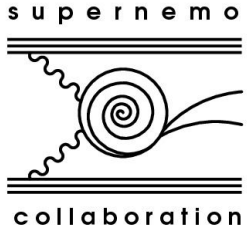
Data processing

Xalbat and Mathis



Data processing up to PTD

Proposition of a common reconstruction up to PTD for simulation:

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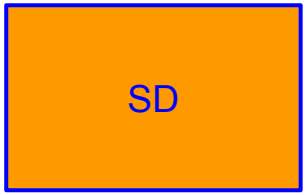

Proposition of a common reconstruction up to PTD for simulation:

SimRC: application of detector real condition

- Kill OM:
  - If dead, killed
  - If no calibration, killed (in % of no calibration time)

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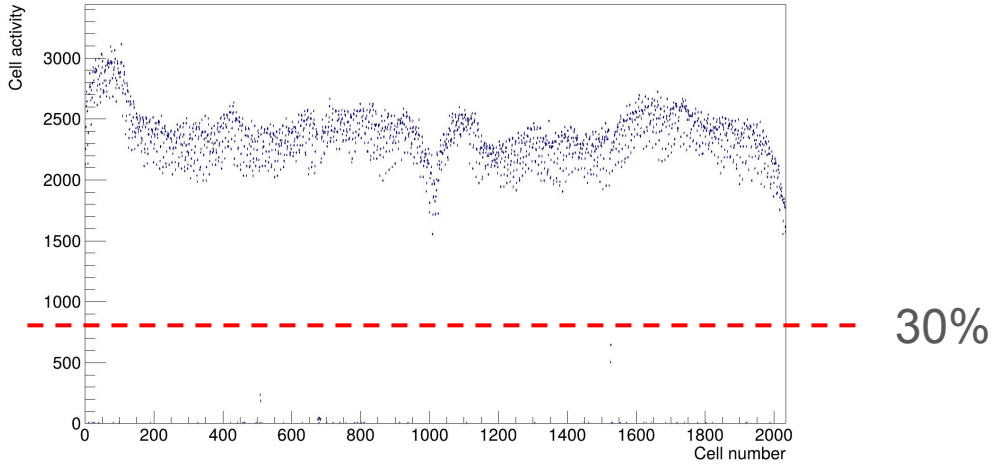

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- Kill cells:
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- Activity model:
  - Rn activity (from Antoine)

Proposition of a common reconstruction up to PTD for simulation:

Application of a mock calibration:

- Optical correction
- Energy resolution
- Radius to time

https://github.com/SuperNEMO-DBD/Falaise/blob/1c025b9b739e277137f9f3bc45eef8feff4f5e2b/source/falaise/snemo/processing/mock_calorimeter_s2c_module.cc
https://github.com/SuperNEMO-DBD/Falaise/blob/1c025b9b739e277137f9f3bc45eef8feff4f5e2b/source/falaise/snemo/processing/mock_tracker_s2c_module.cc

Proposition of a common reconstruction up to PTD for simulation:

Kill OM, gg cell, radius maximum cut, energy threshold, …

https://gitlab.in2p3.fr/emchauve/falaise-cd2udd

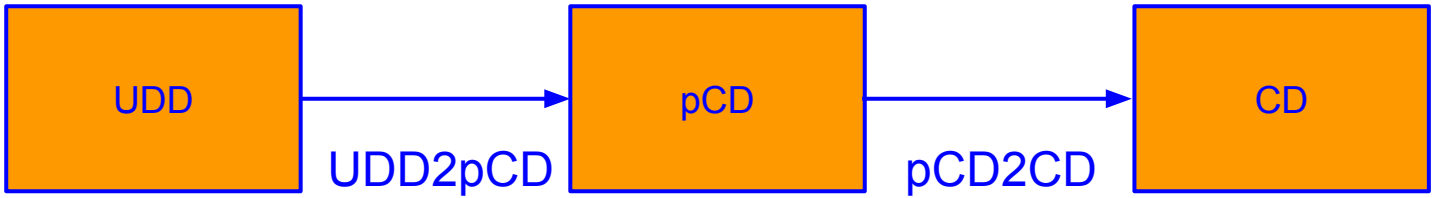
UDD2pCD

Proposition of a common reconstruction up to PTD for simulation:

Pre-calibration (drift time, pre clusterisation…)

https://github.com/SuperNEMO-DBD/Falaise/blob/1c025b9b739e277137f9f3bc45eef8feff4f5e2b/source/falaise/snemo/processing/udd2pcd_module.cc#L35

Proposition of a common reconstruction up to PTD for simulation:



Energy calibration, time calibration, z and r calculation, …

https://github.com/SuperNEMO-DBD/Falaise/blob/1c025b9b739e277137f9f3bc45eef8feff4f5e2b/source/falaise/snemo/processing/pcd2cd_module.cc#L35

Cimrman + charged particle reconstruction

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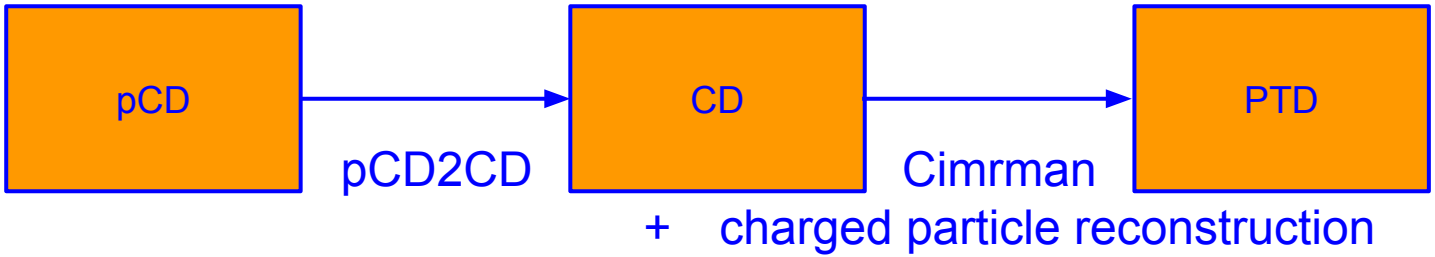


Clustering, tracking algorithm, track fitting, vertex extrapolation, parameter optimization (see Tomas talk for Cimrman)

https://github.com/TomasKrizak/CimrmanModule.git

https://nile.hep.utexas.edu/cgi-bin/DocDB/ut-nemo/private/ShowDocument?docid=6186

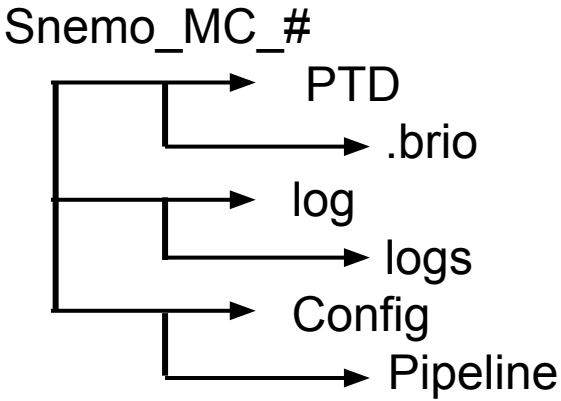
https://github.com/SuperNEMO-DBD/Falaise/blob/1c025b9b739e277137f9f3bc45eef8feff4f5e2b/modules/ChargedParticleTracking/ChargedParticleTracking/charged_particle_tracking_module.cc#L122

Outcome of the pipeline

Pipeline ready /sps/nemo/scratch/granjon/simRC

Ready to launch reconstruction to ptd.brio

Output of the pipeline:



Proposal for data processing

Proposal to launch reconstruction next week on correct simulation:

Estimation (from □□ run reconstruction, the biggest reconstruction):

- 45T max (- 20T that we'll store on Irods)
- Each simulated element will take 45 to 120h of running

Relaunch the source foil simulation as fast as they are done