

















## Pull request and issue summary for acts-project/acts




February 28, 2023














## acts-project/acts: PRs merged between 2023-02-21 and 2023-02-28 |

- ▶  **refactor: EigenStepper overstep limit is configurable** (PR#1881)  
by @paulgessinger, no assignee, merged on 2023-02-21
- ▶  **feat: Add script for a parallel Geant4 simulation based on Python's 'multiprocessing'** (PR#1879)  
by @benjaminhuth, no assignee, merged on 2023-02-22
- ▶  **refactor: update itk\_seeding.py** (PR#1865)  
by @LuisFelipeCoelho, no assignee, merged on 2023-02-22
- ▶  **chore: improve coloring for residuals and pulls script** (PR#1889)  
by @andiwand, no assignee, merged on 2023-02-22
- ▶  **chore: improve some doc and prints** (PR#1886)  
by @andiwand, no assignee, merged on 2023-02-22
- ▶  **refactor: improve G4 python bindings** (PR#1891)  
by @andiwand, no assignee, merged on 2023-02-22
- ▶  **fix: RootMeasurementWriter std vs var** (PR#1890)  
by @andiwand, no assignee, merged on 2023-02-23
- ▶  **fix: G4 detector for Fatras sim** (PR#1887)  
by @andiwand, no assignee, merged on 2023-02-23




















## acts-project/acts: PRs merged between 2023-02-21 and 2023-02-28 II
















- ▶  **refactor: remove 'operator==' from digitization config objects** (PR#1875)  
by @benjaminhuth, assigned to @asalzburger, merged on 2023-02-23
- ▶  **refactor: align Kalman fitter function with GSF fitter function** (PR#1885)  
by @andiwand, no assignee, merged on 2023-02-23
- ▶  **feat: enable geantino particle generation** (PR#1888)  
by @andiwand, no assignee, merged on 2023-02-23
- ▶  **fix: Really postselect particles in 'addGeant4'** (PR#1883)  
by @benjaminhuth, no assignee, merged on 2023-02-23
- ▶  **feat: added python bindings for SurfaceTypes** (PR#1893)  
by @dimitra97, no assignee, merged on 2023-02-24
- ▶  **refactor: residuals and pulls analysis** (PR#1892)  
by @andiwand, no assignee, merged on 2023-02-24
- ▶  **feat: deltaPhiMax variable from orthogonal seeding configurable with python** (PR#1896)  
by @LuisFelipeCoelho, no assignee, merged on 2023-02-24
- ▶  **ci: Add hashcheck for Exa.TrkX** (PR#1894)  
by @benjaminhuth, no assignee, merged on 2023-02-27





- ▶  **chore: new ACTSVG version for MS chambers** (PR#1899)  
by @asalzburger, assigned to @noemina, merged on 2023-02-28
- ▶  **perf: Use inline functions** (PR#1884)  
by @CarloVarni, no assignee, merged on 2023-02-28
- ▶  **refactor: and fix truth seeding** (PR#1897)  
by @andiwand, no assignee, merged on 2023-02-28

- ▶  **feat: Machine learning based Ambiguity Solver (PR#1877)**  
by @Corentin-Allaire,  **no assignee**, updated on 2023-02-28
- ▶  **feat: raise RuntimeError if invalid inputSpacePointsType in ITk configuration (PR#1902)**  
by @LuisFelipeCoelho,  **no assignee**, updated on 2023-02-28
- ▶  **refactor: Readers/Writers is Algorithms, too (PR#1901)**  
by @paulgessinger,  **no assignee**, updated on 2023-02-28
- ▶  **fix: Pass By Reference function and Extend object to binned group (PR#1850)**  
by @CarloVarni,  **no assignee**, updated on 2023-02-28
- ▶  **feat: Example of integrating HoughTransform example algorithm with python (PR#1795)**  
by @tboldagh,  **no assignee**, updated on 2023-02-28
- ▶  **perf: Tile 8x8 covariance matrix multiplication (PR#1181)**  
by @stephenswat,  **no assignee**, updated on 2023-02-15
- ▶  **fix: Energy loss function (PR#1323)**  
by @beomki-yeo, assigned to @asalzburger, updated on 2023-01-21

## acts-project/acts: Open PRs II














- ▶   **WIP refactor: Change transformCoordinates to avoid recalculation of variables in Seedfinder (PR#1831)**  
by @LuisFelipeCoelho,  **no assignee**, updated on 2023-02-28
- ▶   **WIP refactor: Exa.Trkx configurable stages (PR#1898)**  
by @benjaminhuth,  **no assignee**, updated on 2023-02-27
- ▶   **WIP feat: Space point implementation (PR#1900)**  
by @CarloVarni,  **no assignee**, updated on 2023-02-27
- ▶   **WIP refactor: GSF counts backward-pass misses as outliers (PR#1880)**  
by @benjaminhuth,  **no assignee**, updated on 2023-02-22
- ▶   **WIP Stale docs: adding Fatras description (PR#1402)**  
by @asalzburger, assigned to @asalzburger, updated on 2023-02-18
- ▶   **WIP Stale docs: first brush over the geometry pages (PR#1395)**  
by @asalzburger, assigned to @asalzburger, updated on 2023-02-18
- ▶   **WIP refactor: Seeding does not use a grid of pointers (PR#1820)**  
by @paulgessinger,  **no assignee**, updated on 2023-02-08

- ▶   **feat!: new cubic volume building** (PR#1821)  
by @asalzbürger,  **no assignee**, updated on 2023-02-03
- ▶    **refactor: Create and use Acts::SpacePoint as input for public interface of Seedfinder!** (PR#1394)  
by @robertlangenberg,  **no assignee**, updated on 2022-11-12
- ▶    **fix: B-field interpolation errors** (PR#1467)  
by @timadye,  **no assignee**, updated on 2022-10-12
- ▶    **feat: Adding unit tests for perigee propagation outside beam pipe** (PR#1354)  
by @asalzbürger,  **no assignee**, updated on 2022-09-09













- ▶  **Estimate Track Parameters from Seeds use only one surface. What about strips?** (Issue#1895)  
by @CarloVarni,  **no assignee**, updated on 2023-02-24
- ▶  **Bug: last material interaction missing in validation output?** (Issue#1882)  
by @noemina,  **no assignee**, updated on 2023-02-24
















## acts-project/acts: All stale Issues / PRs I

- ▶   **WIP** Stale **docs: adding Fatras description** (PR#1402)  
by @asalzburger, assigned to @asalzburger, updated on 2023-02-18
- ▶   **WIP** Stale **docs: first brush over the geometry pages** (PR#1395)  
by @asalzburger, assigned to @asalzburger, updated on 2023-02-18
- ▶  Stale **Make central minimum track momentum threshold** (Issue#1761)  
by @paulgessinger,  **no assignee**, updated on 2023-01-21
- ▶  Stale **Drop 'boost progress' from examples where it is not used** (Issue#1736)  
by @tboldagh,  **no assignee**, updated on 2023-01-16
- ▶  Stale **Remove 'volumeSignature' from geometry building** (Issue#1731)  
by @paulgessinger,  **no assignee**, updated on 2023-01-16
- ▶  Stale **Optimal seeding parameters for a detector** (Issue#1699)  
by @CouthuresJeremy,  **no assignee**, updated on 2023-01-05
- ▶  Stale **Particle smearing assertion with Geant4** (Issue#1603)  
by @benjaminhuth, assigned to @benjaminhuth, updated on 2022-12-21














## acts-project/acts: All stale Issues / PRs II













- ▶  **Stale** **Create volume restricted BFieldMap** (Issue#1659)  
by @asalzburger,  **no assignee**, updated on 2022-12-21
- ▶  **Stale** **Documentation update: Core** (Issue#1418)  
by @paulgessinger, assigned to @andiwand, updated on 2022-11-23
- ▶  **Stale** **Documentation update: Examples** (Issue#1420)  
by @paulgessinger, assigned to @andiwand, updated on 2022-11-23
- ▶  **Stale** **Documentation update: How-to (core)** (Issue#1422)  
by @paulgessinger,  **no assignee**, updated on 2022-11-23
- ▶  **Stale** **bug: interpolation out of bounds with ATLAS B-field map** (Issue#1484)  
by @timadye,  **no assignee**, updated on 2022-11-12
- ▶   **WIP** **Stale** **refactor: Create and use Acts::SpacePoint as input for public interface of Seedfinder!** (PR#1394)  
by @robertlangenberg,  **no assignee**, updated on 2022-11-12
- ▶  **Stale** **Documentation update: Plugins** (Issue#1421)  
by @paulgessinger, assigned to @paulgessinger, updated on 2022-10-22

## acts-project/acts: All stale Issues / PRs III












- ▶  **Stale** **Documentation update: FATRAS** (Issue#1419)  
by @paulgessinger, assigned to @asalzburger, updated on 2022-10-22
- ▶  **Stale** **Vertexing produces vertex candidates that are unreasonable** (Issue#1361)  
by @paulgessinger,  **no assignee**, updated on 2022-10-22
- ▶  **Stale** **Add Primary Vertex Label to tracks** (Issue#1544)  
by @Lucas-Borgna,  **no assignee**, updated on 2022-10-22
- ▶  **Stale** **EDM Memory usage** (Issue#1516)  
by @paulgessinger,  **no assignee**, updated on 2022-10-22
- ▶  **Stale** **Documentation update: Contribution guidelines** (Issue#1423)  
by @paulgessinger, assigned to @paulgessinger, updated on 2022-10-19
- ▶   **WIP** **Stale** **fix: B-field interpolation errors** (PR#1467)  
by @timadye,  **no assignee**, updated on 2022-10-12
- ▶  **Stale** **Monitor Floating Point Exceptions in CI** (Issue#1481)  
by @paulgessinger,  **no assignee**, updated on 2022-10-01

## acts-project/acts: All stale Issues / PRs IV









- ▶  **Stale** **Optionally have the vertex finding recalculate perigee parameters relative to consistent reference** (Issue#1482)  
by @paulgessinger,  **no assignee**, updated on 2022-10-01
- ▶  **Stale** **Full chain vertexing with AMVF** (Issue#1406)  
by @paulgessinger,  **no assignee**, updated on 2022-10-01
- ▶  **Stale** **Documentation: hints for debugging** (Issue#1463)  
by @timadye,  **no assignee**, updated on 2022-09-24
- ▶  **Stale** **Vertexing produces unexpectedly poor efficiency** (Issue#1362)  
by @paulgessinger,  **no assignee**, updated on 2022-09-20
- ▶  **Stale** **Ambiguous perigees with low momentum** (Issue#1386)  
by @andiwand,  **no assignee**, updated on 2022-09-20
- ▶  **Stale** **Vertexing produces propagation errors** (Issue#1345)  
by @paulgessinger,  **no assignee**, updated on 2022-09-20
- ▶  **Stale** **add monitoring for vertexing in physmon** (Issue#1313)  
by @andiwand, assigned to @paulgessinger, updated on 2022-09-20

- ▶  **Stale** **2D r-z Magnetic Field Map Improperly Read** (Issue#669)  
by @osbornjd, assigned to @timadye, updated on 2022-09-20
- ▶  **Stale** **Fatras: Bethe-Heitler calculation wrong?** (Issue#1437)  
by @asalzbürger,  **no assignee**, updated on 2022-09-20
- ▶   **WIP** **Stale** **feat: Adding unit tests for perigee propagation outside beam pipe** (PR#1354)  
by @asalzbürger,  **no assignee**, updated on 2022-09-09
- ▶  **Stale** **Some writers performs their writes in the destructor** (Issue#881)  
by @paulgessinger, assigned to @Corentin-Allaire, updated on 2022-08-11
- ▶  **Stale** **Vertexing issues observed in python vertexing example** (Issue#1091)  
by @paulgessinger,  **no assignee**, updated on 2022-08-11
- ▶  **Stale** **Magnetic Field Storage** (Issue#1239)  
by @osbornjd,  **no assignee**, updated on 2022-06-12
- ▶  **Stale** **Reproducibility test using hash checks for non-linear KF** (Issue#1246)  
by @paulgessinger, assigned to @XiaocongAi, updated on 2022-06-12

## acts-project/acts: All stale Issues / PRs VI

- ▶  **Stale** **Cut tube segment dd4hep conversion tests** (Issue#1146)  
by @rahmans1, assigned to @asalzburger, updated on 2022-05-25
- ▶  **Stale** **Bug: fatras different particle final states between python and executable** (Issue#1221)  
by @CouthuresJeremy,  **no assignee**, updated on 2022-05-01
- ▶  **Stale** **ci: Coverage job is broken with gcovr >= 5.1** (Issue#1211)  
by @paulgessinger, assigned to @paulgessinger, updated on 2022-04-29
- ▶  **Stale** **Bug: issue on first build after DD4hep update on system with globally installed acts**  
(Issue#1139)  
by @gagnonlg,  **no assignee**, updated on 2022-02-22
- ▶  **Stale** **Feat: Radial bounds in DD4hep plugin** (Issue#822)  
by @whit2333,  **no assignee**, updated on 2022-02-19
- ▶  **Stale** **Add example (+test) for vertex fitting with constraints** (Issue#1100)  
by @paulgessinger,  **no assignee**, updated on 2022-01-07
- ▶  **Stale** **Should seed finding tools have a higher-level interface?** (Issue#988)  
by @stephenswat, assigned to @stephenswat, updated on 2021-11-25

## acts-project/acts: All stale Issues / PRs VII

- ▶  **Stale** **[bug] Off axis endcap with dd4hep plugin.** (Issue#942)  
by @whit2333, assigned to @asalzbunger, updated on 2021-11-25
- ▶  **Stale** **Improvement: Estimate track parameters from seed at perigee surface** (Issue#1036)  
by @XiaocongAi,  **no assignee**, updated on 2021-11-10
- ▶  **Stale** **Polyhedron surfaces tests are disabled** (Issue#454)  
by @msmk0, assigned to @asalzbunger, updated on 2021-11-04
- ▶  **Stale** **Tracking for TPC/DC without surfaces** (Issue#165)  
by @FabianKlimpel, assigned to @asalzbunger, updated on 2021-11-04
- ▶  **Stale** **BoundingBox tests fail on double precision** (Issue#752)  
by @paulgessinger, assigned to @paulgessinger, updated on 2021-11-04
- ▶  **Stale** **Debug Information in Acts Seeder** (Issue#944)  
by @osbornjd, assigned to @robertlangenberg, updated on 2021-10-21
- ▶  **Stale** **fix: avoid double-static cast** (Issue#647)  
by @asalzbunger, assigned to @asalzbunger, updated on 2021-10-21