

# Acts Parallelization Meeting

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# Today's Contributions

- **Exploring Optimization Opportunities on tracc Clusterization Algorithms**  
by Soufiane Baghdadi
- **Accelerated Clustering Using a Non-Jagged EDM**  
by Guilherme Metelo Rita De Almeida









## acts-project/traccc: PRs merged between 2023-02-10 and 2023-02-24 |

-  **Changed device clusterization to flat EDM & cell-level parallelism (PR#299)**  
by @guilhermeAlmeida1, no assignee, merged on 2023-02-15
-  **Fuse partitioning and clusterization CUDA kernels (PR#316)**  
by @stephenswat, no assignee, merged on 2023-02-15
-  **Improved performance of clusterization (PR#317)**  
by @guilhermeAlmeida1, no assignee, merged on 2023-02-20
-  **GPU Track Fitting (PR#296)**  
by @beomki-yeo, no assignee, merged on 2023-02-21
-  **Remove headers from doublet and triplet containers. (PR#319)**  
by @guilhermeAlmeida1, no assignee, merged on 2023-02-22
-  **Fuse partitioning and CCA kernels and remove CPU partitioning algorithm (PR#318)**  
by @guilhermeAlmeida1, no assignee, merged on 2023-02-23




## acts-project/traccc: Open PRs I

-  **Cleanup: Remove redundant calls to copying/getting size of buffers in seed finding. (PR#320)**  
by @guilhermeAlmeida1,  **no assignee**, updated on 2023-02-23
-  **Add Particle Generation Options (PR#314)**  
by @beomki-yeo,  **no assignee**, updated on 2023-02-22
-  **Alternative CUDA implementation of seed finding (PR#230)**  
by @stephenswat,  **no assignee**, updated on 2023-02-16
-  **Changed CPU clustering to use flat vectors of alt\_cells as input and alt\_measurements internally. (PR#304)**  
by @guilhermeAlmeida1,  **no assignee**, updated on 2023-02-15
-  **ci: Add basic GPU CI (PR#237)**  
by @paulgessinger,  **no assignee**, updated on 2023-01-25
-  **MPS benchmarking scripts and test workflow (PR#244)**  
by @Chamodya-ka,  **no assignee**, updated on 2023-01-25















## acts-project/traccc: Open PRs II

-  **added mps script tests (PR#255)**  
by @Chamodya-ka,  **no assignee**, updated on 2023-01-25
-  **Add infrastructure for CUDA graph algorithms (PR#307)**  
by @stephenswat,  **no assignee**, updated on 2023-01-25
-  **Implement and test a CUDA version of the module map (PR#154)**  
by @stephenswat,  **no assignee**, updated on 2022-04-13
-  **Implement CUDA spacepoint formation with flat EDM (PR#158)**  
by @stephenswat,  **no assignee**, updated on 2022-04-01















## acts-project/detray: PRs merged between 2023-02-10 and 2023-02-24 |

-  **Add momentum range and vertex smearing to 'random\_track\_generator'** (PR#388)  
by [@beomki-yeo](#), no assignee, merged on 2023-02-10
-  **update project version to v0.22.0** (PR#390)  
by [@beomki-yeo](#), no assignee, merged on 2023-02-11
-  **feat: target aborter** (PR#392)  
by [@niermann999](#), no assignee, merged on 2023-02-16

## acts-project/detray: Open PRs I



-  **feat: Enable reading of a solenoid field map in the toy geometry (PR#399)**  
by @niermann999,  **no assignee**, updated on 2023-02-23
-  **ref: additional navigation call after random scattering (PR#398)**  
by @niermann999,  **no assignee**, updated on 2023-02-19
-  **ref: pathcorrection unittest runs on telescope detector (PR#397)**  
by @niermann999,  **no assignee**, updated on 2023-02-19
-  **ref: add world portals to telescope detector (PR#396)**  
by @niermann999,  **no assignee**, updated on 2023-02-17
-  **feat: axis aligned bounding boxes (PR#395)**  
by @niermann999,  **no assignee**, updated on 2023-02-17
-  **ref: generalize telescope to switch module shape (PR#394)**  
by @niermann999,  **no assignee**, updated on 2023-02-17
-  **feat: re-introduce unbounded mask (PR#393)**  
by @niermann999,  **no assignee**, updated on 2023-02-16

## acts-project/detray: Open PRs II


-  **feat: cylinder portal intersector (PR#370)**  
by @niermann999,  **no assignee**, updated on 2023-02-16
-  **feat: surface barcode (PR#368)**  
by @niermann999,  **no assignee**, updated on 2023-02-16
-  **ref: move surface vector into sf finder store (PR#367)**  
by @niermann999,  **no assignee**, updated on 2023-02-16
-  **feat: material builders (PR#364)**  
by @niermann999,  **no assignee**, updated on 2023-01-17
-  **ref: Add new stepper policy and benchmark it (PR#327)**  
by @niermann999,  **no assignee**, updated on 2022-11-10
-  **Volume radiation length (PR#328)**  
by @beomki-yeo,  **no assignee**, updated on 2022-10-26
-  **add vecpar example (PR#235)**  
by @georgi-mania,  **no assignee**, updated on 2022-07-13



## acts-project/vecmem: PRs merged between 2023-02-10 and 2023-02-24 |

-  **oneAPI 2023.0.0 Windows Fix, main branch (2023.02.22.) (PR#218)**  
by [@krasznaa](#), no assignee, merged on 2023-02-22
-  **Change buffer constructor size type to template parameter. (PR#220)**  
by [@guilhermeAlmeida1](#), no assignee, merged on 2023-02-24

## acts-project/vecmem: Open PRs |

-  [WIP] Add cms caching cuda allocator (PR#79)  
by @cglegett,  no assignee, updated on 2021-04-28

## acts-project/algebra-plugins: Open PRs I

-  **Added Fastor as a full backend and frontend. (PR#78)**  
by @wermos,  **no assignee**, updated on 2022-11-21