Track Reconstruction
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Acts 1/5

- Common utilities
  - Drop ActsScalar, just make everything double #3894 #3873
  - Add « overloaded » sugar to make std::visit easier to use

- EDM4hep support
  - Support both versions <0.99 and ≥0.99
  - Optimize readout by delaying sorting

Acts 2/5

- Gen3 geometry
  - Geometry builder based on the blueprint mechanism
  - Visualization of inter-volume portals
  - ProtoAxis replaces ProtoBinning/BinUtility #4034 #4045
  - Cuboid volume stack
  - Planar portal link

Acts 3/5

- Track parameter estimation :

  – Remove useless magnetic field check API

  – Deduplicate free vs bound estimation #3866 #3832

- Exa.TrkX

  – Various code & build system cleanups

  – Add CUDA connected components and track building

Acts 4/5

- Propagation
  - Can use Geant4 as a reference stepper for validation
  - Piecewise constant B-field
  - Refactor of propagator/stepper/navigator interactions
    - Stepper only sees its own subset of propagator state
    - Clean stepper update, ConstrainedStep #3986 #4013
    - Decouple navigator and stepper state

Acts 5/5

- Track fitting
  - Optimize MultiTrajectory by avoiding double initialization
  - Split global chi² fitter in multiple compilation units

- ML ambiguity solver
  - Rewrite ambires for clarity, add hit selection callback
  - Move to core lib, remove inferior DBScan clustering

algebra-plugins

- C++20 switch : new compilers & workarounds, add concepts
- Add a matrix type + benchmarks for Vc types

- Deep matrix API rework
  - General simplification
  - More generic cmath frontend
  - In-place operations
  - WIP row/column getters

detray

- Optimize random access iterators
- Switch back to full genericity over float type
- Misaligned view of a detector

- Make benchmarks more extensive/easier to run #885 #404
  - Add CLI runner and python plotting wrappers

traccc

- Silicon detector cell CSV export

- OneAPI 2025 / SYCL 2020 compatibility #793 #799

- Enable more Alpaka backends : SYCL compat, add to CI

- SYCL track finding example

- Reduce reliance on deprecated Thrust #790 #814 #815 #819

- WIP Introduce Acts-style loggers

Thanks for your attention !