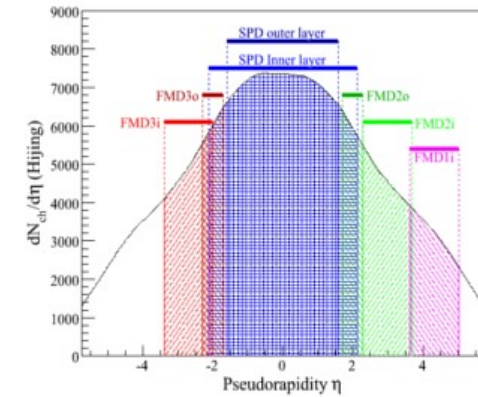




ALICE FMD offline update - offline week March 2010

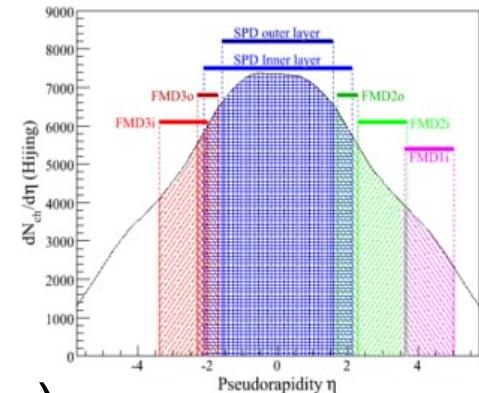
Hans Hjersing Dalsgaard,
Niels Bohr Institute,
University of Copenhagen

- Calibration
- Simulation
- Raw Data
- Reconstruction
- Quality Assurance
- Geometry
- Material Budget





Calibration

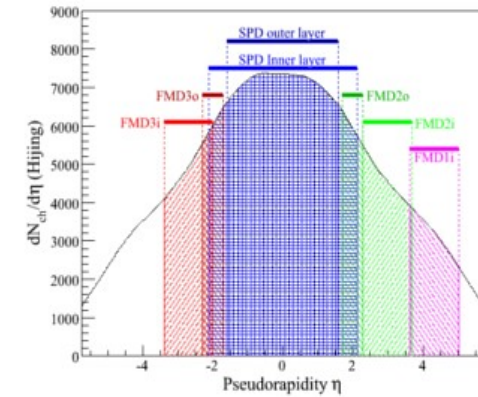


- Offline calibration done by detector algorithms (DAs).
- 3 FMD DAs: BaseDA, GainDA and PedestalDA.
- The FMD DAs are in AliRoot.
- The FMD preprocessor is also in AliRoot.
- DAs and preprocessor tested extensively during data taking.
- Status: Done.



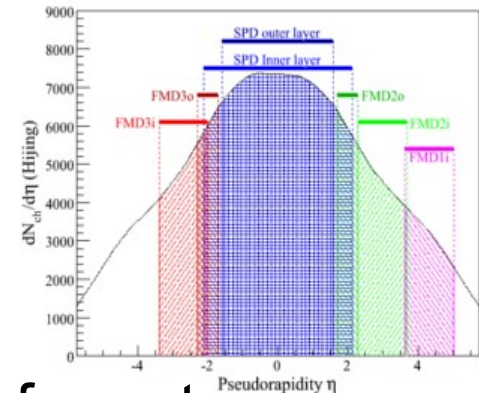
Simulation

- Simulation produces hits, digits and sdigits.
- Tested extensively through several productions.
- data/galice.cuts updated to introduce lower energy cuts and delta electrons in FMD material.
- Status: Done.





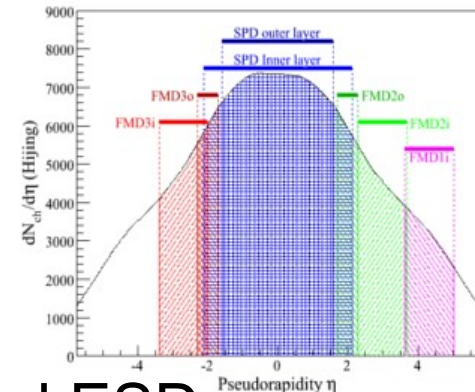
Raw Data



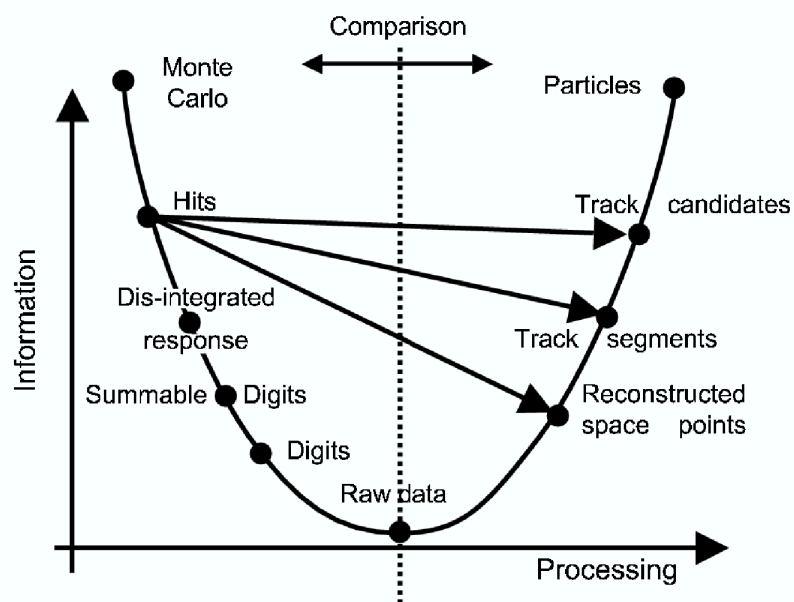
- Raw data format follows the ALTRO format, ie. the format decoded by Cvetans RAW code.
- For the first run we ran with zero suppression which reduces the raw data size significantly.
- The zero suppressed raw data has been tested thoroughly during the first ALICE run in December.
- Status: Done.



Reconstruction

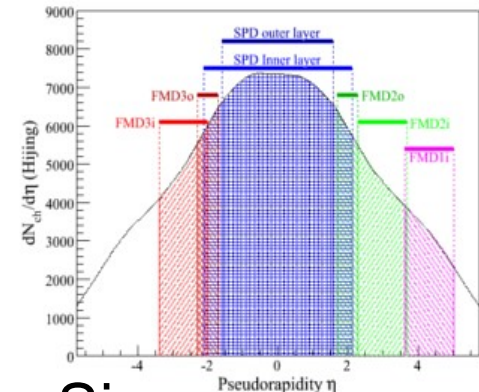


- FMD reconstructions produces digits, rec points and ESD objects.
- Tested extensively in productions and with the data from the first run.
- Last minute bug fix for the case where reconstruction is done from raw data – this bug could only reveal itself with hits in the detector yet the fix was simple.
- Status: Done.





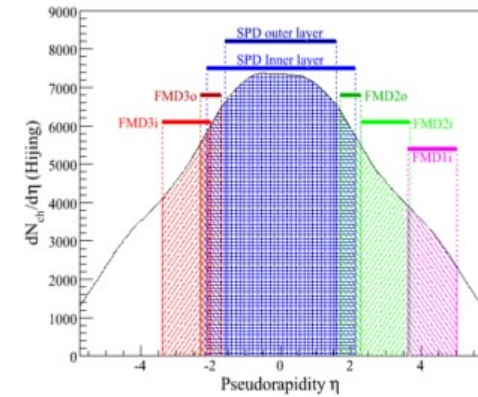
Quality Assurance



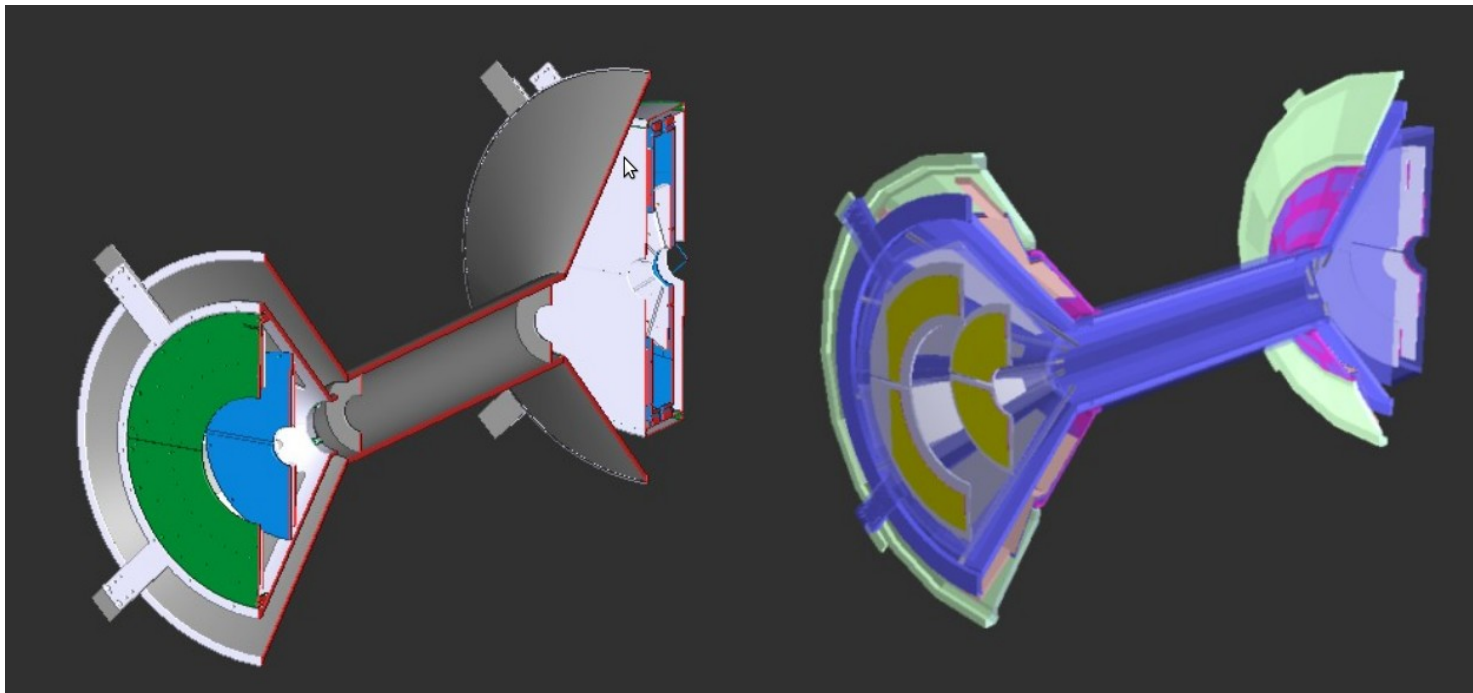
- AliFMDQADataMakerRec and AliFMDQADataMakerSim are implemented, corresponding reference data.
- The reference distributions were updated following last offline week.
- If need arises we will upgrade the code accordingly.
- Status: Done (with room for improvement)



Geometry

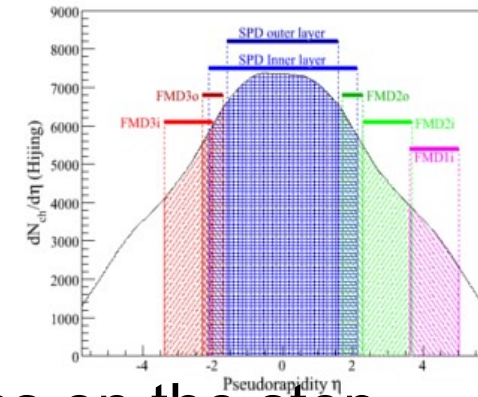


- Status: Done.
- Ongoing discussion with the ITS about the geometry in front of the FMD





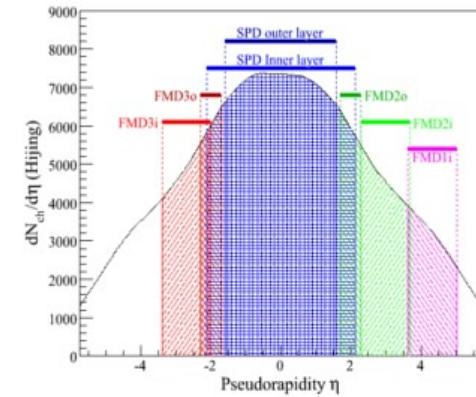
Material Budget



- We should study the dependence of the simulations on the step size.
- With the present analysis in mind we should probably get this done soon.
- Status: Postponed



Conclusions



- Basically done with core stuff.
 - Review of geometry is in progress in support of the analysis
- Focus now on analysis methods and corrections.
 - The FMD has been included in subgroup 'FORWARD' under PWG2.
 - The simulations produces to few secondary particles compared to data.
 - Introducing (low energy) delta electrons in the FMD had a significant effect but we are still missing $\sim 10\%$ of the particles we see in the data.
 - It has been suggested that an envelope of air around the ITS and FMD/V0 was implemented. Is this something core offline / geometry have plans for ? This would allow the tuning of GEANT tracking cuts in this particular region of air in front of the FMD.