






























Pull request and issue summary for acts-project/acts















January 7, 2025

acts-project/acts: PRs merged between 2024-12-17 and 2025-01-07 |















- ▶  **fix: user-defined literal operator syntax (to make clang20 happy) (#3992)**
by @flg,  reviewed by @andiwand, merged on 2024-12-18
- ▶  **chore: Newline after '#pragma once' (#3997)**
by @andiwand,  reviewed by @benjaminhuth, merged on 2024-12-18
- ▶  **chore: Make use of algebra shorthands (#3998)**
by @andiwand,  reviewed by @paulgessinger, merged on 2024-12-18
- ▶  **chore: Cleanup some surface code (#3991)**
by @andiwand,  reviewed by @benjaminhuth, merged on 2024-12-19
- ▶  **feat: Support negative tolerance for euclidean + chi2 tests (#4000)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-12-19
- ▶  **test: Bounds regression tests (#4001)**
by @paulgessinger,  reviewed by @andiwand, merged on 2024-12-19
- ▶  **refactor: Add new concepts for Eigen types (#3966)**
by @stephenswat,  reviewed by @paulgessinger, merged on 2024-12-20
- ▶  **fix: Optimize EDM4hep particle reading (#3978)**
by @paulgessinger,  reviewed by @andiwand, merged on 2025-01-06

- ▶  **fix: compilation without geant4 (#4003)**
by @goetzgaycken,  comment by @paulgessinger, updated on 2025-01-07
- ▶  **build: Only install python files for enabled components (#4004)**
by @paulgessinger, review requested, updated on 2025-01-06
- ▶  **chore: automated python requirements upgrades (#3924)**
by @github-actions[bot],  changes requested by @AJPfleger, updated on 2025-01-05
- ▶  **Stale feat: Adding G4Trap converter in Geant4Converters (#3775)**
by @ldamenti,  comment by @coderabbitai[bot], updated on 2025-01-04
- ▶  **Stale fix!: Make BinUtility constructor explicit (#3953)**
by @paulgessinger,  reviewed by @andiwand, updated on 2025-01-04
- ▶  **Stale feat: Add 'noexcept' specifier to 'Acts::Any' (#3743)**
by @benjaminhuth,  comment by @paulgessinger, updated on 2025-01-04
- ▶  **Stale chore: SonarCloud fixes, part 0 (#3942)**
by @asalzburger,  comment by @coderabbitai[bot], updated on 2025-01-04

















acts-project/acts: Open PRs II


















- ▶  **Stale** **feat: bump detray version, add material tracer (#3755)**
by @asalzburger,  comment by @coderabbitai[bot], updated on 2025-01-03
- ▶  **Stale** **refactor!: material: 'double' for pathCorrection (#3920)**
by @AJPfleger,  comment by @coderabbitai[bot], updated on 2025-01-03
- ▶  **feat(physmon): compare GX2F vs KF truth tracking (#3889)**
by @AJPfleger,  comment by @coderabbitai[bot], updated on 2025-01-02
- ▶  **Stale** **refactor: simplify track selection logic in AlignmentAlgorithm (#3934)**
by @AJPfleger,  comment by @coderabbitai[bot], updated on 2025-01-02
- ▶  **Stale** **feat: tracc plugin (conversion) (#3281)**
by @fredevb,  comment by @coderabbitai[bot], updated on 2024-12-30
- ▶  **Stale** **feat: tracc chain in examples (common chain logic and CPU chain) (#3320)**
by @fredevb,  comment by @coderabbitai[bot], updated on 2024-12-30
- ▶  **Stale** **fix: detray plugin (cmake flags, CI, and compile errors) (#3363)**
by @fredevb,  comment by @coderabbitai[bot], updated on 2024-12-30

acts-project/acts: Open PRs III





















- ▶  **Stale refactor: Lift GenericDetector to a Plugin (#3425)**
by @benjaminhuth,  comment by @coderabbitai[bot], updated on 2024-12-29
- ▶  **Stale feat: tracc plugin refactor, tracc chain reconstruction only, and fixes (#3505)**
by @fredevb,  comment by @coderabbitai[bot], updated on 2024-12-29
- ▶  **Stale feat: Add a fastjet plugin (#3617)**
by @gagnonlg,  comment by @coderabbitai[bot], updated on 2024-12-29
- ▶  **add misalignment decoration for DD4hep detector (#3891)**
by @Zequun-SUN,  comment by @coderabbitai[bot], updated on 2024-12-22
- ▶  **docs: Add troubleshooting section for Spack (#3881)**
by @stephenswat,  comment by @coderabbitai[bot], updated on 2024-12-22
- ▶  **refactor!: move source link creation, track state creation, measurement selection into a single unit outside of the CKF (#3825)**
by @goetzgaycken,  comment by @goetzgaycken, updated on 2024-12-20
- ▶  **fix: Output correct track objects in GSF refitting (#3999)**
by @benjaminhuth,  reviewed by @andiwand, updated on 2024-12-20

acts-project/acts: Open PRs IV



















- ▶  **feat!: Allow trimming other non measurement track states (#3993)**
by @andiwand,  reviewed by @paulgessinger, updated on 2024-12-20
- ▶  **refactor!: Revise stepper update functions and constrained step types (#3986)**
by @andiwand,  reviewed by @paulgessinger, updated on 2024-12-20
- ▶  **refactor!: Revise stepper state creation (#3987)**
by @andiwand,  reviewed by @paulgessinger, updated on 2024-12-20
- ▶  **refactor!: Remove output parameter from 'MagneticFieldProvider::getFieldGradient' (#3983)**
by @andiwand,  **no reviewer**, updated on 2024-12-20
- ▶  **feat: Add/activate reverse filter cov inflation for KF and GSF (#3996)**
by @benjaminhuth,  comment by @coderabbitai[bot], updated on 2024-12-19
- ▶  **feat!: Updates to GBTS for Athena Implementation (#3882)**
by @Rosie-Hasan,  comment by @coderabbitai[bot], updated on 2024-12-17
- ▶  **refactor: Use detector element to check if surface is sensitive (detray plugin) (#3857)**
by @paulgessinger,  **no reviewer**, updated on 2024-12-13
- ▶  **feat: Adding efficiency vs production radius to output root files (Revision of PR #3539) (#3981)**
by @delitez,  reviewed by @paulgessinger, updated on 2024-12-13

- ▶  **feat: Structured logging (#3955)**
by @paulgessinger,  comment by @andiwand, updated on 2024-12-11
- ▶  **chore: Add 'google-explicit-constructor' to clang-tidy config (#3972)**
by @paulgessinger,  comment by @coderabbitai[bot], updated on 2024-12-10
- ▶  **feat: External surfaces for GSF (#3970)**
by @benjaminhuth,  reviewed by @andiwand, updated on 2024-12-10
- ▶  **feat: Conversion and chain code in tracc (#3656)**
by @stephenswat,  comment by @andiwand, updated on 2024-12-09
- ▶  **refactor!: Make nlohmann::json a public dependency (#3954)**
by @paulgessinger,  comment by @coderabbitai[bot], updated on 2024-12-09
- ▶   **ci: Spack (#3980)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-07
- ▶    **build: Make third-party libraries system dependencies (#3949)**
by @stephenswat,  comment by @coderabbitai[bot], updated on 2025-01-06






















acts-project/acts: Open PRs VI

- ▶   **WIP** Stale **refactor: Bump min json ver, make json keys static (#2968)**
by @paulgessinger, review requested, updated on 2025-01-06
- ▶   **WIP** Stale **refactor!: Remove BinningType (#3826)**
by @asalzburger,  **no reviewer**, updated on 2025-01-06
- ▶   **WIP** Stale **docs: Some accumulated docs fixes (#3962)**
by @andiwand,  **no reviewer**, updated on 2025-01-05
- ▶   **WIP** Stale **feat: Adding efficiency vs production radius to output root files (#3539)**
by @AichaMattouhi,  comment by @paulgessinger, updated on 2025-01-05
- ▶   **WIP** Stale **ci: Add extra build job with clang 19 (#3943)**
by @stephenswat,  comment by @coderabbitai[bot], updated on 2025-01-04
- ▶   **WIP** **refactor: Some internal GSF refactorings (#2697)**
by @benjaminhuth,  changes requested by @andiwand, updated on 2025-01-03
- ▶   **WIP** Stale **perf: add 2d perf plots (#3893)**
by @XiaocongAi,  **no reviewer**, updated on 2025-01-03

























acts-project/acts: Open PRs VII













- ▶   **WIP** Stale **refactor: avoid 'addWhiteboardAlias' in truth tracking examples (#3936)**
by @AJPflegler,  comment by @andiwand, updated on 2025-01-02
- ▶   **WIP** Stale **refactor: reduce complexity of highly nested blocks (#3633)**
by @AJPflegler,  comment by @AJPflegler, updated on 2025-01-01
- ▶   **WIP** Stale **refactor: Add helper for Transform inversion (#3750)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-01
- ▶   **WIP** Stale **feat: Add GSF component momentum cut to stabilize fit (#2661)**
by @benjaminhuth,  comment by @benjaminhuth, updated on 2024-12-30
- ▶   **WIP** Stale **refactor!: Middle range strategy (#3719)**
by @CarloVarni,  comment by @paulgessinger, updated on 2024-12-28
- ▶   **WIP** Stale **refactor!: Seed Finders create collection of 'Seed<external_spacepoint_t>' instead of 'Seed<Proxy<external_spacepoint_t>'** (#3729)
by @CarloVarni,  comment by @coderabbitai[bot], updated on 2024-12-28

acts-project/acts: Open PRs VIII
















- ▶   **feat: Add closest point and distance computation to 'SurfaceBounds'** (#3990)
by @andiwand,  comment by @paulgessinger, updated on 2024-12-19
- ▶   **feat: Marking Edgeholes during track finding** (#3988)
by @pbutti,  comment by @goetzgaycken, updated on 2024-12-18
- ▶   **refactor!: Always return a magnetic field vector** (#3951)
by @andiwand,  comment by @andiwand, updated on 2024-12-17
- ▶   **refactor!: Decouple navigation and stepping** (#3449)
by @andiwand,  comment by @coderabbitai[bot], updated on 2024-12-16
- ▶   **fix: Prefer external surface candidates in Navigation** (#3989)
by @andiwand,  comment by @benjaminhuth, updated on 2024-12-16
- ▶   **refactor!: explicit constructors** (#3762)
by @AJPfleger,  **no reviewer**, updated on 2024-12-16
- ▶   **refactor: Split particle selection in Examples** (#3969)
by @andiwand,  comment by @benjaminhuth, updated on 2024-12-12














acts-project/acts: Open PRs IX

- ▶   **refactor!: Make constructors explicit (#3975)**
by @paulgessinger, review requested, updated on 2024-12-10
- ▶   **refactor!: Explicit BoundaryTolerance constructors (#3974)**
by @paulgessinger,  comment by @paulgessinger, updated on 2024-12-10
- ▶   **refactor!: Make Direction constructor explicit (#3973)**
by @paulgessinger,  comment by @andiwand, updated on 2024-12-10
- ▶    **feat: Add per event timing (#3124)**
by @CouthuresJeremy,  comment by @andiwand, updated on 2024-11-29
- ▶    **feat: tracc cuda example (#3372)**
by @fredevb,  **no reviewer**, updated on 2024-11-29
- ▶    **build: physmon for tracc chains (host and cuda) (#3403)**
by @fredevb,  **no reviewer**, updated on 2024-11-29
- ▶    **feat: Added possibility to keep intermediate particles from PythiaGenerator**
WIP (#3414)
by @pbutti,  **no reviewer**, updated on 2024-11-29















- ▶   **WIP**  **Stale** refactor: Move config files from ODD to Acts to ensure compatibility (#3407)
by @benjaminhuth,  **no reviewer**, updated on 2024-11-29
- ▶   **WIP**  **Stale** chore: Bump minimum boost version to 1.78.0 (#3517)
by @paulgessinger,  **no reviewer**, updated on 2024-11-29
- ▶   **WIP**  **Stale** refactor: Detector Element refactoring proposal (#3574)
by @benjaminhuth,  comment by @asalzburger, updated on 2024-11-29

- ▶ **⦿ Couldn't build acts library, build fails with an error (#4002)**
by @bedanar, updated on 2025-01-03
- ▶ **⦿ Kalman Filter backward pass is using measurements twice without weights (#3994)**
by @andiwand, updated on 2024-12-20
- ▶ **⦿ Kalman Filter backward pass could use a direct navigator (#3995)**
by @andiwand, updated on 2024-12-18













- ▶  Stale **'Pythia8Generator' produces different results with multi-threading** (#3963)
by @andiwand, updated on 2025-01-06
- ▶   Stale **docs: Some accumulated docs fixes** (#3962)
by @andiwand,  **no reviewer**, updated on 2025-01-05
- ▶  Stale **fix!: Make BinUtility constructor explicit** (#3953)
by @paulgessinger,  **no reviewer**, updated on 2025-01-04
- ▶   Stale **build: Make third-party libraries system dependencies** (#3949)
by @stephenswat,  **no reviewer**, updated on 2025-01-06
- ▶   Stale **ci: Add extra build job with clang 19** (#3943)
by @stephenswat,  **no reviewer**, updated on 2025-01-04
- ▶  Stale **chore: SonarCloud fixes, part 0** (#3942)
by @asalzburger,  **no reviewer**, updated on 2025-01-04
- ▶  Stale **improvement: use Geant4 nuclear interactions in FATRAS** (#3939)
by @AJPfleger, updated on 2025-01-02

- ▶   **WIP** Stale refactor: avoid 'addWhiteboardAlias' in truth tracking examples (#3936)
by @AJPfleger,  **no reviewer**, updated on 2025-01-02
- ▶  Stale refactor: simplify track selection logic in AlignmentAlgorithm (#3934)
by @AJPfleger,  **no reviewer**, updated on 2025-01-02
- ▶  Stale refactor!: material: 'double' for pathCorrection (#3920)
by @AJPfleger,  **no reviewer**, updated on 2025-01-03
- ▶  Stale **Avoid direct inversion of covariance matrices for numerical stability** (#3910)
by @coderabbitai[bot], updated on 2024-12-26
- ▶  Stale **nHoles different in KF and GX2F** (#3906)
by @AJPfleger, updated on 2024-12-25
- ▶   **WIP** Stale perf: add 2d perf plots (#3893)
by @XiaocongAi,  **no reviewer**, updated on 2025-01-03
- ▶  Stale **FLTUND in KF in physmon at 'PointwiseMaterialInteraction::covarianceContributions'** (#3890)
by @AJPfleger, updated on 2024-12-22


















acts-project/acts: New stale Issues / PRs since 2024-12-17 III

- ▶  **Stale docs: Sphinx '>=7.4.0' breaks warning ignore script (#3879)**
by @AJPfleger, updated on 2024-12-21
- ▶  **Stale test: some bounding box test cases fail on macOS ci (#3847)**
by @AJPfleger, updated on 2024-12-21
- ▶   **WIP Stale refactor!: Remove BinningType (#3826)**
by @asalzburger,  **no reviewer**, updated on 2025-01-06
- ▶  **Stale feat: Adding G4Trap converter in Geant4Converters (#3775)**
by @ldamenti,  **no reviewer**, updated on 2025-01-04
- ▶  **Stale feat: bump detray version, add material tracer (#3755)**
by @asalzburger,  **no reviewer**, updated on 2025-01-03
- ▶   **WIP Stale refactor: Add helper for Transform inversion (#3750)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-01
- ▶  **Stale feat: Add 'noexcept' specifier to 'Acts::Any' (#3743)**
by @benjaminhuth,  **no reviewer**, updated on 2025-01-04


























acts-project/acts: New stale Issues / PRs since 2024-12-17 IV

- ▶  **Stale** **GSF throws warnings regularly with ODD (#3738)**
by @andiwand, updated on 2024-12-21
- ▶  **WIP** **Stale refactor!: Seed Finders create collection of 'Seed<external_spacepoint_t>' instead of 'Seed<Proxy<external_spacepoint_t>'** (#3729)
by @CarloVarni,  **no reviewer**, updated on 2024-12-28
- ▶  **WIP** **Stale refactor!: Middle range strategy (#3719)**
by @CarloVarni,  **no reviewer**, updated on 2024-12-28
- ▶  **WIP** **Stale refactor: reduce complexity of highly nested blocks (#3633)**
by @AJPfleger,  **no reviewer**, updated on 2025-01-01
- ▶  **Stale feat: Add a fastjet plugin (#3617)**
by @gagnonlg,  **no reviewer**, updated on 2024-12-29
- ▶  **WIP** **Stale feat: Adding efficiency vs production radius to output root files (#3539)**
by @AichaMattouhi,  **no reviewer**, updated on 2025-01-05
- ▶  **Stale 'common' CMake preset requires ccache (#3537)**
by @stephswat, updated on 2024-12-21

















acts-project/acts: New stale Issues / PRs since 2024-12-17 V

- ▶  **Stale** feat: **tracc plugin refactor, tracc chain reconstruction only, and fixes (#3505)**
by @fredevb,  **no reviewer**, updated on 2024-12-29
- ▶  **Stale** **Gen3 geometry (#3502)**
by @paulgessinger, updated on 2024-12-18
- ▶  **Stale** refactor: **Lift GenericDetector to a Plugin (#3425)**
by @benjaminhuth,  **no reviewer**, updated on 2024-12-29
- ▶  **Stale** fix: **detray plugin (cmake flags, CI, and compile errors) (#3363)**
by @fredevb,  **no reviewer**, updated on 2024-12-30
- ▶  **Stale** feat: **tracc chain in examples (common chain logic and CPU chain) (#3320)**
by @fredevb,  **no reviewer**, updated on 2024-12-30
- ▶  **Stale** feat: **tracc plugin (conversion) (#3281)**
by @fredevb,  **no reviewer**, updated on 2024-12-30
- ▶   **WIP** **Stale** refactor: **Bump min json ver, make json keys static (#2968)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-06
- ▶   **WIP** **Stale** feat: **Add GSF component momentum cut to stabilize fit (#2661)**
by @benjaminhuth,  **no reviewer**, updated on 2024-12-30














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

- ▶   **WIP**  **Stale** **build: Make third-party libraries system dependencies (#3949)**
by @stephenswat,  **no reviewer**, updated on 2025-01-06
- ▶   **Stale** **'Pythia8Generator' produces different results with multi-threading (#3963)**
by @andiwand, updated on 2025-01-06
- ▶   **WIP**  **Stale** **refactor: Bump min json ver, make json keys static (#2968)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-06
- ▶   **WIP**  **Stale** **refactor!: Remove BinningType (#3826)**
by @asalzburger,  **no reviewer**, updated on 2025-01-06
- ▶   **WIP**  **Stale** **docs: Some accumulated docs fixes (#3962)**
by @andiwand,  **no reviewer**, updated on 2025-01-05
- ▶   **WIP**  **Stale** **feat: Adding efficiency vs production radius to output root files (#3539)**
by @AichaMattouhi,  **no reviewer**, updated on 2025-01-05
- ▶   **Stale** **feat: Adding G4Trap converter in Geant4Converters (#3775)**
by @ldamenti,  **no reviewer**, updated on 2025-01-04

















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








- ▶  Stale **fix!: Make BinUtility constructor explicit (#3953)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-04
- ▶  Stale **feat: Add 'noexcept' specifier to 'Acts::Any' (#3743)**
by @benjaminhuth,  **no reviewer**, updated on 2025-01-04
- ▶   WIP Stale **ci: Add extra build job with clang 19 (#3943)**
by @stephenswat,  **no reviewer**, updated on 2025-01-04
- ▶  Stale **chore: SonarCloud fixes, part 0 (#3942)**
by @asalzburger,  **no reviewer**, updated on 2025-01-04
- ▶  Stale **feat: bump detray version, add material tracer (#3755)**
by @asalzburger,  **no reviewer**, updated on 2025-01-03
- ▶  Stale **refactor!: material: 'double' for pathCorrection (#3920)**
by @AJPfleger,  **no reviewer**, updated on 2025-01-03
- ▶   WIP Stale **perf: add 2d perf plots (#3893)**
by @XiaocongAi,  **no reviewer**, updated on 2025-01-03

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
















- ▶  **Stale improvement: use Geant4 nuclear interactions in FATRAS (#3939)**
by @AJPfleger, updated on 2025-01-02
- ▶  **Stale refactor: avoid 'addWhiteboardAlias' in truth tracking examples (#3936)**
by @AJPfleger,  **no reviewer**, updated on 2025-01-02
- ▶  **Stale refactor: simplify track selection logic in AlignmentAlgorithm (#3934)**
by @AJPfleger,  **no reviewer**, updated on 2025-01-02
- ▶  **Stale refactor: reduce complexity of highly nested blocks (#3633)**
by @AJPfleger,  **no reviewer**, updated on 2025-01-01
- ▶  **Stale refactor: Add helper for Transform inversion (#3750)**
by @paulgessinger,  **no reviewer**, updated on 2025-01-01
- ▶  **Stale feat: Add GSF component momentum cut to stabilize fit (#2661)**
by @benjaminhuth,  **no reviewer**, updated on 2024-12-30
- ▶  **Stale feat: tracc plugin (conversion) (#3281)**
by @fredevb,  **no reviewer**, updated on 2024-12-30

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





















- ▶  **Stale** feat: **tracc chain in examples (common chain logic and CPU chain) (#3320)**
by @fredevb,  **no reviewer**, updated on 2024-12-30
- ▶  **Stale** fix: **detray plugin (cmake flags, CI, and compile errors) (#3363)**
by @fredevb,  **no reviewer**, updated on 2024-12-30
- ▶  **Stale** refactor: **Lift GenericDetector to a Plugin (#3425)**
by @benjaminhuth,  **no reviewer**, updated on 2024-12-29
- ▶  **Stale** feat: **tracc plugin refactor, tracc chain reconstruction only, and fixes (#3505)**
by @fredevb,  **no reviewer**, updated on 2024-12-29
- ▶  **Stale** feat: **Add a fastjet plugin (#3617)**
by @gagnonlg,  **no reviewer**, updated on 2024-12-29
- ▶   **WIP** **Stale** refactor!: **Middle range strategy (#3719)**
by @CarloVarni,  **no reviewer**, updated on 2024-12-28
- ▶   **WIP** **Stale** refactor!: **Seed Finders create collection of 'Seed<external_spacepoint_t>' instead of 'Seed<Proxy<external_spacepoint_t>'** (#3729)
by @CarloVarni,  **no reviewer**, updated on 2024-12-28

- ▶  **Stale** **Avoid direct inversion of covariance matrices for numerical stability (#3910)**
by @coderabbitai[bot], updated on 2024-12-26
- ▶  **Stale** **nHoles different in KF and GX2F (#3906)**
by @AJPfleger, updated on 2024-12-25
- ▶  **Stale** **FLTUND in KF in physmon at 'PointwiseMaterialInteraction::covarianceContributions' (#3890)**
by @AJPfleger, updated on 2024-12-22
- ▶  **Stale** **'common' CMake preset requires ccache (#3537)**
by @stephenswat, updated on 2024-12-21
- ▶  **Stale** **GSF throws warnings regularly with ODD (#3738)**
by @andiwand, updated on 2024-12-21
- ▶  **Stale** **test: some bounding box test cases fail on macOS ci (#3847)**
by @AJPfleger, updated on 2024-12-21
- ▶  **Stale** **docs: Sphinx '>=7.4.0' breaks warning ignore script (#3879)**
by @AJPfleger, updated on 2024-12-21









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- ▶  **Stale Gen3 geometry (#3502)**
by @paulgessinger, updated on 2024-12-18
- ▶  **Stale Potential Dangling Pointers in Function (#3813)**
by @coderabbitai[bot], updated on 2024-12-05
- ▶  **Stale Potential Dangling Pointers in 'createTree' Function (#3814)**
by @coderabbitai[bot], updated on 2024-12-05
- ▶   **Stale feat: Add per event timing (#3124)**
by @CouthuresJeremy,  **no reviewer**, updated on 2024-11-29
- ▶   **Stale feat: tracc cuda example (#3372)**
by @fredevb,  **no reviewer**, updated on 2024-11-29
- ▶   **Stale build: physmon for tracc chains (host and cuda) (#3403)**
by @fredevb,  **no reviewer**, updated on 2024-11-29
- ▶   **Stale feat: Added possibility to keep intermediate particles from PythiaGenerator**
WIP (#3414)
by @pbutti,  **no reviewer**, updated on 2024-11-29









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- ▶   **WIP**  **Stale refactor: Move config files from ODD to Acts to ensure compatibility (#3407)**
by @benjaminhuth,  **no reviewer**, updated on 2024-11-29
- ▶   **WIP**  **Stale chore: Bump minimum boost version to 1.78.0 (#3517)**
by @paulgessinger,  **no reviewer**, updated on 2024-11-29
- ▶   **WIP**  **Stale refactor: Detector Element refactoring proposal (#3574)**
by @benjaminhuth,  **no reviewer**, updated on 2024-11-29
- ▶   **Stale bug: navigation suggests 'pathCorrection=inf' on cylinderSurface (#3267)**
by @AJPfleger, updated on 2024-10-31
- ▶   **Stale Common shared measurement computation? (#3618)**
by @gagnonlg, updated on 2024-10-26
- ▶   **Stale TrackAtVertex trackWeight is not being written in IVF (#2149)**
by @andiwand, updated on 2024-09-27
- ▶   **Stale Multiple context references are in flight for track fitters and finder (#3383)**
by @andiwand, updated on 2024-09-27









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- ▶  **Stale** **'TrackStateType' is easy to get wrong (#3439)**
by @andiwand, updated on 2024-09-26
- ▶  **Stale** **Cleanup: BinningValue, AxisBounds + detrays/Integration (#3549)**
by @asalzbunger, updated on 2024-09-25
- ▶  **Stale** **Proposal: surface and portal navigation (including target surfaces) for Gen3 (#3526)**
by @asalzbunger, updated on 2024-09-21
- ▶  **Stale** **FPE: RootTrajectoryStatesWriter (#2348)**
by @paulgessinger, updated on 2024-09-15
- ▶  **Stale** **'GlobalChiSquareFitter' produces parameters in wrong volume (#3444)**
by @andiwand, updated on 2024-09-05
- ▶  **Stale** **Bug: __acts_dfelibs_version unset in CMakeLists.txt (#3457)**
by @wdconinc, updated on 2024-09-05
- ▶  **Stale** **Provide tools & setup for tracking of Heavy Ion on ITk events in standalone ACTS environment (#1778)**
by @tboldagh, updated on 2024-07-24
- ▶  **Stale** **[bug] Off axis endcap with dd4hep plugin. (#942)**
by @whit2333, updated on 2024-06-26









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- ▶  **Stale** **Reproducibility test using hash checks for non-linear KF (#1246)**
by @paulgessinger, updated on 2024-06-25
- ▶  **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 @asalzbürger, 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
- ▶  **Stale** **Bug: not all tracks have fittedMomentum (#2364)**
by @felix-russo, updated on 2024-06-25









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- ▶  **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 bug: KF verbosity statement (#3097)**
by @osbornjd, updated on 2024-06-20
- ▶  **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









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- ▶  **Stale Question: Set a different value of eta range using ODD (#2776)**
by @rubihason, updated on 2024-05-25
- ▶  **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

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- ▶  **Stale perf: CKF general (#3082)**
by @andiwand, updated on 2024-05-05
- ▶  **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

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- ▶  **Stale EDM4hep parameter conversion should use jacobians directly (#2813)**
by @paulgessinger, updated on 2024-01-11
- ▶  **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 'SurfaceReached' aborter is messing with the step size (#2738)**
by @andiwand, updated on 2023-12-28
- ▶  **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
- ▶  **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






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- ▶ **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
- ▶ **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 lxplus (#1819)**
by @CarloVarni, updated on 2023-05-09
- ▶ **Stale** **Bug: Probable Issues in Bevelled Cylinder Implementation (#1238)**
by @rahmans1, updated on 2023-05-09

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- ▶  **Stale Physmon throws many WARNINGS on Bethe-Heitler approximation (#1748)**
by @paulgessinger, 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
- ▶  **Stale Bug: Unpredicable 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: How-to (core) (#1422)**
by @paulgessinger, updated on 2022-11-23

- ▶  **Stale** **Vertexing produces vertex candidates that are unreasonable** (#1361)
by @paulgessinger, updated on 2022-10-22
- ▶  **Stale** **Optionally have the vertex finding recalculate perigee parameters relative to consistent reference** (#1482)
by @paulgessinger, updated on 2022-10-01
- ▶  **Stale** **Ambiguous perigees with low momentum** (#1386)
by @andiwand, updated on 2022-09-20
- ▶  **Stale** **Fatras: Bethe-Heitler calculation wrong?** (#1437)
by @asalzbürger, updated on 2022-09-20
- ▶  **Stale** **Some writers performs their writes in the destructor** (#881)
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 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