# Introduction

Paul Gessinger CERN 2022-03-04



# **Highlights**

#### traccc

SYCL HIP Backend Compatibility, main branch (2022.03.01.) (PR#140) by @krasznaa, merged on 2022-03-02

#### detray

- ref: Remove edges from surfaces (PR#201) by @niermann999, merged on 2022-02-21
- Add RK stepper (PR#204)

by @beomki-yeo, merged on 2022-02-22

- Propagator with RK stepper (PR#209) by @beomki-yeo, merged on 2022-02-28
- Grid2 Const Correctness, main branch (2022.02.28.) (PR#215) by @krasznaa, merged on 2022-03-01

# Today

#### ■ Parallelization API with OpenMP (CPU) and CUDA

by Georgiana Mania





acts-project/traccc Merged PRs

## acts-project/traccc: PRs merged since 2022-02-18 |

- SYCL seeding synchronization fix (PR#137) by @konradkusiak97, merged on 2022-02-22
- Program Options Improvements, main branch (2022.02.22.) (PR#138) by @krasznaa, merged on 2022-02-25
- SYCL Code Cleanup, main branch (2022.02.25.) (PR#139) by @krasznaa, merged on 2022-03-01
- SYCL HIP Backend Compatibility, main branch (2022.03.01.) (PR#140) by @krasznaa, merged on 2022-03-02

acts-project/traccc Open PRs

## acts-project/traccc: Open PRs I

- Fix for SYCL Seeding on Intel GPU (PR#141) by @konradkusiak97, updated on 2022-03-03
- Add Seeding Performance Writer (PR#130) by @beomki-yeo, updated on 2022-02-18
- Add a mapper for validation purpose (PR#133) by @beomki-yeo, updated on 2022-02-17
- Another CUDA implementation of connected component labeling (PR#19) by @stephenswat, updated on 2021-12-01

acts-project/vecmem Merged PRs

### acts-project/vecmem: PRs merged since 2022-02-18 |

- Visual Studio 2022 Update, main branch (2022.02.24.) (PR#167) by @krasznaa, merged on 2022-02-24
- sycl::atomic\_ref, main branch (2022.02.24.) (PR#168) by @krasznaa, merged on 2022-02-24

acts-project/vecmem Open PRs

## acts-project/vecmem: Open PRs I

[WIP] Add cms caching cuda allocator (PR#79) by @cgleggett, updated on 2021-04-28



acts-project/detray Merged PRs

### acts-project/detray: PRs merged since 2022-02-18 |

- ref: Remove edges from surfaces (PR#201) by @niermann999, merged on 2022-02-21
- Add RK stepper (PR#204) by @beomki-yeo, merged on 2022-02-22
- Specialize make tuple for thrust and std (PR#206) by @beomki-yeo, merged on 2022-02-28
- feat: typed indices (PR#207) by @niermann999, merged on 2022-02-28
- Propagator with RK stepper (PR#209) by @beomki-yeo, merged on 2022-02-28
- chore: clean clang warnings (PR#212) by @niermann999, merged on 2022-03-01

### acts-project/detray: PRs merged since 2022-02-18 II

Grid2 Const Correctness, main branch (2022.02.28.) (PR#215) by @krasznaa, merged on 2022-03-01



acts-project/detray Open PRs

## acts-project/detray: Open PRs I

- Fix a bug in 'helix\_gun' (PR#218) by @beomki-yeo, updated on 2022-03-04
- CUDA propagator benchmark (PR#216) by @beomki-yeo, updated on 2022-03-03
- feat: adding nlohman library (PR#213) by @asalzburger, updated on 2022-03-02
- feat: make surface finders callable from navigator (PR#208) by @niermann999, updated on 2022-02-28
- feat: add guided navigator example (PR#197) by @niermann999, updated on 2022-02-09
- ref: Use adj matrix in geometry graph (PR#179) by @niermann999, updated on 2022-01-17

No merged PRs since 2022-02-18 in acts-project/algebra-plugins

# **Contributions today I**

#### ■ Parallelization API with OpenMP (CPU) and CUDA

by Georgiana Mania

