





























Pull request and issue summary for acts-project/acts

















July 16, 2024

- ▶  **feat: Add 'nCleanVtx' to 'VertexPerformanceWriter' in Examples (#3352)**
by @andiwand,  reviewed by @benjaminhuth, merged on 2024-07-09
- ▶  **feat: Select space points used to fill the seeding grid via delegate function. Add experimentCuts support (#3342)**
by @pbutti,  reviewed by @andiwand, merged on 2024-07-09
- ▶  **ci: Add GeoModel Plugin to CI (#3327)**
by @benjaminhuth,  reviewed by @paulgessinger, merged on 2024-07-10
- ▶  **ci: Re-enable the Examples unit tests in the CI (#3355)**
by @paulgessinger,  reviewed by @benjaminhuth, merged on 2024-07-10
- ▶  **fix: Clean includes in 'Geant4Manager' (#3362)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-10
- ▶  **refactor!: Use track container in Core 'CKF' and pass track proxies to delegates (#3161)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-10
- ▶  **refactor!: Track EDM brush over (#3192)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-10















acts-project/acts: PRs merged between 2024-07-09 and 2024-07-16 II

















- ▶  **refactor: Cluster features for GNN pipeline (#3356)**
by @benjaminhuth,  reviewed by @andiwand, merged on 2024-07-11
- ▶  **refactor: Truth graph metrics for Exa.TrkX with separate algorithm (#3354)**
by @benjaminhuth,  reviewed by @andiwand, merged on 2024-07-11
- ▶  **feat: Add compatibility for PODIO 1.x (#3360)**
by @paulgessinger,  reviewed by @pbutti, merged on 2024-07-11
- ▶  **feat: Improve Athena Dump reader (#3358)**
by @benjaminhuth,  reviewed by @andiwand, merged on 2024-07-12
- ▶  **ci: Correct variables name ACTS_BUILD_EXAMPLES_UNIT_TESTS to ACTS_BUILD_EXAMPLES_UNITTESTS (#3369)**
by @CarloVarni,  reviewed by @paulgessinger, merged on 2024-07-12
- ▶  **feat: gen2 navigation debugged (#3365)**
by @asalzbunger,  reviewed by @andiwand, merged on 2024-07-12
- ▶  **docs: Update link to format dockerfile (#3371)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-12

acts-project/acts: PRs merged between 2024-07-09 and 2024-07-16 III

















- ▶  **test: Reduce number of combinations in TrackParametersDatasets (#3370)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-12
- ▶  **docs: Label as docs changes to rst files (#3373)**
by @CarloVarni,  reviewed by @paulgessinger, merged on 2024-07-12
- ▶  **refactor!: Split propagator options (#3181)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-12
- ▶  **fix: SonarQube fixes as follow up to #3337 (#3339)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-12
- ▶  **build: Bump minimum required C++ standard to 20 (#3345)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-13
- ▶  **chore: Fix two issues raised by sonar (#3376)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-13
- ▶  **ci: Move missing include test from c++17 to c++20 (#3377)**
by @CarloVarni,  reviewed by @andiwand, merged on 2024-07-14
- ▶  **ci: Add pythia8 particles and vertices to physmon output (#3375)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-14

acts-project/acts: PRs merged between 2024-07-09 and 2024-07-16 IV















- ▶  **fix: Downgrade Pythia8 to v10 from v12 (#3384)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-07-15
- ▶  **refactor!: Refactor navigator options (#3182)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-15
- ▶  **fix: Fix and refactor digitization parametrization in Examples (#3386)**
by @andiwand,  reviewed by @benjaminhuth, merged on 2024-07-16
- ▶  **refactor!: use c++20 concept to define insert function for different types of seed collections (#3367)**
by @CarloVarni,  reviewed by @paulgessinger, merged on 2024-07-16
- ▶  **chore: Drop 'IWYU' (#3390)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-16
- ▶  **fix: Use 70% truth matching threshold for 'VertexPerformanceWriter' in Examples (#3368)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-16
- ▶  **refactor!: Clean up 'GainMatrixUpdater' a bit (#3387)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-07-16

- ▶  **refactor!: Refactor direct navigator initialization (#3183)**
by @andiwand,  reviewed by @paulgessinger, updated on 2024-07-16
- ▶  **chore: Use C++20 concepts unconditionally (#3385)**
by @paulgessinger,  reviewed by @andiwand, updated on 2024-07-16
- ▶  **refactor!: Remove redundant variables from Seed filter state (#3393)**
by @CarloVarni,  **no reviewer**, updated on 2024-07-16
- ▶  **fix: detray plugin (cmake flags, CI, and compile errors) (#3363)**
by @fredevb,  comment by @EleniXoch, updated on 2024-07-16
- ▶  **refactor: Refactor 'RootTrackStateWriter' in Examples (#3374)**
by @andiwand,  comment by @andiwand, updated on 2024-07-16
- ▶  **refactor!: Move 'Navigator' external surfaces into options (#3189)**
by @andiwand,  comment by @paulgessinger, updated on 2024-07-16
- ▶  **fix: Poke at Pythia8 to make it reproducible (#3392)**
by @paulgessinger,  **no reviewer**, updated on 2024-07-16
- ▶  **feat: Hashing seeding algorithm (#3148)**
by @CouthuresJeremy,  comment by @paulgessinger, updated on 2024-07-16


















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- ▶  **feat: new material comparison script (#3389)**
by @asalzburger,  comment by @asalzburger, updated on 2024-07-16
- ▶  **feat: tracc chain in examples (common chain logic and CPU chain) (#3320)**
by @fredevb,  **no reviewer**, updated on 2024-07-16
- ▶  **Stale** **feat: Misalignment shift and test check that only selected modules are shifted (#2843)**
by @LaraCalic,  comment by @paulgessinger, updated on 2024-07-15
- ▶  **Stale** **test: Add option to only build matching unittests (#3233)**
by @benjaminhuth,  comment by @benjaminhuth, updated on 2024-07-14
- ▶  **feat: Telescope style seeding (#3300)**
by @ssdetlab,  **no reviewer**, updated on 2024-07-13
- ▶  **feat: tracc plugin (conversion) (#3281)**
by @fredevb,  comment by @paulgessinger, updated on 2024-07-12
- ▶  **refactor: Move MLAmbiguitySolver to Core (#3272)**
by @Corentin-Allaire,  **no reviewer**, updated on 2024-07-11
- ▶  **refactor: Make the MagneticFieldContext & GeometryContext to be hard types (#3349)**
by @junggjo9,  changes requested by @andiwand, updated on 2024-07-11

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- ▶  **feat: covfie plugin (#3117)**
by @fredevb,  comment by @paulgessinger, updated on 2024-07-11
- ▶  **feat: GeoShapes to DetectorVolumes and GeoMaterial Converters (#3268)**
by @Matthewharri,  comment by @Matthewharri, updated on 2024-07-11
- ▶  **feat!: Resurrect original 'AdaptiveGridTrackDensity'; Move new impl to 'SparseGridTrackDensity' (#3340)**
by @andiwand,  **no reviewer**, updated on 2024-07-10
- ▶  **feat: Introduce the usage of the geomodel converters for the Muon System (#3348)**
by @dimitra97,  comment by @dimitra97, updated on 2024-07-09
- ▶  Stale **feat: Geometry agnostic space point maker (#2890)**
by @Alonl14,  **no reviewer**, updated on 2024-07-06
- ▶  **refactor: path handling to use 'std::filesystem' (#3308)**
by @AJPfleger,  changes requested by @stephenswat, updated on 2024-07-06
- ▶  **fix: update the DD4hep requirements when the ODD is built (#3330)**
by @Corentin-Allaire,  comment by @Corentin-Allaire, updated on 2024-06-28

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- ▶  **Stale refactor: Use Core CKF extrapolation after inwards extension (#3195)**
by @andiwand,  **no reviewer**, updated on 2024-06-21
- ▶  **refactor: change the definition of the rotation parameters (#2021)**
by @XiaocongAi,  reviewed by @paulgessinger, updated on 2024-06-21
- ▶  **style: Update clang-format to v18 (#3319)**
by @stephenswat,  **no reviewer**, updated on 2024-06-20
- ▶  **Stale feat: introduction obj simhit writer (#3180)**
by @asalzburger,  **no reviewer**, updated on 2024-06-15
- ▶   **WIP feat: Prototracks-to-Tracks converter & refactor (#3357)**
by @benjaminhuth,  reviewed by @andiwand, updated on 2024-07-16
- ▶   **WIP refactor: Keep outliers and material states at the end of track in Core CKF (#3391)**
by @andiwand,  **no reviewer**, updated on 2024-07-16
- ▶   **WIP refactor: Use 'requires' in Track EDM (#3388)**
by @paulgessinger,  **no reviewer**, updated on 2024-07-15

- ▶   refactor!: Move context from 'PropagatorOptions' to 'propagate' (#3378)
by @andiwand,  no reviewer, updated on 2024-07-15
- ▶   refactor!: Move context from fitter options to fitter calls (#3379)
by @andiwand,  no reviewer, updated on 2024-07-15
- ▶   refactor!: Move context from material mapping options to material mapping calls (#3381)
by @andiwand,  no reviewer, updated on 2024-07-15
- ▶   refactor!: Move context from vertexing options to vertexing calls (#3380)
by @andiwand,  no reviewer, updated on 2024-07-15
- ▶   refactor!: Move context from stepper state to stepper calls (#3382)
by @andiwand,  no reviewer, updated on 2024-07-15
- ▶   feat!: Space point implementation (#1900)
by @CarloVarni,  comment by @paulgessinger, updated on 2024-07-14






















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

- ▶   **WIP** Stale refactor: Remove 'lastHierarchySurfaceReached' from 'Navigator' (#3237)
by @andiwand,  reviewed by @paulgessinger, updated on 2024-07-14
- ▶   **WIP** Stale refactor: Remove 'forceIntersectBoundaries' from 'Navigator' (#3238)
by @andiwand,  reviewed by @benjaminhuth, updated on 2024-07-13
- ▶   **WIP** Stale refactor: Resolve surfaces on initialization in 'Navigator' (#3283)
by @andiwand,  **no reviewer**, updated on 2024-07-13
- ▶   **WIP** feat: tracc cuda example (#3372)
by @fredevb,  **no reviewer**, updated on 2024-07-12
- ▶   **WIP** tmp: Boundary tolerance for navigation and track finding (#3366)
by @andiwand,  **no reviewer**, updated on 2024-07-12
- ▶   **WIP** fix(gx2f): use all states for 'jacobianFromStart' (#3274)
by @AJPfleger,  **no reviewer**, updated on 2024-07-12
- ▶   **WIP** feat: 'TruthVertexSeeder' for Examples (#3364)
by @andiwand,  comment by @paulgessinger, updated on 2024-07-12


acts-project/acts: Open PRs VII




















- ▶   **WIP**  **Stale** **feat: Add per event timing (#3124)**
by @CouthuresJeremy,  comment by @andiwand, updated on 2024-07-11
- ▶   **WIP**  **Stale** **feat: geo model detector elements, converters and plugins (#3213)**
by @asalzburger,  comment by @benjaminhuth, updated on 2024-07-11
- ▶   **WIP** **refactor!: Template on track container frontend 'TrackContainer' (#3193)**
by @andiwand,  comment by @paulgessinger, updated on 2024-07-10
- ▶   **WIP** **refactor: Rework physics performance monitoring for Examples (#3359)**
by @andiwand,  **no reviewer**, updated on 2024-07-10
- ▶   **WIP** **feat: Variable size measurement for Examples (#3107)**
by @andiwand,  comment by @paulgessinger, updated on 2024-07-02
- ▶   **WIP**  **Stale** **refactor: Remove target volume estimation from 'Navigator' (#3242)**
by @andiwand,  **no reviewer**, updated on 2024-07-01
- ▶   **WIP** **test: Test field invariance of direction uncertainty transport (#2983)**
by @andiwand,  **no reviewer**, updated on 2024-06-27

acts-project/acts: Open PRs VIII





















- ▶   **feat: Reverse track finding for Examples (#3200)**
by @andiwand,  **no reviewer**, updated on 2024-06-27
- ▶   **tmp: Test pixel/strip hole branch stopper in Examples track finding (#3273)**
by @andiwand,  **no reviewer**, updated on 2024-06-25
- ▶   **feat(gx2f): material effects - multiple scattering (#3292)**
by @AJPfleger,  **no reviewer**, updated on 2024-06-23
- ▶   **refactor: add geohook for fast digitization range selection to itk example (#2089)**
by @niermann999,  **no reviewer**, updated on 2024-06-22
- ▶   **refactor!: Surface returns transform by value (#2527)**
by @asalzburger,  **no reviewer**, updated on 2024-06-22
- ▶   **feat: Covariance transport for dense propagation (#2869)**
by @andiwand,  **no reviewer**, updated on 2024-06-21
- ▶   **refactor: Some internal GSF refactorings (#2697)**
by @benjaminhuth,  changes requested by @andiwand, updated on 2024-06-21

- ▶   **refactor: Bump min json ver, make json keys static (#2968)**
by @paulgessinger,  **no reviewer**, updated on 2024-06-21
- ▶   **feat: Add CMake presets (#3135)**
by @andiwand,  **no reviewer**, updated on 2024-06-21
- ▶    **refactor: Replace 'EigenStepper' extension list with single extension (#2865)**
by @andiwand,  **no reviewer**, updated on 2024-06-14
- ▶    **feat: Add GSF component momentum cut to stabilize fit (#2661)**
by @benjaminhuth,  comment by @benjaminhuth, updated on 2024-05-25












- ▶  **Multiple context references are in flight for track fitters and finder (#3383)**
by @andiwand, updated on 2024-07-15

- ▶   **WIP** Stale refactor: **Resolve surfaces on initialization in 'Navigator'** (#3283)
by @andiwand,  **no reviewer**, updated on 2024-07-13
- ▶   **WIP** Stale refactor: **Remove 'forcelIntersectBoundaries' from 'Navigator'** (#3238)
by @andiwand,  **no reviewer**, updated on 2024-07-13
- ▶   **WIP** Stale refactor: **Remove 'lastHierarchySurfaceReached' from 'Navigator'** (#3237)
by @andiwand,  **no reviewer**, updated on 2024-07-14
- ▶  Stale test: **Add option to only build matching unittests** (#3233)
by @benjaminhuth,  **no reviewer**, updated on 2024-07-14
- ▶   **WIP** Stale feat: **geo model detector elements, converters and plugins** (#3213)
by @asalzburger,  **no reviewer**, updated on 2024-07-11
- ▶   **WIP** Stale feat: **Add per event timing** (#3124)
by @CouthuresJeremy,  **no reviewer**, updated on 2024-07-11
- ▶  Stale feat: **Misalignment shift and test check that only selected modules are shifted** (#2843)
by @LaraCalic,  **no reviewer**, updated on 2024-07-15









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- ▶   **feat: Misalignment shift and test check that only selected modules are shifted (#2843)**
by @LaraCalic,  **no reviewer**, updated on 2024-07-15
- ▶   **Stale refactor: Remove 'lastHierarchySurfaceReached' from 'Navigator' (#3237)**
by @andiwand,  **no reviewer**, updated on 2024-07-14
- ▶  **Stale test: Add option to only build matching unittests (#3233)**
by @benjaminhuth,  **no reviewer**, updated on 2024-07-14
- ▶   **Stale refactor: Remove 'forceIntersectBoundaries' from 'Navigator' (#3238)**
by @andiwand,  **no reviewer**, updated on 2024-07-13
- ▶   **Stale refactor: Resolve surfaces on initialization in 'Navigator' (#3283)**
by @andiwand,  **no reviewer**, updated on 2024-07-13
- ▶   **Stale feat: Add per event timing (#3124)**
by @CouthuresJeremy,  **no reviewer**, updated on 2024-07-11
- ▶   **Stale feat: geo model detector elements, converters and plugins (#3213)**
by @asalzburger,  **no reviewer**, updated on 2024-07-11









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- ▶  Stale **bug: navigation suggests 'pathCorrection=inf' on cylinderSurface (#3267)**
by @AJPfleger, updated on 2024-07-07
- ▶  Stale **feat: Geometry agnostic space point maker (#2890)**
by @Alonl14,  **no reviewer**, updated on 2024-07-06
- ▶  Stale **Project build flags are difficult to control (2024.05.29.) (#3231)**
by @krasznaa, updated on 2024-07-04
- ▶   Stale **refactor: Remove target volume estimation from 'Navigator' (#3242)**
by @andiwand,  **no reviewer**, updated on 2024-07-01
- ▶  Stale **[bug] Off axis endcap with dd4hep plugin. (#942)**
by @whit2333, updated on 2024-06-26
- ▶  Stale **Debug Information in Acts Seeder (#944)**
by @osbornjd, updated on 2024-06-26
- ▶  Stale **Reproducibility test using hash checks for non-linear KF (#1246)**
by @paulgessinger, updated on 2024-06-25
- ▶  Stale **Documentation update: Core (#1418)**
by @paulgessinger, updated on 2024-06-25

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- ▶  **Stale Documentation: hints for debugging (#1463)**
by @timadye, updated on 2024-06-25
- ▶  **Stale Add Primary Vertex Label to tracks (#1544)**
by @Lucas-Borgna, updated on 2024-06-25
- ▶  **Stale Create volume restricted BFieldMap (#1659)**
by @asalzburger, updated on 2024-06-25
- ▶  **Stale Cmake error if ACTS_BUILD_PLUGIN_ACTSVG=ON (#1818)**
by @DraTeets, updated on 2024-06-25
- ▶  **Stale LCG compatibility (#2054)**
by @paulgessinger, updated on 2024-06-25
- ▶  **Stale EstimateTrackParamsFromSeed does not use time of measurement (#2136)**
by @andiwand, updated on 2024-06-25
- ▶  **Stale Construct tracking geometry from python (#2173)**
by @andiwand, updated on 2024-06-25
- ▶  **Stale Missing 'cmake_minimum_required' in 'ActsConfig.cmake.in' (#2216)**
by @andiwand, updated on 2024-06-25

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- ▶  **Stale Bug: not all tracks have fittedMomentum (#2364)**
by @felix-russo, updated on 2024-06-25
- ▶  **Stale Bug: AMVF 'deleteLastVertex' might be wrong (#2380)**
by @andiwand, updated on 2024-06-25
- ▶  **Stale [Bug] Fatras can't seem to handle energy loss for electrons on thin surfaces (#2498)**
by @janheinri, updated on 2024-06-25
- ▶  **Stale [Feature Request] Padding utility for field map in case tracking volume is larger than a given field map (#2523)**
by @janheinri, updated on 2024-06-25
- ▶  **Stale Bug: Fatras sets step size to 0 (#2543)**
by @andiwand, updated on 2024-06-25
- ▶  **Stale Ensure Fitters use all provided measurements (#2737)**
by @andiwand, updated on 2024-06-25
- ▶  **Stale refactor: Use Core CKF extrapolation after inwards extension (#3195)**
by @andiwand,  **no reviewer**, updated on 2024-06-21

- ▶  **Stale bug: KF verbosity statement (#3097)**
by @osbornjd, updated on 2024-06-20
- ▶  **Stale feat: introduction obj simhit writer (#3180)**
by @asalzburger,  **no reviewer**, updated on 2024-06-15
- ▶   **Stale refactor: Replace 'EigenStepper' extension list with single extension (#2865)**
by @andiwand,  **no reviewer**, updated on 2024-06-14
- ▶  **Stale EDM Memory usage (#1516)**
by @paulgessinger, updated on 2024-05-25
- ▶  **Stale Detailed timing per event (#1700)**
by @CouthuresJeremy, updated on 2024-05-25
- ▶   **Stale feat: Add GSF component momentum cut to stabilize fit (#2661)**
by @benjaminhuth,  **no reviewer**, updated on 2024-05-25
- ▶  **Stale Question: Set a different value of eta range using ODD (#2776)**
by @rubihason, updated on 2024-05-25








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- ▶  **Stale Write Fatras documentation (#2796)**
by @andiwand, updated on 2024-05-25
- ▶  **Stale bug: documentation always builds in '<source>' (#2798)**
by @AJPfleger, updated on 2024-05-25
- ▶  **Stale bug: IVF is throwing errors in ODD full chain (#3120)**
by @andiwand, updated on 2024-05-18
- ▶  **Stale Documentation on geometry misalignments (#2940)**
by @paulgessinger, updated on 2024-05-17
- ▶  **Stale Bug: material map auto tuning only considers the "Default" mapping type (#2942)**
by @plariono, updated on 2024-05-17
- ▶  **Stale bug: some dependencies in setup script wrong (#3014)**
by @AJPfleger, updated on 2024-05-17
- ▶  **Stale perf: CKF measurement selector runs after track state creation (#3081)**
by @andiwand, updated on 2024-05-05
- ▶  **Stale perf: CKF general (#3082)**
by @andiwand, updated on 2024-05-05








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- ▶  **Stale** **Some 'toStream' implementations change the state of 'std::ostream' (#3079)**
by @andiwand, updated on 2024-05-04
- ▶  **Stale** **HepMC plugin looks incomplete (#3050)**
by @andiwand, updated on 2024-04-26
- ▶  **Stale** **'EigenStepper' (and extensions) cannot be easily extended for dense environment covariance transport (#2868)**
by @andiwand, updated on 2024-03-20
- ▶  **Stale** **'Stepper' and 'Navigator' cannot be configured by 'PropagatorOptions' (#2861)**
by @andiwand, updated on 2024-02-09
- ▶  **Stale** **Fitters use 'PropagatorPlainOptions' and not 'PropagatorOptions' (#2862)**
by @andiwand, updated on 2024-02-09
- ▶  **Stale** **'AdaptiveGridTrackDensity' has a hidden 'd0' cut (#2840)**
by @andiwand, updated on 2024-01-17
- ▶  **Stale** **Duplication in 'AdaptiveGridTrackDensity' and 'GaussianGridTrackDensity' (#2841)**
by @andiwand, updated on 2024-01-17
- ▶  **Stale** **EDM4hep parameter conversion should use jacobians directly (#2813)**
by @paulgessinger, updated on 2024-01-11









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- ▶  Stale **'Surface::boundToFreeJacobian'** could also use **'FreeVector'** parameters (#2810)
by @andiwand, updated on 2024-01-10
- ▶  Stale **Telescope detector cookbook** (#2800)
by @paulgessinger, updated on 2024-01-10
- ▶  Stale **Write CKF documentation** (#2794)
by @paulgessinger, updated on 2024-01-10
- ▶  Stale **Add description of Blueprint tree and how it can be used to create layerless detector.** (#2785)
by @paulgessinger, updated on 2024-01-10
- ▶  Stale **Describe replacements of TrackingGeometry, TrackingVolume etc and how the classes map to one another.** (#2786)
by @paulgessinger, updated on 2024-01-10
- ▶  Stale **Describe how the legacy geometry used to work and how it differs from the layerless geometry** (#2787)
by @paulgessinger, updated on 2024-01-10
- ▶  Stale **'SurfaceReached' aborter is messing with the step size** (#2738)
by @andiwand, updated on 2023-12-28









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- ▶  **Stale** **Propagation state cannot be initialized outside the propagation** (#2736)
by @andiwand, updated on 2023-12-28
- ▶  **Stale** **FPE: AMVF keepNewVertex** (#2590)
by @andiwand, updated on 2023-11-26
- ▶  **Stale** **Track finding rework** (#2320)
by @paulgessinger, updated on 2023-11-11
- ▶  **Stale** **Propagator step count limit reached and Step size adjustment exceeds maximum trials** (#2469)
by @CarloVarni, updated on 2023-11-11
- ▶  **Stale** **[Feature Request] Reference surface for tracking algorithm is hardcoded to be at origin** (#2525)
by @janheinri, updated on 2023-11-09
- ▶  **Stale** **Incorrect material interaction in backward propagation ?** (#2429)
by @Corentin-Allaire, updated on 2023-10-06
- ▶  **Stale** **Expand TrackingGeometry building from DD4hep with user given input** (#2403)
by @asalzburger, updated on 2023-09-27









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- ▶  **Stale FPE: Bethe-Heitler gamma_distribution (#2346)**
by @paulgessinger, updated on 2023-09-03
- ▶  **Stale FPE: GaussianMixtureReduction (#2347)**
by @paulgessinger, updated on 2023-09-03
- ▶  **Stale FPE: RootTrajectoryStatesWriter (#2348)**
by @paulgessinger, updated on 2023-09-03
- ▶  **Stale FPE: RootTrajectorySummaryWriter (#2284)**
by @paulgessinger, updated on 2023-08-12
- ▶  **Stale Inconsistent use of 'VolumeMaterialInteraction' thickness (#2279)**
by @andiwand, updated on 2023-08-05
- ▶  **Stale Move some Digitization code from FATRAS to Core? (#2230)**
by @benjaminhuth, updated on 2023-07-28
- ▶  **Stale MultiTrajectory buffer default constructible (#2154)**
by @tboldagh, updated on 2023-07-20
- ▶  **Stale Track nDoF only returns the sum of calibrated size and not the actual DoFs. (#2076)**
by @pbutti, updated on 2023-06-22

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- ▶  **Stale** **Track parameter estimation algorithm return parameter on the first seed SP surface (#2037)**
by @Corentin-Allaire, updated on 2023-05-25
- ▶  **Stale** **Expose individual steps of track reconstruction in full_chain python scripts (#1997)**
by @tboldagh, updated on 2023-05-20
- ▶  **Stale** **Different results for full_chain_itk when running locally vs Ixplus (#1819)**
by @CarloVarni, updated on 2023-05-09
- ▶  **Stale** **Bug: Probable Issues in Bevelled Cylinder Implementation (#1238)**
by @rahmans1, updated on 2023-05-09
- ▶  **Stale** **Physmon throws many WARNINGS on Bethe-Heitler approximation (#1748)**
by @paulgessinger, updated on 2023-05-09
- ▶  **Stale** **SpacePoint EDM design (#1971)**
by @CarloVarni, updated on 2023-05-09
- ▶  **Stale** **vertex fitting and duplicate tracks (#1992)**
by @rubihason, updated on 2023-05-09
- ▶  **Stale** **Estimate Track Parameters from Seeds use only one surface. What about strips? (#1895)**
by @CarloVarni, updated on 2023-05-09

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- ▶  **Stale Bug: Unpredictable navigation in layer with overlapping surface (#1852)**
by @Corentin-Allaire, updated on 2023-03-25
- ▶  **Stale Make central minimum track momentum threshold (#1761)**
by @paulgessinger, updated on 2023-01-21
- ▶  **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 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 Documentation update: Plugins (#1421)**
by @paulgessinger, updated on 2022-10-22
- ▶  **Stale Vertexing produces vertex candidates that are unreasonable (#1361)**
by @paulgessinger, updated on 2022-10-22

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- ▶ **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** **Vertexing produces unexpectedly poor efficiency** (#1362)
by @paulgessinger, updated on 2022-09-20
- ▶ **Stale** **Ambiguous perigees with low momentum** (#1386)
by @andiwand, updated on 2022-09-20
- ▶ **Stale** **Fatras: Bethe-Heitler calculation wrong?** (#1437)
by @asalzburger, updated on 2022-09-20
- ▶ **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
- ▶ **Stale** **Magnetic Field Storage** (#1239)
by @osbornjd, updated on 2022-06-12

- ▶  **Stale** **Cut tube segment dd4hep conversion tests** (#1146)
by @rahmans1, updated on 2022-05-25
- ▶  **Stale** **Bug: issue on first build after DD4hep update on system with globally installed acts** (#1139)
by @gagnonlg, updated on 2022-02-22
- ▶  **Stale** **Add example (+test) for vertex fitting with constraints** (#1100)
by @paulgessinger, updated on 2022-01-07
- ▶  **Stale** **Should seed finding tools have a higher-level interface?** (#988)
by @stephenswat, updated on 2021-11-25
- ▶  **Stale** **Improvement: Estimate track parameters from seed at perigee surface** (#1036)
by @XiaocongAi, updated on 2021-11-10
- ▶  **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