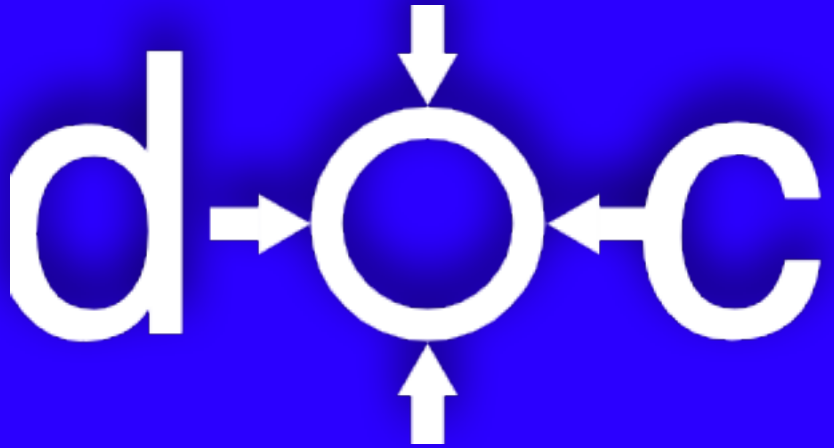
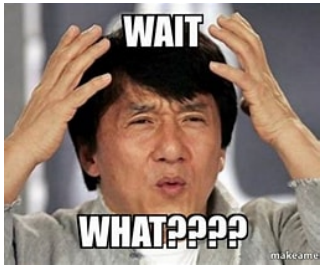
From Chaos to Clarity: CBM documentation



CBM week, Oct. 2025

CBMROOT / Analysis documentation:

- Who of us not had/has problem with understanding the code of our colleagues?
- How about the beginners with less knowledge of the framework? Especially when there is no overlap with the seniors.




```
  fHM->H1("fhMCTrueParticles")->Fill(4);

  TLorentzVector lorVec1;
  mctrack->Get4Momentum(lorVec1);
  MCCascadeProton* fMCCascadeProton = new MCCascadeProton();
  fMCCascadeProton->fLorentzVector  = lorVec1;
  fMCCascadeProton->fTrack          = mctrack;
  fMCCascadeProton->motherID        = mctrack->GetMotherId();
  fMCCascadeProton->ID              = iTrack;

  fMCCascadeProtonCands.push_back(fMCCascadeProton);
}

if (pdg == PDGPion && mctrack->GetCharge() < 0) {

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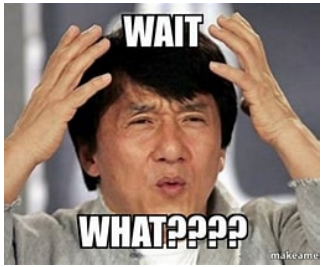


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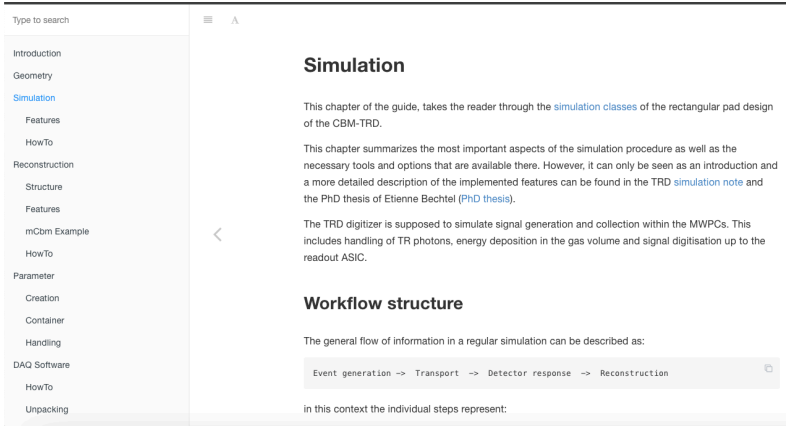
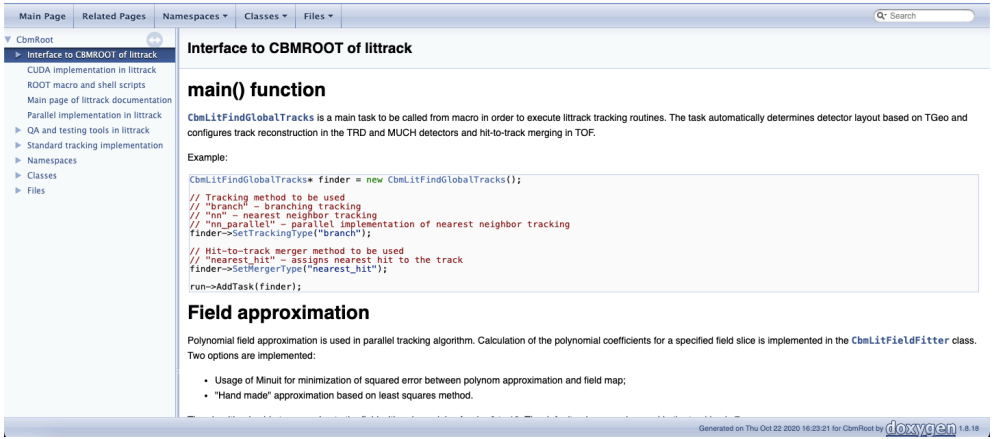
Many questions! one solution! — Documentation

Do we not have any?



TRD group

CbmRoot



Littrack

Background:

- Discussion with the physics coordinators: Anton and Chris: Necessary for detailed documentation of the CBMROOT/analysis framework.
- Idea to involve Juniors in developing a skeleton of the documentation, as we are the main users.
- We had internal discussion on November, 2024 and we overwhelmingly endorsed our efforts to engage and contribute to the documentation.
- Last CM in GSI, a task force is formed to make a skeleton of the documentation.

CBMROOT doc is ready:

Pavish

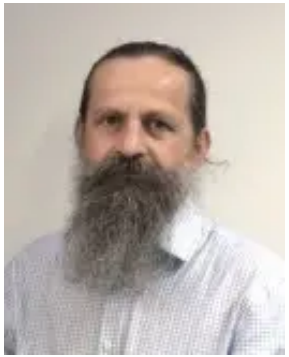
Abhishek

Adrian

Thanks:

Karl-Heinz

Christian



Anton

Chris

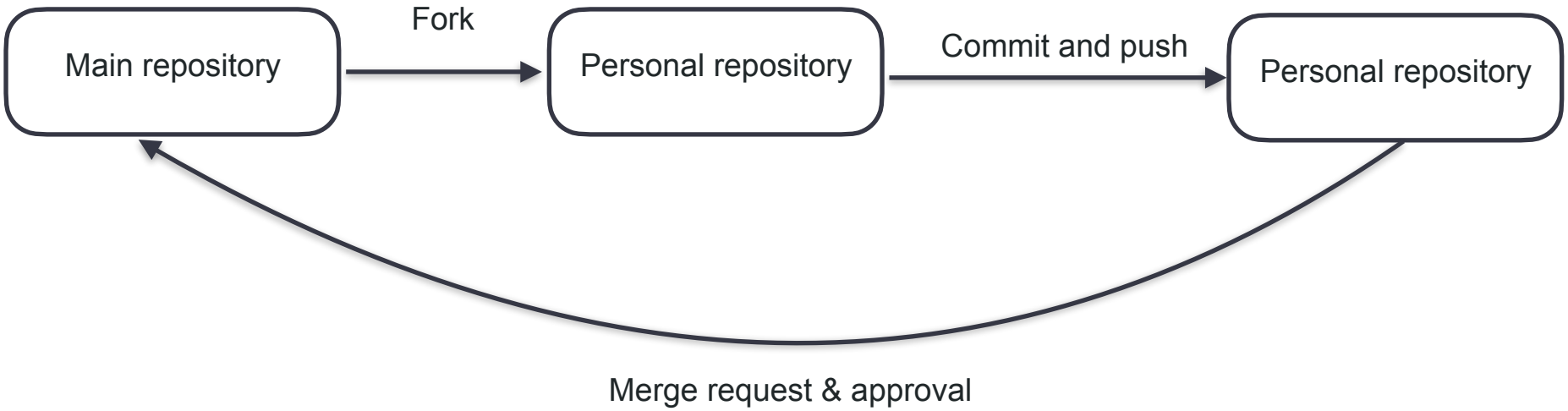
Tetyana

CBMROOT doc is ready:

At present available in: *https://git.cbm.gsi.de/a_meye37_AT_uni-muenster.de/cbmroot-doc*

At present deployed in: *https://cbmroot-doc-8ae785.gitpages.cbm.gsi.de/*

Workflow:


Main repository
Fork
Personal repository
Commit and push
Personal repository
Merge request & approval

Features:

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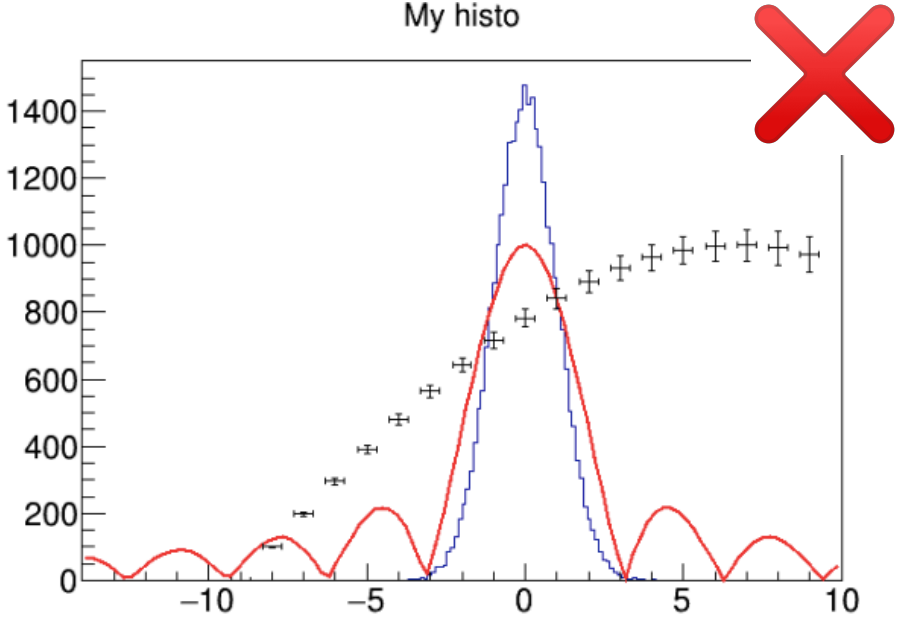
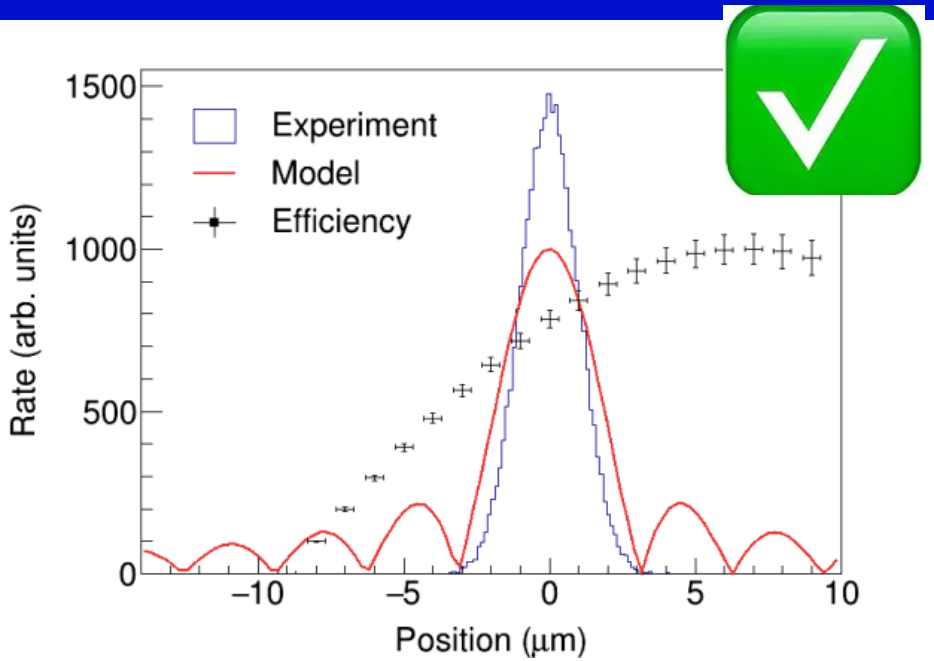
1. Getting started -> First steps towards analysis - Accounts - Installation- possibly tutorials.
2. Dedicated sections for simulation (Transport, Digi), Unpackers, Reconstruction, Various analysis frameworks.
3. Dedicated section for mCBM : Geometries, datasets and parameters, methods for Lambda reco.
4. External tools: Usage and documentation of Analysis tree, KFParticle, Femto, KinFit, …
5. FAQs
6. Contributing to the documentation - Section explaining “How to” setup, edit and test the documentation.
7. *Summary page for easy click access - ALICE O2*

Best plotting practises:





Krzysztof Piasecki, Juniors seminar

https://indico.gsi.de/event/20920/contributions/84211/attachments/49315/71948/k.piasecki_good_plot_root.pdf

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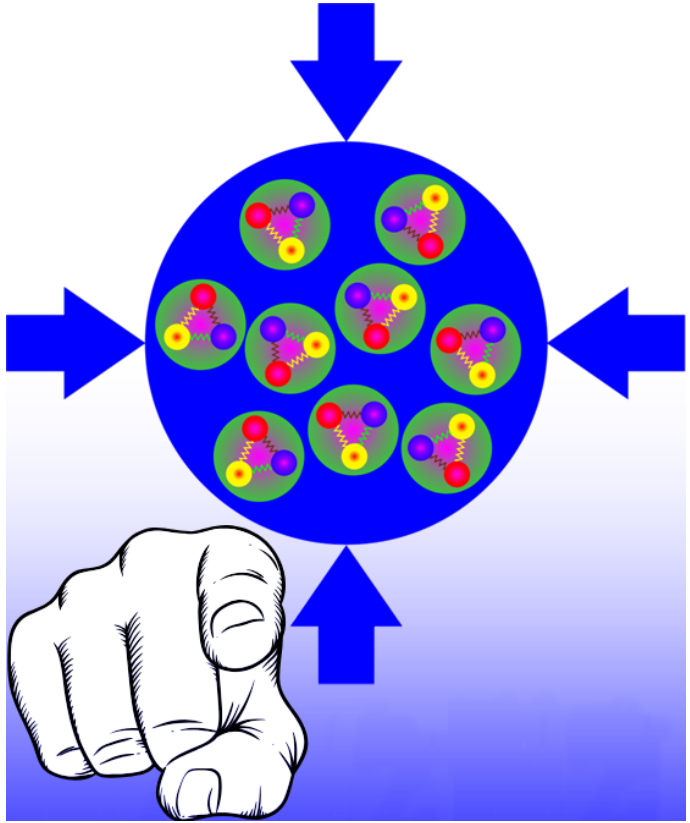
8. ***Best practices for plots***

CBMROOT doc is ready:

It is skeleton : Please contribute and build the repository..

From the words of Adrian the great:

“CBM needs you! This documentation lives from and depends on the contributions by all CBM members. Please consider sharing your knowledge by adding chapters, sections or sentences, no matter how small”



Thank you