







































Pull request and issue summary for acts-project/acts















April 4, 2023

acts-project/acts: PRs merged between 2023-03-28 and 2023-04-04 |



















- ▶  **refactor: Ambiguity solvers now use Track containers (#1996)**
by @Corentin-Allaire,  reviewed by @andiwand, merged on 2023-03-28
- ▶  **refactor: change in ITk seed confirmation for high pT muons efficiency (#1956)**
by @LuisFelipeCoelho,  reviewed by @CarloVarni, merged on 2023-03-28
- ▶  **feat: Adding ITk scripts for material mapping and validation (#1967)**
by @noemina,  reviewed by @Corentin-Allaire, merged on 2023-03-28
- ▶  **fix: Track state range is invalid if tip index is (#1995)**
by @paulgessinger,  reviewed by @EdwardMoyse, merged on 2023-03-28
- ▶  **feat: Example of integrating HoughTransform example algorithm with python (#1795)**
by @tboldagh,  reviewed by @andiwand, merged on 2023-03-31
- ▶  **refactor: LinCircle constructor and no use of fill function (#2006)**
by @CarloVarni,  reviewed by @LuisFelipeCoelho, merged on 2023-04-03
- ▶  **ci: Patch geant4 config script to download datasets (#2011)**
by @paulgessinger,  reviewed by @andiwand, merged on 2023-04-03
- ▶  **refactor: move multipleScattering2 to seeding options (#2010)**
by @LuisFelipeCoelho,  reviewed by @CarloVarni, merged on 2023-04-04

- ▶  **ci: Bump actions/upload-artifact to v3 (#2015)**
by @paulgessinger,  reviewed by @andiwand, merged on 2023-04-04
- ▶  **refactor: Split Track.hpp into TrackProxy.hpp and TrackContainer.hpp (#2007)**
by @paulgessinger,  reviewed by @paulgessinger, merged on 2023-04-04
- ▶  **revert: Patch geant4 config script to download datasets (#2011) (#2014)**
by @paulgessinger,  reviewed by @andiwand, merged on 2023-04-04




















- ▶  **fix: Skipping un-physical steps in material mapping (#1882) (#1968)**
by @noemina,  reviewed by @Corentin-Allaire, updated on 2023-04-04
- ▶  **test: fixing error message for material recording tests (#2016)**
by @noemina,  reviewed by @andiwand, updated on 2023-04-04
- ▶  **feat: Track level improvements (#2012)**
by @paulgessinger,  **no reviewer**, updated on 2023-04-04
- ▶  **fix: MultiTrajectory parameters and covariance constness (#2009)**
by @paulgessinger,  **no reviewer**, updated on 2023-04-04
- ▶  **refactor: Update edm4hep IO code to use frame model (#2001)**
by @paulgessinger,  reviewed by @andiwand, updated on 2023-04-04
- ▶  **test: Enable interaction in 'truth_tracking_kalman.py' (#1990)**
by @beomki-yeo,  reviewed by @andiwand, updated on 2023-04-04
- ▶  **refactor!: move SSS coordinate information to spacePointData (#2004)**
by @LuisFelipeCoelho,  reviewed by @LuisFelipeCoelho, updated on 2023-04-04
- ▶  **feat: Add Mlpack DBScan clustering to the ML Ambiguity solver (#2005)**
by @Corentin-Allaire,  reviewed by @andiwand, updated on 2023-04-03

- ▶  **feat: remove middle SPs in last layer (#1972)**
by @LuisFelipeCoelho,  reviewed by @LuisFelipeCoelho, updated on 2023-03-31
- ▶  **feat: Addition of CsvSeedWriter (#2003)**
by @piotrmoszkowicz,  **no reviewer**, updated on 2023-03-30
- ▶  **feat: cylindrical detector (#1983)**
by @asalzburger,  reviewed by @noemina, updated on 2023-03-28
- ▶  **refactor: move vertex performance writer (#1998)**
by @andiwand,  **no reviewer**, updated on 2023-03-28
- ▶  **perf: Space Point Formation requires functions that accepts const reference to source links (#1991)**
by @CarloVarni,  **no reviewer**, updated on 2023-03-27
- ▶  **refactor: add propagator stage (#1987)**
by @andiwand,  reviewed by @benjaminhuth, updated on 2023-03-27
- ▶  **refactor: remove/rearrange includes in propagator (#1988)**
by @andiwand,  reviewed by @andiwand, updated on 2023-03-25






















acts-project/acts: Open PRs III

- ▶  **build: Take CMAKE_CXX_STANDARD into account (#1981)**
by @paulgessinger,  reviewed by @benjaminhuth, updated on 2023-03-24
- ▶  **feat: Make layer envelope dimensions configurable (#1982)**
by @plariono,  **no reviewer**, updated on 2023-03-23
- ▶  **feat: Add logger to multi stepper (#1964)**
by @benjaminhuth,  reviewed by @paulgessinger, updated on 2023-03-20
- ▶   **fix: Energy loss function (#1323)**
by @beomki-yeo,  reviewed by @beomki-yeo, updated on 2023-03-18
- ▶   **feat: indexed surface binning for new Detector schema (#2017)**
by @asalzburger,  **no reviewer**, updated on 2023-04-04
- ▶   **feat: Space point implementation (#1900)**
by @CarloVarni,  reviewed by @CarloVarni, updated on 2023-04-04
- ▶   **ci: update machines and use C++20 (#2002)**
by @andiwand,  reviewed by @andiwand, updated on 2023-04-04





acts-project/acts: Open PRs IV

- ▶   **refactor!: split filterCandidates for ITk SSS seeding (#1985)**
by @LuisFelipeCoelho, reviewed by @LuisFelipeCoelho, updated on 2023-04-04
- ▶   **refactor: Compile time get compatible doublets (#2013)**
by @CarloVarni, review requested, updated on 2023-04-04
- ▶   **feat: Mockup builder class with a cpp script for test (#2008)**
by @dimitra97, reviewed by @dimitra97, updated on 2023-04-03
- ▶    **refactor: Exa.Trkx configurable stages (#1898)**
by @benjaminhuth,  **no reviewer**, updated on 2023-04-02
- ▶   **refactor: explicit init, pre step, post step for navigator interface (#1984)**
by @andiwand,  **no reviewer**, updated on 2023-03-25
- ▶   **feat: Refitting algorithm (#1940)**
by @benjaminhuth, reviewed by @paulgessinger, updated on 2023-03-24
- ▶    **feat!: new cubic volume building (#1821)**
by @asalzburger,  **no reviewer**, updated on 2023-03-18

















acts-project/acts: Open PRs V

- ▶   **refactor: Change the derivative matrix when rotation angles are small enough (#1943)**
by @jiaojunkun22,  **no reviewer**, updated on 2023-03-14
- ▶   **feat: GSF add final multi-component state to track container (#1928)**
by @benjaminhuth,  reviewed by @paulgessinger, updated on 2023-03-09
- ▶   Stale **docs: adding Fatras description (#1402)**
by @asalzburger,  reviewed by @AJPfleger, updated on 2023-02-18
- ▶   Stale **docs: first brush over the geometry pages (#1395)**
by @asalzburger,  reviewed by @benjaminhuth, updated on 2023-02-18
- ▶   Stale **refactor: Create and use Acts::SpacePoint as input for public interface of Seedfinder! (#1394)**
by @robertlangenberg,  **no reviewer**, updated on 2022-11-12
- ▶   Stale **fix: B-field interpolation errors (#1467)**
by @timadye,  **no reviewer**, updated on 2022-10-12
- ▶   Stale **feat: Adding unit tests for perigee propagation outside beam pipe (#1354)**
by @asalzburger,  **no reviewer**, updated on 2022-09-09









- ▶ **Issue with track.nMeasurements() in CKF tracks (#1999)**
by @pbutti, updated on 2023-04-02
- ▶ **Bug: Segmentation fault when calling GSF fitting from Athena (#2000)**
by @Maury98, updated on 2023-03-29









- ▶   **WIP**  **Stale** refactor: Exa.Trkx configurable stages (#1898)
by @benjaminhuth,  **no reviewer**, updated on 2023-04-02

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- ▶   **WIP** Stale **refactor: Exa.Trkx configurable stages (#1898)**
by @benjaminhuth,  **no reviewer**, updated on 2023-04-02
- ▶  Stale **Bug: Unpredictable navigation in layer with overlapping surface (#1852)**
by @Corentin-Allaire, updated on 2023-03-25
- ▶  Stale **fix: Energy loss function (#1323)**
by @beomki-yeo,  **no reviewer**, updated on 2023-03-18
- ▶   **WIP** Stale **feat!: new cubic volume building (#1821)**
by @asalzbürger,  **no reviewer**, updated on 2023-03-18
- ▶   **WIP** Stale **docs: adding Fatras description (#1402)**
by @asalzbürger,  **no reviewer**, updated on 2023-02-18
- ▶   **WIP** Stale **docs: first brush over the geometry pages (#1395)**
by @asalzbürger,  **no reviewer**, updated on 2023-02-18
- ▶  Stale **Make central minimum track momentum threshold (#1761)**
by @paulgessinger, updated on 2023-01-21

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- ▶  **Stale Drop 'boost progress' from examples where it is not used (#1736)**
by @tboldagh, updated on 2023-01-16
- ▶  **Stale Remove 'volumeSignature' from geometry building (#1731)**
by @paulgessinger, updated on 2023-01-16
- ▶  **Stale Optimal seeding parameters for a detector (#1699)**
by @CouthuresJeremy, updated on 2023-01-05
- ▶  **Stale Particle smearing assertion with Geant4 (#1603)**
by @benjaminhuth, updated on 2022-12-21
- ▶  **Stale Create volume restricted BFieldMap (#1659)**
by @asalzburger, updated on 2022-12-21
- ▶  **Stale Documentation update: Core (#1418)**
by @paulgessinger, updated on 2022-11-23
- ▶  **Stale Documentation update: Examples (#1420)**
by @paulgessinger, updated on 2022-11-23
- ▶  **Stale Documentation update: How-to (core) (#1422)**
by @paulgessinger, updated on 2022-11-23

- ▶  **Stale bug: interpolation out of bounds with ATLAS B-field map (#1484)**
by @timadye, updated on 2022-11-12
- ▶  **Stale refactor: Create and use Acts::SpacePoint as input for public interface of Seedfinder! (#1394)**
by @robertlangenberg,  **no reviewer**, updated on 2022-11-12
- ▶  **Stale Documentation update: Plugins (#1421)**
by @paulgessinger, updated on 2022-10-22
- ▶  **Stale Documentation update: FATRAS (#1419)**
by @paulgessinger, updated on 2022-10-22
- ▶  **Stale Vertexing produces vertex candidates that are unreasonable (#1361)**
by @paulgessinger, updated on 2022-10-22
- ▶  **Stale Add Primary Vertex Label to tracks (#1544)**
by @Lucas-Borgna, updated on 2022-10-22
- ▶  **Stale EDM Memory usage (#1516)**
by @paulgessinger, updated on 2022-10-22









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- ▶  **Stale Documentation update: Contribution guidelines (#1423)**
by @paulgessinger, updated on 2022-10-19
- ▶  **Stale fix: B-field interpolation errors (#1467)**
by @timadye,  **no reviewer**, updated on 2022-10-12
- ▶  **Stale Monitor Floating Point Exceptions in CI (#1481)**
by @paulgessinger, updated on 2022-10-01
- ▶  **Stale Optionally have the vertex finding recalculate perigee parameters relative to consistent reference (#1482)**
by @paulgessinger, updated on 2022-10-01
- ▶  **Stale Full chain vertexing with AMVF (#1406)**
by @paulgessinger, updated on 2022-10-01
- ▶  **Stale Documentation: hints for debugging (#1463)**
by @timadye, updated on 2022-09-24
- ▶  **Stale Vertexing produces unexpectedly poor efficiency (#1362)**
by @paulgessinger, updated on 2022-09-20









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- ▶  **Stale** **Ambiguous perigees with low momentum** (#1386)
by @andiwand, updated on 2022-09-20
- ▶  **Stale** **Vertexing produces propagation errors** (#1345)
by @paulgessinger, updated on 2022-09-20
- ▶  **Stale** **add monitoring for vertexing in physmon** (#1313)
by @andiwand, updated on 2022-09-20
- ▶  **Stale** **2D r-z Magnetic Field Map Improperly Read** (#669)
by @osbornjd, updated on 2022-09-20
- ▶  **Stale** **Fatras: Bethe-Heitler calculation wrong?** (#1437)
by @asalzbürger, updated on 2022-09-20
- ▶   **WIP** **Stale** **feat: Adding unit tests for perigee propagation outside beam pipe** (#1354)
by @asalzbürger,  **no reviewer**, updated on 2022-09-09
- ▶  **Stale** **Some writers performs their writes in the destructor** (#881)
by @paulgessinger, updated on 2022-08-11
- ▶  **Stale** **Vertexing issues observed in python vertexing example** (#1091)
by @paulgessinger, updated on 2022-08-11

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- ▶  **Stale Magnetic Field Storage (#1239)**
by @osbornjd, updated on 2022-06-12
- ▶  **Stale Reproducibility test using hash checks for non-linear KF (#1246)**
by @paulgessinger, updated on 2022-06-12
- ▶  **Stale Cut tube segment dd4hep conversion tests (#1146)**
by @rahmans1, updated on 2022-05-25
- ▶  **Stale Bug: fatras different particle final states between python and executable (#1221)**
by @CouthuresJeremy, updated on 2022-05-01
- ▶  **Stale ci: Coverage job is broken with gcovr \geq 5.1 (#1211)**
by @paulgessinger, updated on 2022-04-29
- ▶  **Stale Bug: issue on first build after DD4hep update on system with globally installed acts (#1139)**
by @gagnonlg, updated on 2022-02-22
- ▶  **Stale Feat: Radial bounds in DD4hep plugin (#822)**
by @whit2333, updated on 2022-02-19
- ▶  **Stale Add example (+test) for vertex fitting with constraints (#1100)**
by @paulgessinger, updated on 2022-01-07

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- ▶  **Stale** **Should seed finding tools have a higher-level interface?** (#988)
by @stephswat, updated on 2021-11-25
- ▶  **Stale** **[bug] Off axis endcap with dd4hep plugin.** (#942)
by @whit2333, updated on 2021-11-25
- ▶  **Stale** **Improvement: Estimate track parameters from seed at perigee surface** (#1036)
by @XiaocongAi, updated on 2021-11-10
- ▶  **Stale** **Polyhedron surfaces tests are disabled** (#454)
by @msmk0, updated on 2021-11-04
- ▶  **Stale** **Tracking for TPC/DC without surfaces** (#165)
by @FabianKlimpel, updated on 2021-11-04
- ▶  **Stale** **BoundingBox tests fail on double precision** (#752)
by @paulgessinger, updated on 2021-11-04
- ▶  **Stale** **Debug Information in Acts Seeder** (#944)
by @osbornjd, updated on 2021-10-21
- ▶  **Stale** **fix: avoid double-static cast** (#647)
by @asalzburger, updated on 2021-10-21