SHOE Status

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Intro

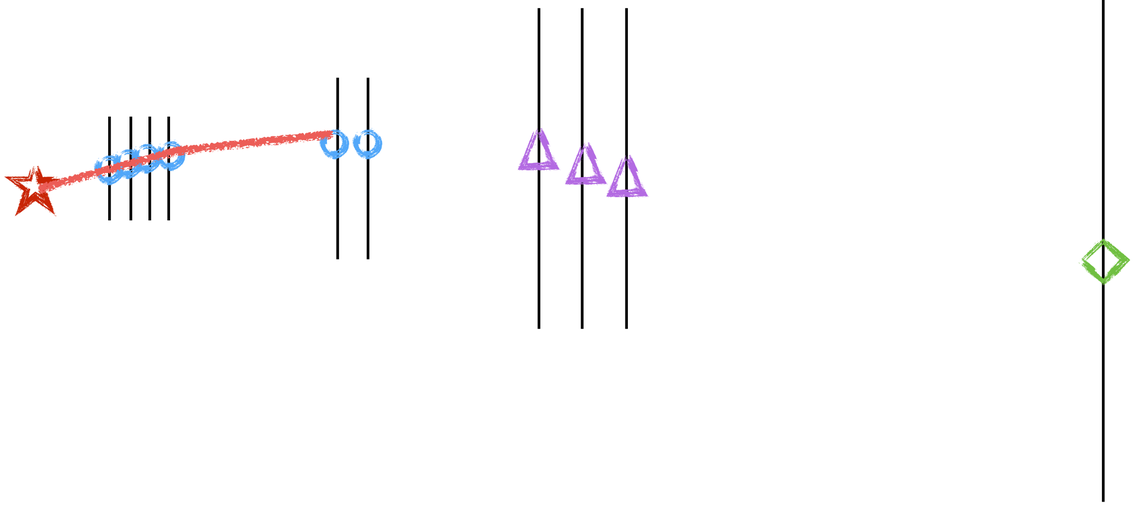
- Branch to currently use is newgeom_v1.0
- Latest version and compatible with the GSI data configuration
- CALO geometry included in newgeom_v1.0
- Updated MC sample according with latest geometry in /gpfs_data/local/foot/Simulation/newgeom_v1.0 with 10^7 primary events.

Level-0

- Most of the level0 part is ok, for the precision we need now.
- Need to move to Full Reconstruction level
  - Global track reconstruction (quality criteria, track preselection, efficiencies, …)
  - Event building (Hit matching, …)
  - Charge reconstruction
  - Analysis chain

Global tracking

- General idea: reconstruct the fragments tracks starting from VT+IT+MSD(+TW) hits using Kalman Filter. Very good performance tested already on MC and old configuration.
  - Validation of the current setup ongoing
- Strategy in pills:
  - Using the interaction point as a seed
  - Starting using clusters from VTX simple straight tracks
  - Extrapolate each one to the IT. Find the closer cluster in 2 possible ways:
    - Form MC PDFs
    - Kalman prefit
  - Redo the same for MSD hits
  - Extrapolate to Scintillator and retrive the charge -> use it for P evaluation



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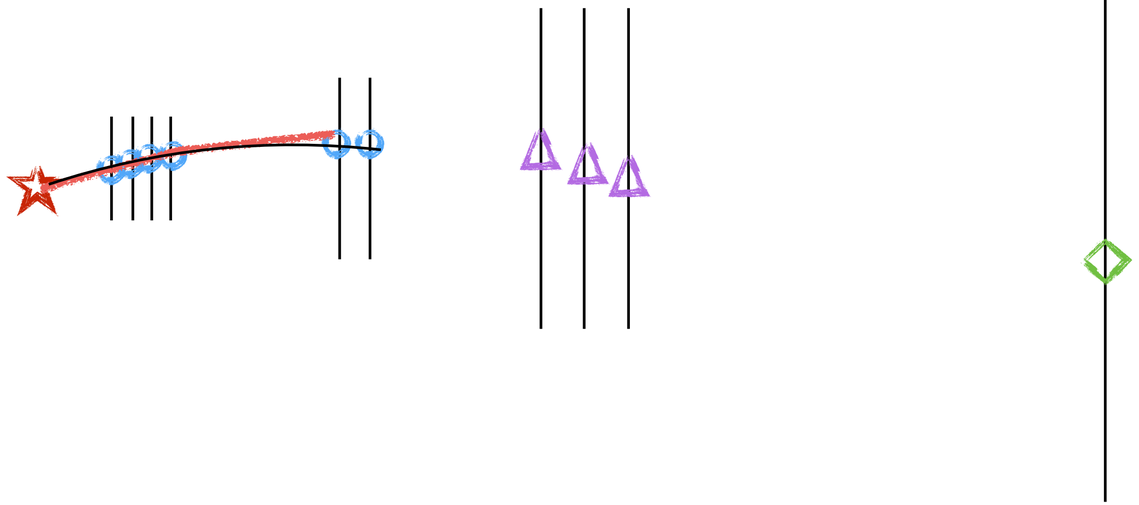

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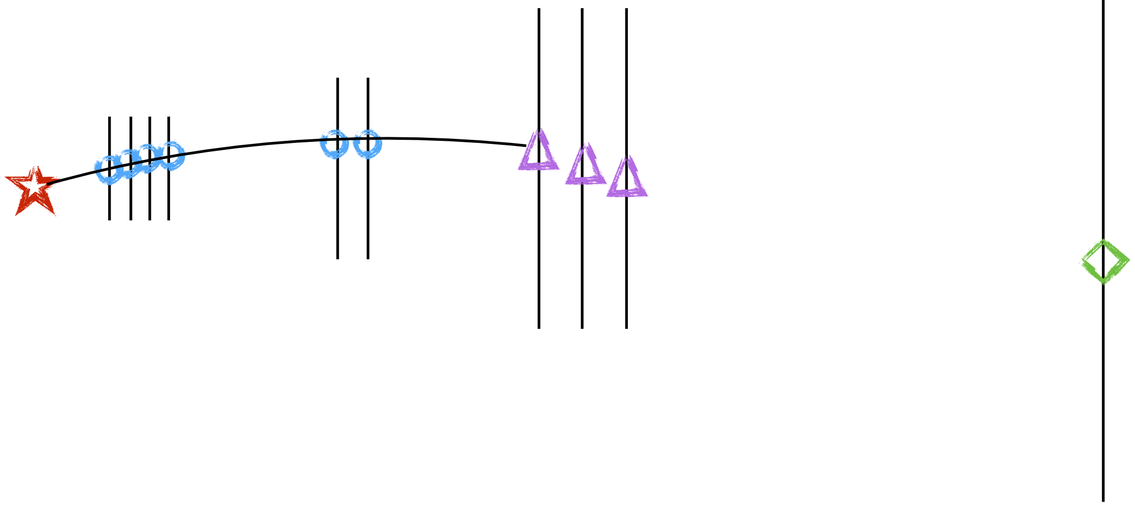

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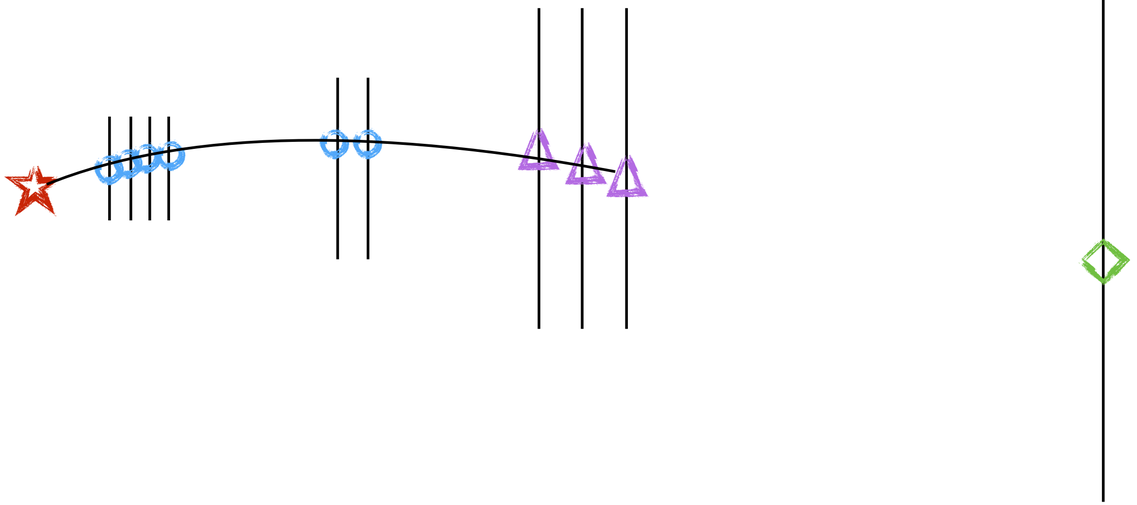

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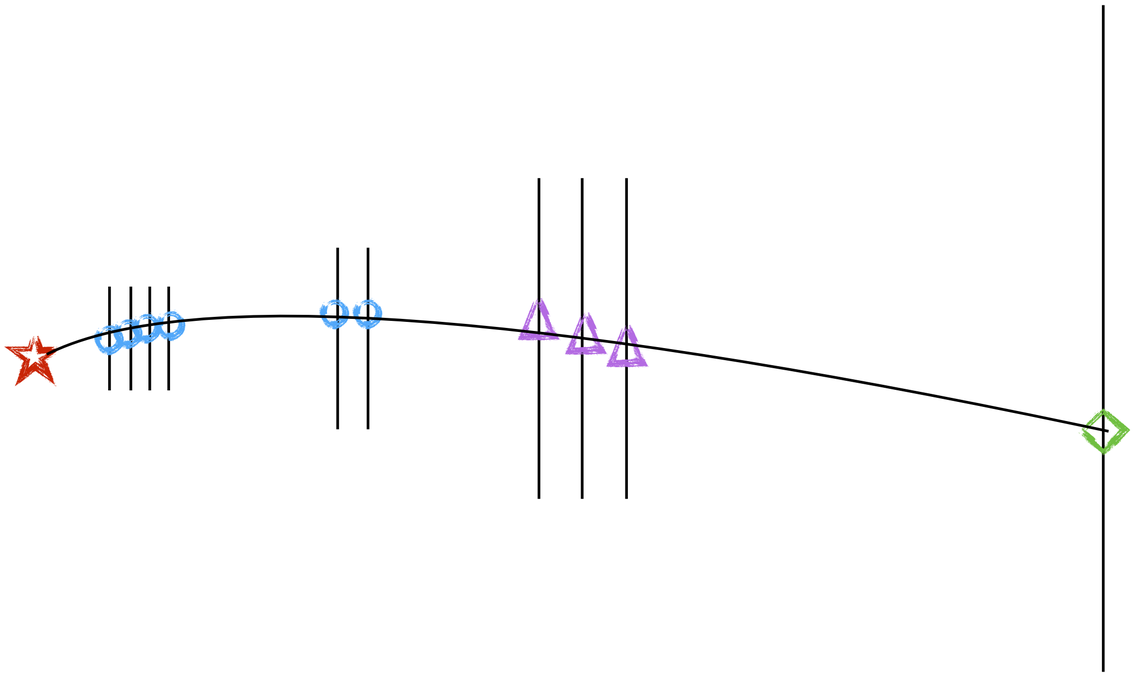

Global tracking

- Start from MC closure test
- Quality criteria for clusters and events
- Find the best criteria to select the track hits (min hits required, bet on initial P, iterative process, …)
- Possible to reduce/eliminate ghosts in MSD and TW

Plans

- General meeting in Rome:
  - I'll try to collect all the efforts spent in these months.
  - Please send me everything (about software) you want to be presented or the points you want to discuss

Backup

Take a breath after Beam Test

Wake up!

September 2019
- MSD software structure ready
- CALO geometry
- CALO basic software structure ready
- Revive MC Global tracking

Software meeting

December

Data Building and understanding

2019

April

July (end?)
Software meeting

End of 2019
- IT, MSD, CALO complete software
- FullRec ready
- Global Tracking completed
- Analysis code in SHOE
- **Full FOOT setup complete!**

2020 goal
prepare and optimise code for data acquisition