Pull request and issue summary for acts-project/acts

September 10, 2024

acts-project/acts: PRs merged between 2024-09-03 and 2024-09-10 | I

- ► % refactor: Write smoothed states in GX2F (#3584) by @andiwand, ✓ reviewed by @AJPfleger, merged on 2024-09-03
- ► refactor!: Remove 'Utilities/detail/Subspace.hpp' (#3589) by @andiwand, reviewed by @AJPfleger, merged on 2024-09-03
- ▶ **fix:** Allow resetting reference surface in Track EDM (#3586) by @andiwand, ✓ reviewed by @timadye, merged on 2024-09-04
- ▶ fractor: Rework tracklet handling in Examples track finding (#3587) by @andiwand, reviewed by @timadye, merged on 2024-09-04
- ▶ **feat:** Memory dense 'MeasurementContainer' for Examples (#3528) by @andiwand, ✓ reviewed by @benjaminhuth, merged on 2024-09-04
- ▶ feat: detray geometry/material conversion in examples (#3579) by @asalzburger, ✓ reviewed by @niermann999, merged on 2024-09-04
- ▶ **From Proof State Series** ► Proof State (#3193) by @andiwand, reviewed by @paulgessinger, merged on 2024-09-04

acts-project/acts: PRs merged between 2024-09-03 and 2024-09-10 II

- ► refactor!: Remove 'EventData/TrackHelpers.hpp' (#3588) by @andiwand, reviewed by @AJPfleger, merged on 2024-09-05
- ▶ **fix!:** make material validity checks and construction explicit (#3494) by @AJPfleger, ✓ reviewed by @paulgessinger, merged on 2024-09-05
- ▶ ‰ refactor: Write unbiased states only for smoothed in 'RootTrackStatesWriter' (#3561) by @andiwand, ✓ reviewed by @AJPfleger, merged on 2024-09-05
- ► refactor!: Remove deprecated API (#3591) by @andiwand, reviewed by @AJPfleger, merged on 2024-09-06
- ▶ \$\infty\$ feat: Allow user to supply root branch to Core CKF (#3534) by @andiwand, ✓ reviewed by @timadye, merged on 2024-09-06
- ▶ fix: remove pre-C++20 'std::identity' implementation (#3599) by @AJPfleger, reviewed by @benjaminhuth, merged on 2024-09-09
- ► **Free Proof of Section 2024-09-09**
 ▶ **Free Proof of Section 2024-09-09**
 ▶ **Free Proof of Section 2024-09-09**
 ▶ **Free Proof of Section 2024-09-09**
- ► **!** refactor!: path handling to use 'std::filesystem' (#3308) by @AJPfleger, reviewed by @stephenswat, merged on 2024-09-09

acts-project/acts: PRs merged between 2024-09-03 and 2024-09-10 III

- ▶ % refactor!: Replace 'EigenStepper' extension list with single extension (#2865) by @andiwand, ✓ reviewed by @benjaminhuth, merged on 2024-09-09
- ▶ $\[\]$ fix: Stitch tracks correctly after second pass in Examples Track Finding (#3597) by @andiwand, $\[\]$ reviewed by @timadye, merged on 2024-09-09

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- ▶ \$\times \text{ refactor!: Rename 'EigenStepper' dense extension (#3603)} by @andiwand, \$\times \text{ reviewed by @AJPfleger, updated on 2024-09-10}\$
- ▶ \$\infty\$ feat!: Track-EDM like implementation for the space points, to be used in the seeding (#3432) by @CarloVarni, \infty\$ no reviewer, updated on 2024-09-10
- ▶ ↑ refactor: set convertMaterial as configurable (#3604) by @galocco, ↑ no reviewer, updated on 2024-09-10
- ➤ ↑ refactor!: Fuse 'Actor' and 'Aborter' (#3573) by @andiwand, ✓ comment by @stephenswat, updated on 2024-09-10
- ▶ ↑ refactor: use 'std::ranges::sort' and 'reverse' (#3596) by @AJPfleger, ✓ reviewed by @stephenswat, updated on 2024-09-10
- ▶ ↑ refactor: modernise GeometryHierarchyMap (#3594) by @AJPfleger, ✓ reviewed by @stephenswat, updated on 2024-09-10
- ▶ \$\text{\te}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex
- ▶ ↑ refactor!: Return all track states from Core CKF (#3391) by @andiwand,review requested, updated on 2024-09-10

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- ▶ \$\infty\$ feat: add counters to propagation summary (#3602) by @asalzburger,review requested, updated on 2024-09-10
- ▶ \$\int \text{fix!: Use 'ActsScalar' in binning tools} (#3482) by @stephenswat, \$\square\$ comment by @stephenswat, updated on 2024-09-10
- ▶ **[** refactor: update 'to_array' (#3600) by @AJPfleger, reviewed by @stephenswat, updated on 2024-09-10
- ▶ în refactor: add C++23 'std::ranges::contains' place holder (#3598) by @AJPfleger, reviewed by @stephenswat, updated on 2024-09-10
- Stale refactor!: SourceLink setting only via rvalue reference (#3488) by @paulgessinger, no reviewer, updated on 2024-09-08
- ► \$\times\$ Stale feat: allow bare Surface pointers to be written to JSON (#3493) by @asalzburger, comment by @paulgessinger, updated on 2024-09-07
- ▶ **fix:** Further fixes to detray plugin (#3563) by @stephenswat, ✓ reviewed by @andiwand, updated on 2024-09-07
- ▶ \$\infty\$ refactor!: 'VolumeBounds' becomes a scoped enum (#3513) by @paulgessinger, reviewed by @asalzburger, updated on 2024-09-04

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- ► \$\infty\$ Stale feat: traccc plugin (conversion) (#3281) by @fredevb, \$\sqrt{\sqrt}\$ comment by @paulgessinger, updated on 2024-08-31
- ▶ \$\times\$ Stale fix: detray plugin (cmake flags, CI, and compile errors) (#3363) by @fredevb, ✓ comment by @EleniXoch, updated on 2024-08-31
- ▶ ↑ refactor: Move MLAmbiguitySolver to Core (#3272) by @Corentin-Allaire, ✓ comment by @Corentin-Allaire, updated on 2024-08-30
- ► Stale feat!: (fix + chore) streamline nSegments usage (#3419) by @asalzburger, ✓ comment by @asalzburger, updated on 2024-08-28
- ► Stale feat: Introduce the usage of the geomodel converters for the Muon System (#3348) by @dimitra97, ✓ comment by @dimitra97, updated on 2024-08-23
- ▶ (*) ci: Reenable some ExaTrkX tests (#3395) by @benjaminhuth, no reviewer, updated on 2024-08-22
- ▶ \$\int \text{fix: Require TBB to be found by cmake (#3507)} by @benjaminhuth, \text{v} reviewed by @timadye, updated on 2024-08-22}

acts-project/acts: Open PRs IV

- ► Stale refactor: Lift GenericDetector to a Plugin (#3425) by @benjaminhuth,review requestedreview requested, updated on 2024-08-21
- Stale feat: traccc chain in examples (common chain logic and CPU chain) (#3320) by @fredevb, no reviewer, updated on 2024-08-15
- ▶ \$\infty\$ feat: traccc plugin refactor, traccc chain reconstruction only, and fixes (#3505) by @fredevb, \infty\$ no reviewer, updated on 2024-08-14
- ► Stale style: Update clang-format to v18 (#3319) by @stephenswat, no reviewer, updated on 2024-07-21
- Stale feat: introduction obj simhit writer (#3180) by @asalzburger, no reviewer, updated on 2024-06-15

acts-project/acts: Open PRs V

- ▶ \$\times \text{WIP} \text{ Stale refactor: Rework detector handling in Examples (#3498)} by @andiwand, \text{\hat{\Lambda} no reviewer}, updated on 2024-09-07
- by @andiwand, no reviewer, updated on 2024-09-06
- ▶ 1 WIP refactor!: Decouple navigation and stepping (#3449) by @andiwand, no reviewer, updated on 2024-09-06
- ► \$\frac{\sqrt{WIP}}{\sqrt{WIP}}\$ fix: added GeoShapeSubtraction converter for the failing conversion of RPCs to SensitiveSurface (#3592) by @Berggren-Jonas, \$\hat{\capacite{\chi}}\$ no reviewer, updated on 2024-09-05

acts-project/acts: Open PRs VI

- ▶ (WIP feat: GeoModel plugin changes for ITk building. (#3519) by @benjaminhuth, ✓ comment by @paulgessinger, updated on 2024-09-03
- ▶ 1 WIP Stale feat(geometry): Allow operator« on surfaces without detector elements (#3467) by @paulgessinger, ✓ comment by @paulgessinger, updated on 2024-08-31
- ▶ \$\frac{1}{200}\$ will refactor: Detector Element refactoring proposal (#3574) by @benjaminhuth, \$\sqrt{2}\$ comment by @asalzburger, updated on 2024-08-29
- ▶ ↑ WIP feat: Adding efficiency vs production radius to output root files (#3539) by @AichaMattouhi, ✓ comment by @paulgessinger, updated on 2024-08-29
- by @paulgessinger, no reviewer, updated on 2024-08-28
- by @paulgessinger, no reviewer, updated on 2024-08-27

acts-project/acts: Open PRs VII

- ▶ ↑↑ WIP refactor: Bump min json ver, make json keys static (#2968) by @paulgessinger,review requested, updated on 2024-08-22
- ▶ \$\times \text{WIP} \text{ draft: Gauss vertex seeding with time (#3491)} by @CENcII, \text{ comment by @andiwand, updated on 2024-08-22}
- ► \$\frac{\sqrt{\text{WIP}}}{\text{wWIP}}\$\$ Stale feat: Added possibility to keep intermediate particles from PythiaGenerator WIP (#3414) by @pbutti, \text{\text{no reviewer}}, updated on 2024-08-22
- by @paulgessinger, no reviewer, updated on 2024-08-20
- ▶ 1 WIP Stale refactor: Rework physics performance monitoring for Examples (#3359) by @andiwand, no reviewer, updated on 2024-08-17
- by @benjaminhuth, no reviewer, updated on 2024-08-17

acts-project/acts: Open PRs VIII

- by @fredevb, no reviewer, updated on 2024-08-16
- by @fredevb, no reviewer, updated on 2024-08-16
- ▶ \$\times \text{WIP} \text{ Stale refactor: Some internal GSF refactorings (#2697)} by @benjaminhuth, \$\times\$ changes requested by @andiwand, updated on 2024-07-21
- by @benjaminhuth, comment by @benjaminhuth, updated on 2024-05-25

acts-project/acts: New stale Issues / PRs since 2024-09-03 |

- ▶ \$\times\$ Stale feat: allow bare Surface pointers to be written to JSON (#3493) by @asalzburger, \(\hat{\hat{\hat{h}}}\) no reviewer, updated on 2024-09-07
- Stale refactor!: SourceLink setting only via rvalue reference (#3488) by @paulgessinger, no reviewer, updated on 2024-09-08
- Stale Bug: _acts_dfelibs_version unset in CMakeLists.txt (#3457) by @wdconinc, updated on 2024-09-05
- Stale 'GlobalChiSquareFitter' produces parameters in wrong volume (#3444) by @andiwand, updated on 2024-09-05

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- Stale refactor!: SourceLink setting only via rvalue reference (#3488) by @paulgessinger, no reviewer, updated on 2024-09-08
- ► \$\times\$ Stale feat: allow bare Surface pointers to be written to JSON (#3493) by @asalzburger, \(\hrace no reviewer\), updated on 2024-09-07
- Stale 'GlobalChiSquareFitter' produces parameters in wrong volume (#3444) by @andiwand, updated on 2024-09-05
- Stale feat: traccc plugin (conversion) (#3281) by @fredevb, no reviewer, updated on 2024-08-31
- ► Stale fix: detray plugin (cmake flags, Cl, and compile errors) (#3363) by @fredevb, no reviewer, updated on 2024-08-31

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- by ©paulgessinger, no reviewer, updated on 2024-08-31
- ► \$\times\$ Stale feat!: (fix + chore) streamline nSegments usage (#3419) by @asalzburger, \(\begin{array}{c}\no reviewer\), updated on 2024-08-28
- ► \$\times\$ Stale feat: Introduce the usage of the geomodel converters for the Muon System (#3348) by @dimitra97, \(\begin{array}{c}\) no reviewer, updated on 2024-08-23
- ► \$\ \cong \cong\
- ▶ Stale refactor: Lift GenericDetector to a Plugin (#3425) by @benjaminhuth, no reviewer, updated on 2024-08-21
- ▶ 1 WIP Stale refactor: Rework physics performance monitoring for Examples (#3359) by @andiwand, no reviewer, updated on 2024-08-17
- by @benjaminhuth, no reviewer, updated on 2024-08-17

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- by @fredevb, no reviewer, updated on 2024-08-16
- by @fredevb, no reviewer, updated on 2024-08-16
- ► \$\frac{\tag{\tag{Stale}}}{\tag{feat: traccc chain in examples (common chain logic and CPU chain)}} (#3320) by @fredevb, \$\hat{\tag{\tag{no reviewer}}}\$, updated on 2024-08-15
- Stale Provide tools & setup for tracking of Heavy Ion on ITk events in standalone ACTS environment (#1778) by @tboldagh, updated on 2024-07-24
- by @benjaminhuth, no reviewer, updated on 2024-07-21
- ► \$\infty\$ Stale style: Update clang-format to v18 (#3319) by @stephenswat, \(\bar{\Lambda} \) no reviewer, updated on 2024-07-21
- by @CouthuresJeremy, no reviewer, updated on 2024-07-11

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- 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
- ▶ **Ostale Documentation update: Core** (#1418) by @paulgessinger, updated on 2024-06-25
- Stale Documentation: hints for debugging (#1463) by @timadye, updated on 2024-06-25
- Stale Create volume restricted BFieldMap (#1659) by @asalzburger, updated on 2024-06-25

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- Stale Cmake error if ACTS_BUILD_PLUGIN_ACTSVG=ON (#1818) by @DraTeots, updated on 2024-06-25
- Stale EstimateTrackParamsFromSeed does not use time of measurement (#2136) 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
- Stale Bug: AMVF 'deleteLastVertex' might be wrong (#2380) by @andiwand, updated on 2024-06-25

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- Stale [Feature Request] Padding utility for field map in case tracking volume is larger than a given field map (#2523) by @ianheinri. updated on 2024-06-25
- ▶ **Stale** Bug: Fatras sets step size to 0 (#2543) by @andiwand, updated on 2024-06-25

- ▶ \$\times\$ Stale feat: introduction obj simhit writer (#3180) by @asalzburger, no reviewer, updated on 2024-06-15
- 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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- 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
- 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

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- Stale perf: CKF measurement selector runs after track state creation (#3081) by @andiwand, updated on 2024-05-05
- by @andiwand, updated on 2024-05-05
- ► 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 'AdaptiveGridTrackDensity' has a hidden 'd0' cut (#2840) by @andiwand, updated on 2024-01-17

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- 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
- 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

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- ► Stale FPE: AMVF keepNewVertex (#2590) by @andiwand, updated on 2023-11-26
- 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 @ianheinri, updated on 2023-11-09
- ► Stale Expand TrackingGeometry building from DD4hep with user given input (#2403) by @asalzburger, updated on 2023-09-27

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- ▶ **Stale FPE: GaussianMixtureReduction** (#2347) by @paulgessinger, updated on 2023-09-03

- 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

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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: Unpredicatable 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
- ▶ **Optimal seeding parameters for a detector** (#1699) by @CouthuresJeremy, updated on 2023-01-05

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- ► 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: Plugins (#1421) 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

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- Stale Some writers performs their writes in the destructor (#881) by @paulgessinger, updated on 2022-08-11

- ► Stale Bug: issue on first build after DD4hep update on system with globaly 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 BoundingBox tests fail on double precision (#752) by @paulgessinger, updated on 2021-11-04