telescope plane placement** (PR#747)
  by @beomki-yeo, merged on 2024-10-19
- ⎇ **Fix register overload in CUDA spacepoint formation** (PR#730)
  by @stephenswat, merged on 2024-10-21
- ⎇ **Build Profiling, main branch (2024.09.22.)** (PR#713)
  by @krasznaa, merged on 2024-10-22
- ⎇ **De-Template Track Finding, main branch (2024.10.01.)** (PR#722)
  by @krasznaa, merged on 2024-10-23
- ⎇ **Enable '-Wconversion'** (PR#746)
  by @stephenswat, merged on 2024-10-23
- ⎇ **De-Template Spacepoint Formation, main branch (2024.10.23.)** (PR#749)
  by @krasznaa, merged on 2024-10-24
- ⎇ **Split the CUDA CKF into different TUs** (PR#742)
  by @stephenswat, merged on 2024-10-24

acts-project/traccc: PRs merged between 2024-10-19 and 2024-11-01 II

- **⌥ ODD Throughput Profiling, main branch (2024.05.13.)** (PR#587)
  by @krasznaa, merged on 2024-10-24
- **⌥ x86-64-v2, main branch (2024.10.24.)** (PR#751)
  by @krasznaa, merged on 2024-10-25
- **⌥ macOS Fixes, main branch (2024.10.26.)** (PR#755)
  by @krasznaa, merged on 2024-10-26
- **⌥ Add theta range input** (PR#752)
  by @beomki-yeo, merged on 2024-10-28
- **⌥ Update Presets, main branch (2024.10.25.)** (PR#753)
  by @krasznaa, merged on 2024-10-28
- **⌥ VecMem Update, main branch (2024.10.29.)** (PR#757)
  by @krasznaa, merged on 2024-10-29
- **⌥ Fix fitting performance writer by changing the measurement comparator** (PR#754)
  by @beomki-yeo, merged on 2024-10-30
- **⌥ Move to alpaka 1.2.0 and use new isMultiThreadAcc method** (PR#758)
  by @StewMH, merged on 2024-10-30

- ⎇ **TBB Re-Configuration Fix, main branch (2024.10.30.)** (PR#759)
  by @krasznaa, merged on 2024-10-31

- ⎇ **Update detray to v0.81.0** (PR#750)
  by @stephenswat, merged on 2024-10-31

acts-project/traccc: Open PRs I

- 🔀 **De-Template the SYCL Library, main branch (2024.11.01.)** (PR#760)
  by @krasznaa, updated on 2024-11-01
- 🔀 **De-Template (Host) Track Fitting, main branch (2024.10.28.)** (PR#756)
  by @krasznaa, updated on 2024-10-31
- 🔀 **ref: benchmark toy detector config** (PR#714)
  by @niermann999, updated on 2024-10-18
- 🔀 **Archive the Futhark and Kokkos code** (PR#652)
  by @stephenswat, updated on 2024-10-01
- 🔀 **Issue warnings for non-Release builds** (PR#701)
  by @stephenswat, updated on 2024-10-01
- 🔀 **Add sanity checks for predicates on vectors** (PR#702)
  by @stephenswat, updated on 2024-09-22
- 🔀 **Add 'wait' or 'ignore' for all async copies** (PR#645)
  by @stephenswat, updated on 2024-09-20

acts-project/traccc: Open PRs II

- 🔀 **Simplify vecmem/alpaka interaction** (PR#670)
  by @StewMH, updated on 2024-08-15
- 🔀 **Add debug output to clustering algorithms** (PR#640)
  by @stephenswat, updated on 2024-08-02
- 🔀 **Move shared CCL variables into single struct** (PR#665)
  by @stephenswat, updated on 2024-08-02
- 🔀 **Bump clang-format to version 18** (PR#613)
  by @stephenswat, updated on 2024-07-03
- 🔀 **Specific documentation on ROOT for traccc** (PR#535)
  by @SylvainJoube, updated on 2024-06-20
- 🔀 **Add track tree writer** (PR#503)
  by @beomki-yeo, updated on 2024-06-04
- 🔀 **Verbose performance metrics** (PR#578)
  by @SylvainJoube, updated on 2024-05-07
- 🔀 **feat: implement digitization configurator for detray geometries** (PR#465)
  by @niermann999, updated on 2023-10-20

acts-project/traccc: Open PRs III

- ⤷ **Add scripts for plotting throughput measurements** (PR#375)
  by @guilhermeAlmeida1, updated on 2023-06-16

- ⤷ 🚧 WIP **Ignore surface with invalid index in performance check** (PR#748)
  by @beomki-yeo, updated on 2024-10-21

- ⤷ 🚧 WIP **Skip to fill the resolution histogram if the idx is out of range** (PR#716)
  by @beomki-yeo, updated on 2024-09-29

- ⤷ 🚧 WIP **Add '-Wnull-dereference' warning and fix issues** (PR#683)
  by @paulgessinger, updated on 2024-08-16

- ⤷ 🚧 WIP **Ensure that CCL output is contiguous on modules** (PR#666)
  by @stephenswat, updated on 2024-08-09

- ⤷ 🚧 WIP **Alternative CUDA implementation of seed finding** (PR#230)
  by @stephenswat, updated on 2024-06-25

- ⤷ 🚧 WIP **Update to new detray geometry reading for alpaka seeding** (PR#514)
  by @StewMH, updated on 2024-02-07

acts-project/traccc: Open PRs IV

- ⚠️ **WIP** **Add functions to calculate pvalue** (PR#405)
  by @beomki-yeo, updated on 2023-10-26
- ⚠️ **WIP** **Improvements to the CCL test data generator** (PR#457)
  by @stephenswat, updated on 2023-09-12
- ⚠️ **WIP** **Implement seed finding Thunderdome in CUDA** (PR#410)
  by @stephenswat, updated on 2023-05-27
- ⚠️ **WIP** **Add Spack development environment specification** (PR#364)
  by @stephenswat, updated on 2023-05-11
- ⚠️ **WIP** **MPS benchmarking scripts and test workflow** (PR#244)
  by @Chamodya-ka, updated on 2023-01-25

acts-project/detray: PRs merged between 2024-10-19 and 2024-11-01 I

- ⎇ **Remove useless if-statement condition** (PR#866)
  by @stephenswat, merged on 2024-10-21
- ⎇ **Ref: decouple stepper and navigator** (PR#863)
  by @niermann999, merged on 2024-10-22
- ⎇ **Split propagate function into client components** (PR#850)
  by @stephenswat, merged on 2024-10-22
- ⎇ **Ref: stepper state encapsulation** (PR#864)
  by @niermann999, merged on 2024-10-22
- ⎇ **Project Export Fix, main branch (2024.10.24.)** (PR#869)
  by @krasznaa, merged on 2024-10-24
- ⎇ **Benchmarking On Main Repo Only, main branch (2024.10.24.)** (PR#870)
  by @krasznaa, merged on 2024-10-24
- ⎇ **GCC 12 Build Fix, main branch (2024.10.22.)** (PR#867)
  by @krasznaa, merged on 2024-10-24

acts-project/detray: PRs merged between 2024-10-19 and 2024-11-01 II

- **fix: more sonar cloud issues** (PR#862)
  by @niermann999, merged on 2024-10-24
- **Add more 'detray::tuple' features** (PR#872)
  by @stephenswat, merged on 2024-10-28
- **ref: Update the propagation config structs and improve navigation recovery due to extreme portal overstepping** (PR#856)
  by @niermann999, merged on 2024-10-29
- **ref: Reduce size of navigation state** (PR#868)
  by @niermann999, merged on 2024-10-30
- **Update CUDA version in CI to 12.6** (PR#874)
  by @stephenswat, merged on 2024-10-30
- **fix: Navigation assertions in validation tools** (PR#858)
  by @niermann999, merged on 2024-10-30
- **Increment version number to v0.81.0** (PR#875)
  by @stephenswat, merged on 2024-10-31
- **Remove unneeded state from Runge-Kutta stepper** (PR#871)
  by @stephenswat, merged on 2024-11-01

acts-project/detray: Open PRs I

- **ref: Remove code duplication from helix intersectors** (PR#873)
  by @niermann999, updated on 2024-11-01
- **ref: Make surface implementation more concise** (PR#861)
  by @niermann999, updated on 2024-10-29
- **Enable tests for SYCL builds** (PR#780)
  by @stephenswat, updated on 2024-07-29
- **ref: Switch to vectorized Vc AoS plugin** (PR#736)
  by @niermann999, updated on 2024-07-25
- 🚧 WIP **Synchornize for passive materials as well** (PR#846)
  by @beomki-yeo, updated on 2024-10-03
- 🚧 WIP **Update electron/positron bremss** (PR#827)
  by @beomki-yeo, updated on 2024-09-24
- 🚧 WIP **ref: Generalize propagation benchmark functionality** (PR#404)
  by @niermann999, updated on 2024-08-22
- 🚧 WIP **Multiple scattering in the volume material** (PR#677)
  by @beomki-yeo, updated on 2024-02-18

- ⌥ **Mark copy events as 'nodiscard'** (PR#286)
  by @stephenswat, merged on 2024-10-27

- ⌥ **Make several improvements to binary page allocator** (PR#299)
  by @stephenswat, merged on 2024-10-28

acts-project/vecmem: Open PRs I

- ⑂ **AoS / SoA Copy Benchmarks, main branch (2024.09.27.)** (PR#297)
  by @krasznaa, updated on 2024-10-01
- ⑂ **[WIP] Add cms caching cuda allocator** (PR#79)
  by @cgleggett, updated on 2021-04-28
- ⑂ 🚧 WIP **Introduce vecmem::metal, main branch (2024.10.27.)** (PR#300)
  by @krasznaa, updated on 2024-10-27

- ⑂ **Replace 'boost::filesystem' by 'std::filesystem'** (PR#14)
  by @stephenswat, updated on 2023-10-12

- **Update Ubuntu 24.04 ROCm+OneAPI image** (PR#123)
  by @stephenswat, merged on 2024-10-25

- **Update Ubuntu 24.04 CUDA to 12.6.2** (PR#124)
  by @stephenswat, merged on 2024-10-29

- **Fix Ubuntu 24.04 CUDA environment variables** (PR#125)
  by @stephenswat, merged on 2024-10-30