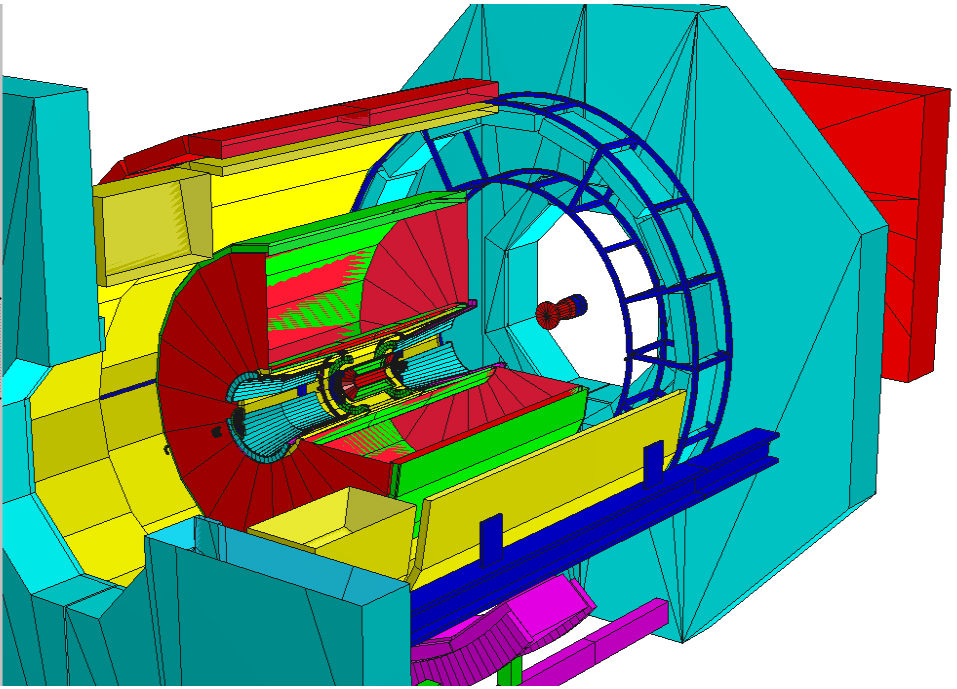
EVO-SiLC meeting

Alexandre CHARPY

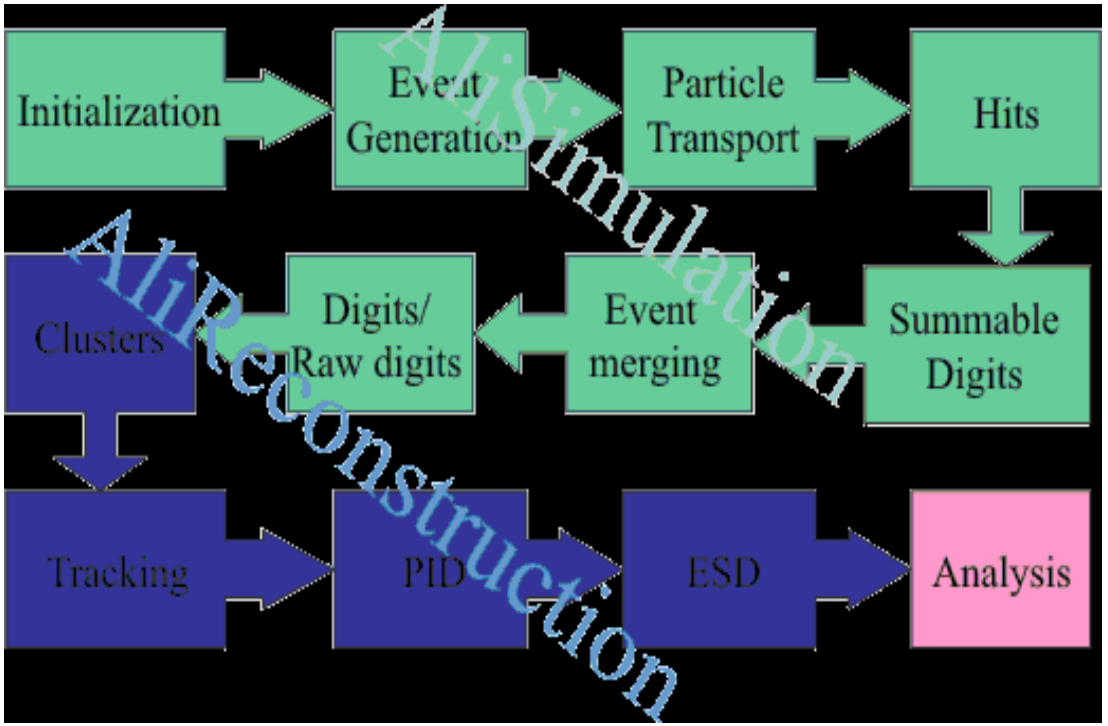
Simulation Status @ LPNHE

Proposal for ILD tracking full simulation

AliRoot to IlcRoot

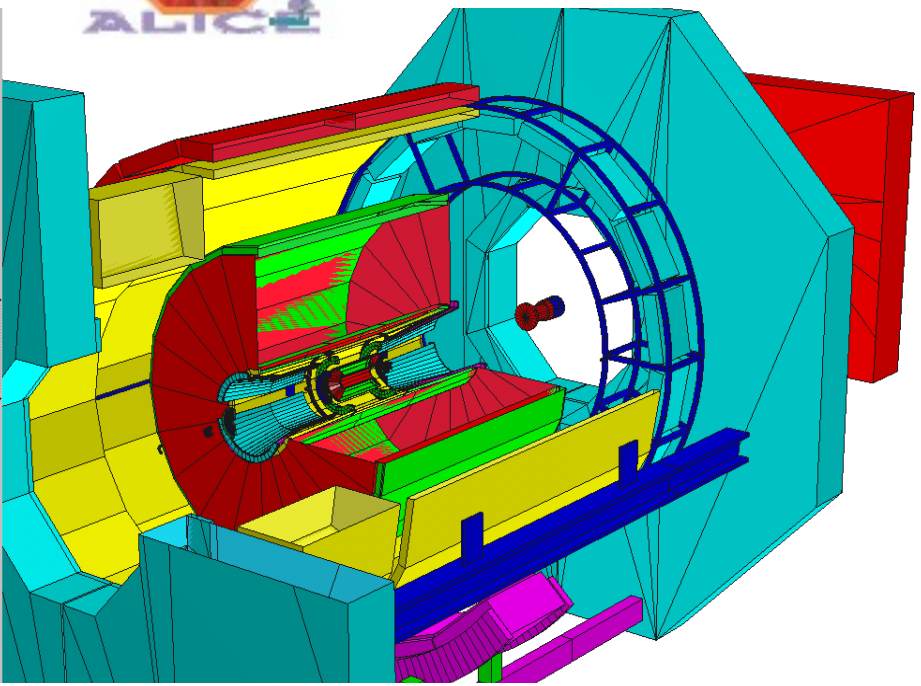


ALICE



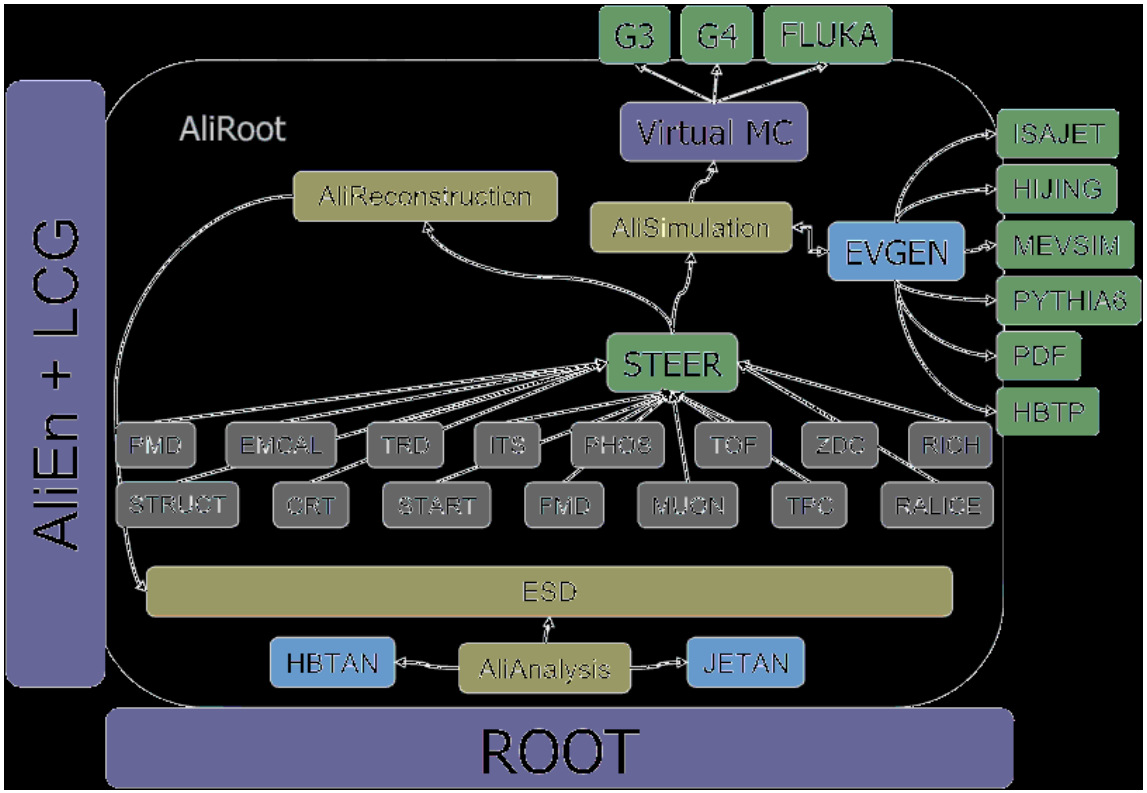
http://aliceinfo.cern.ch/Offline

AliRoot to IlcRoot



ALICE

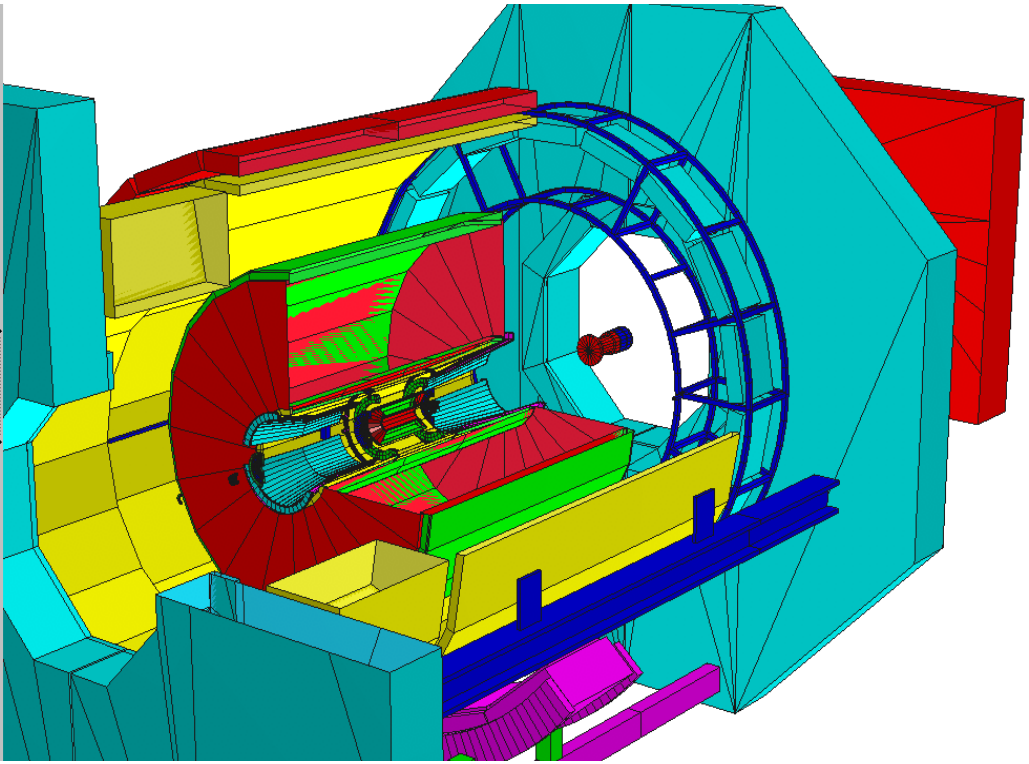
Aliroot Architecture



http://aliceinfo.cern.ch/Offline

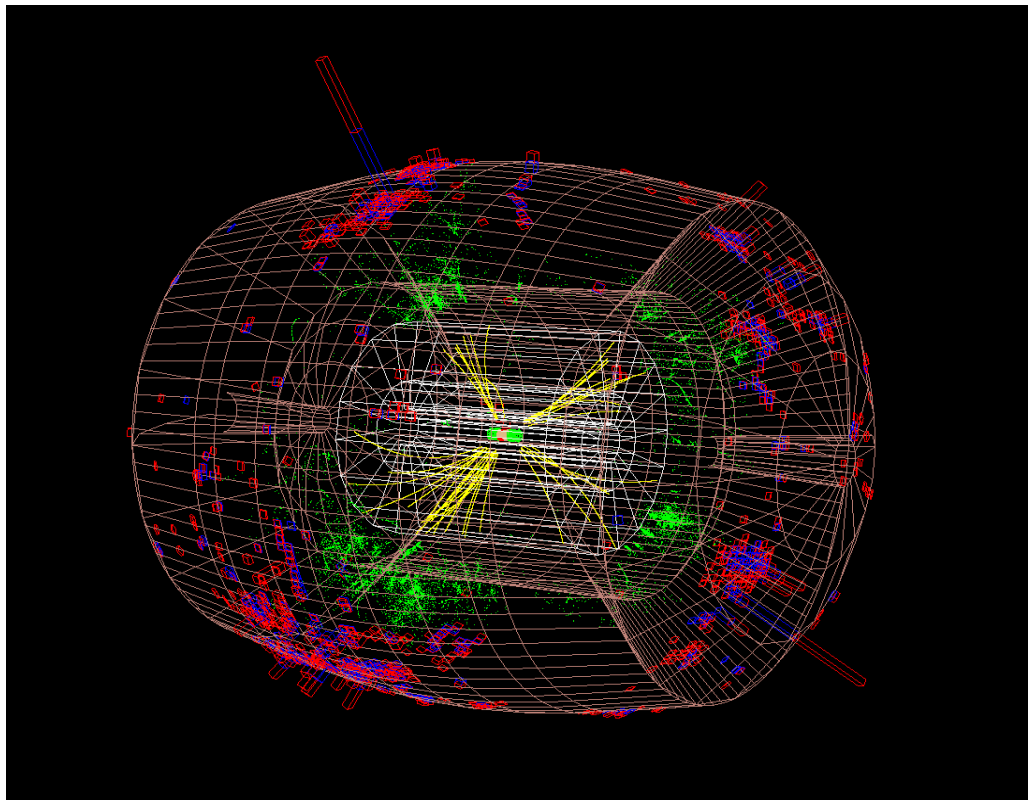
AliRoot to IlcRoot

(similarity)



ALICE

4th

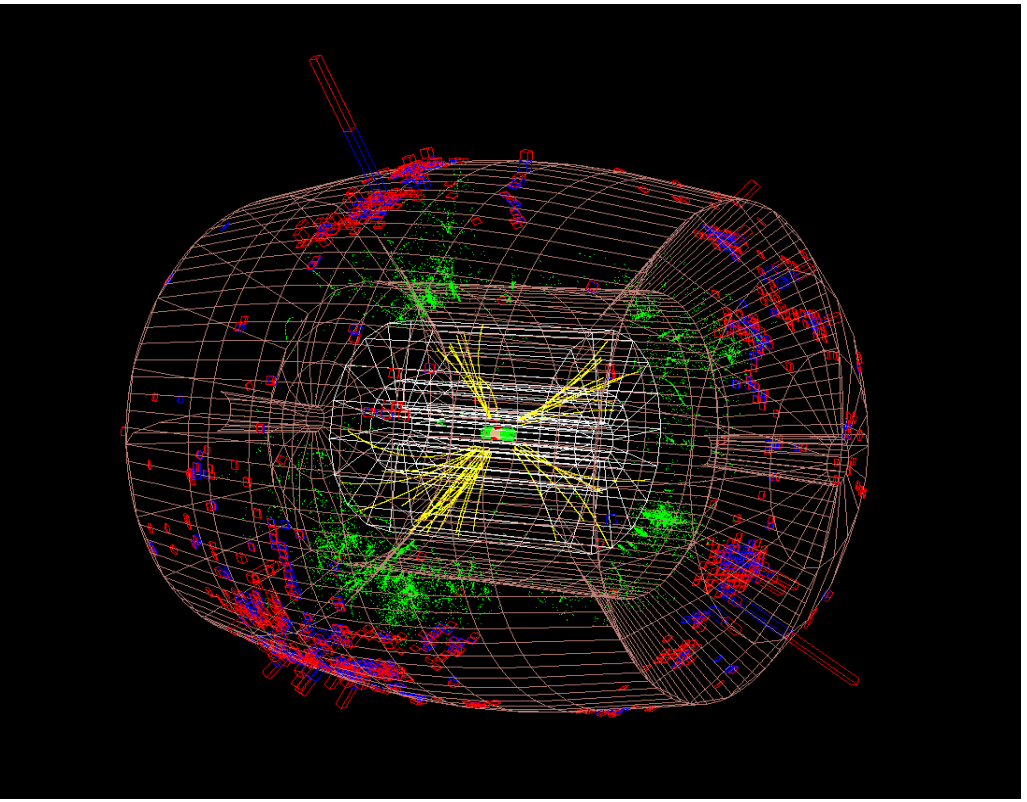


http://aliceinfo.cern.ch/Offline
www.4thconcept.org/

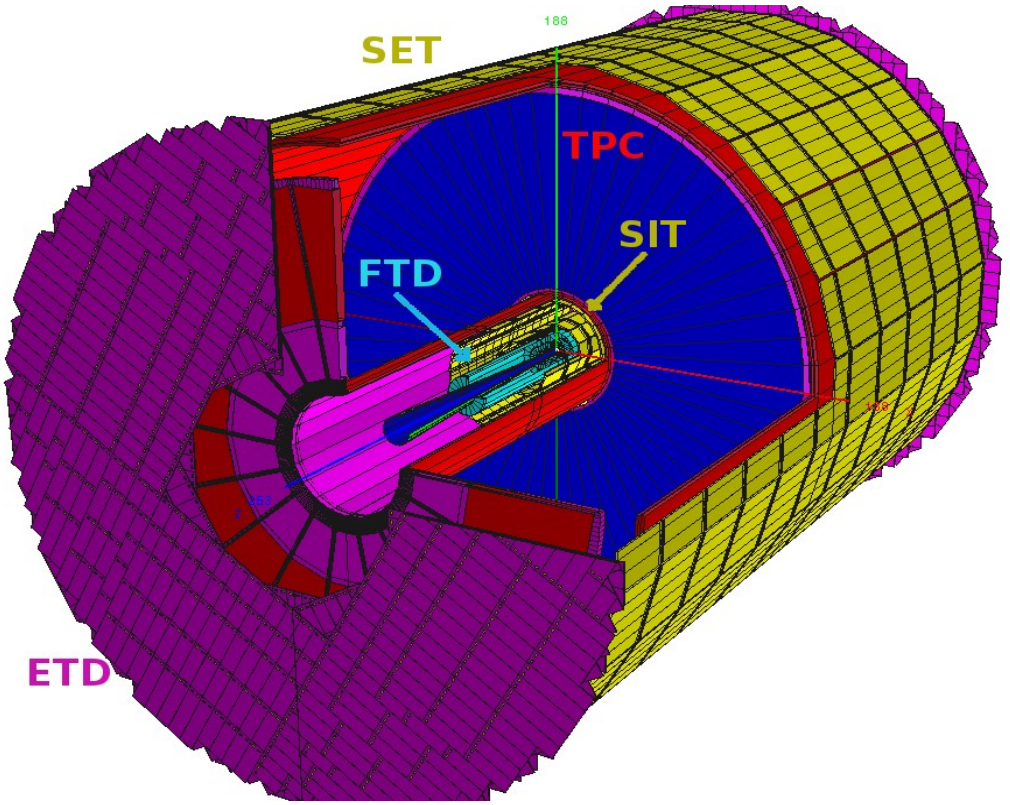
AliRoot to IlcRoot

(similarity)

4th

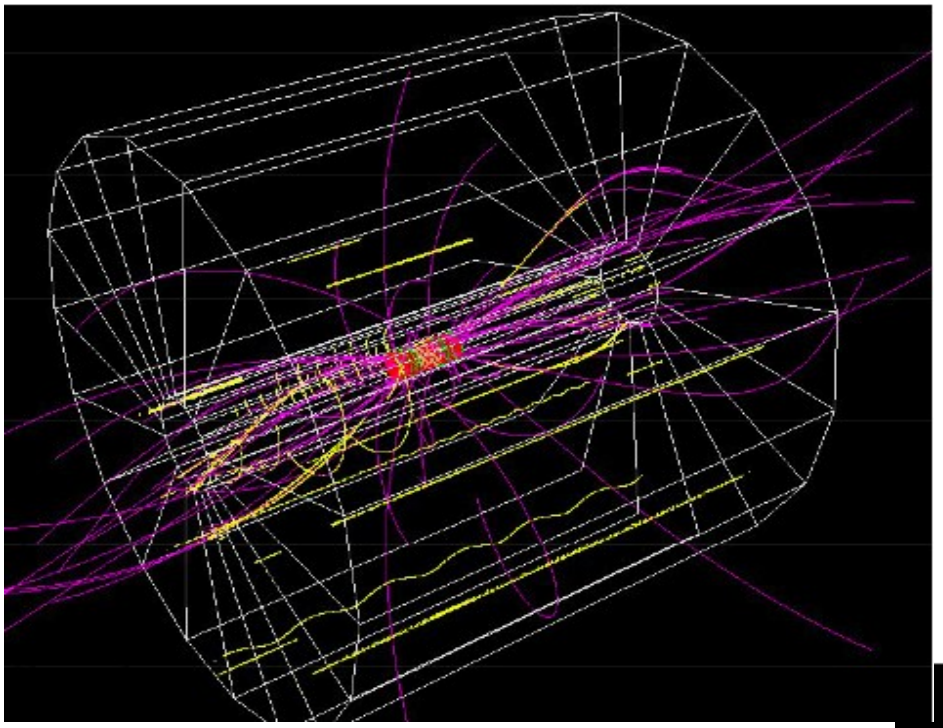


ILD tracking



Great thanks to C.Gatto, A.Mazzacane, V.Di Benedetto,
G. Terracciano, F. Igantov, M.Rucco, GP.Yeh & al
For their collaboration

IlcRoot is working and easy to use
(see LCWS 2007!!!)

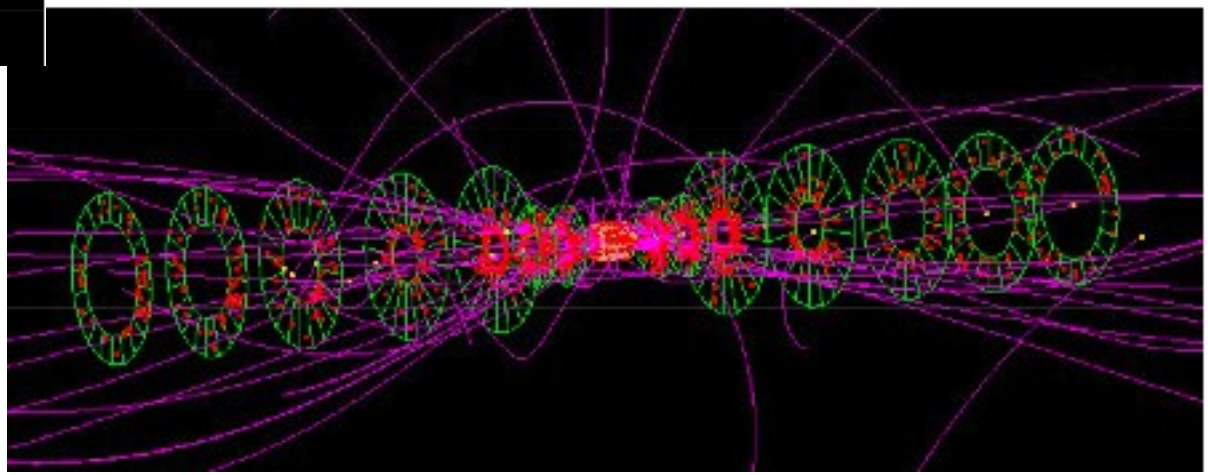


VXD + ALICE TPC configuration

For simulation results, see the different talks of Corrado & al since 2007

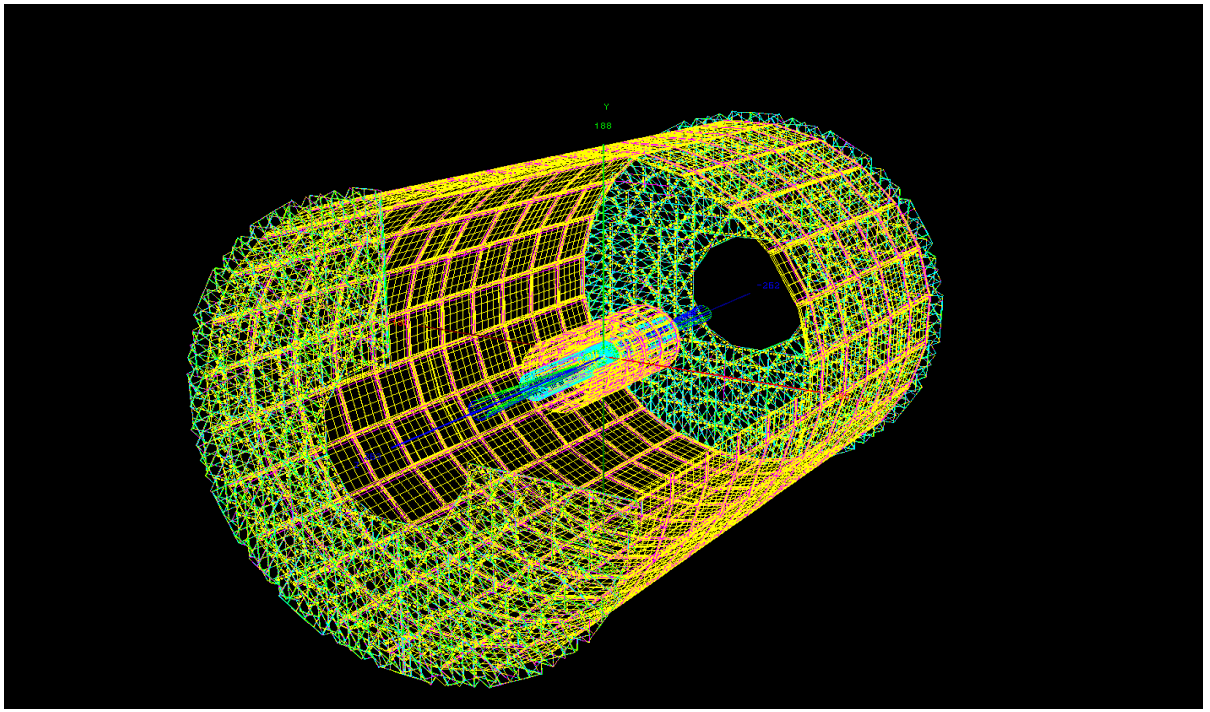
A lots of macro analysis tools already exist:
see A.Mazzacane & al talks

VXD + FTD configuration



Si-Trackers in IlcRoot
(Current Status)

- SiTracker is included in VXD modules (temporary)
  - Different way to import geometry (gdml file or RootGeant)
  - Different configuration already exists (TPC/DCH, DREAM, etc …)
  - Many version version of configuration already exist – ex: LDC: VXD+FTD, ILD..



But lots of fixed parameters

=> goal: more flexible geometry builder for full simulation studies and easier

Si-Trackers in IlcRoot

(Current Status and idea)

- Goal: more flexible for full simulation studies and easier
  - Two configurations file (.C file to enable/disable detectors, .xml file for SiTracking geometry builder)
  - Parameters:
    - Barrel
    - ETD
    - FTD
  - Example of xml file
- need to adapt the algorithm for reconstruction → include the different parameters in Kalman filter (F.Ignatov)

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Si-Trackers in IlcRoot

(Current Status and idea)

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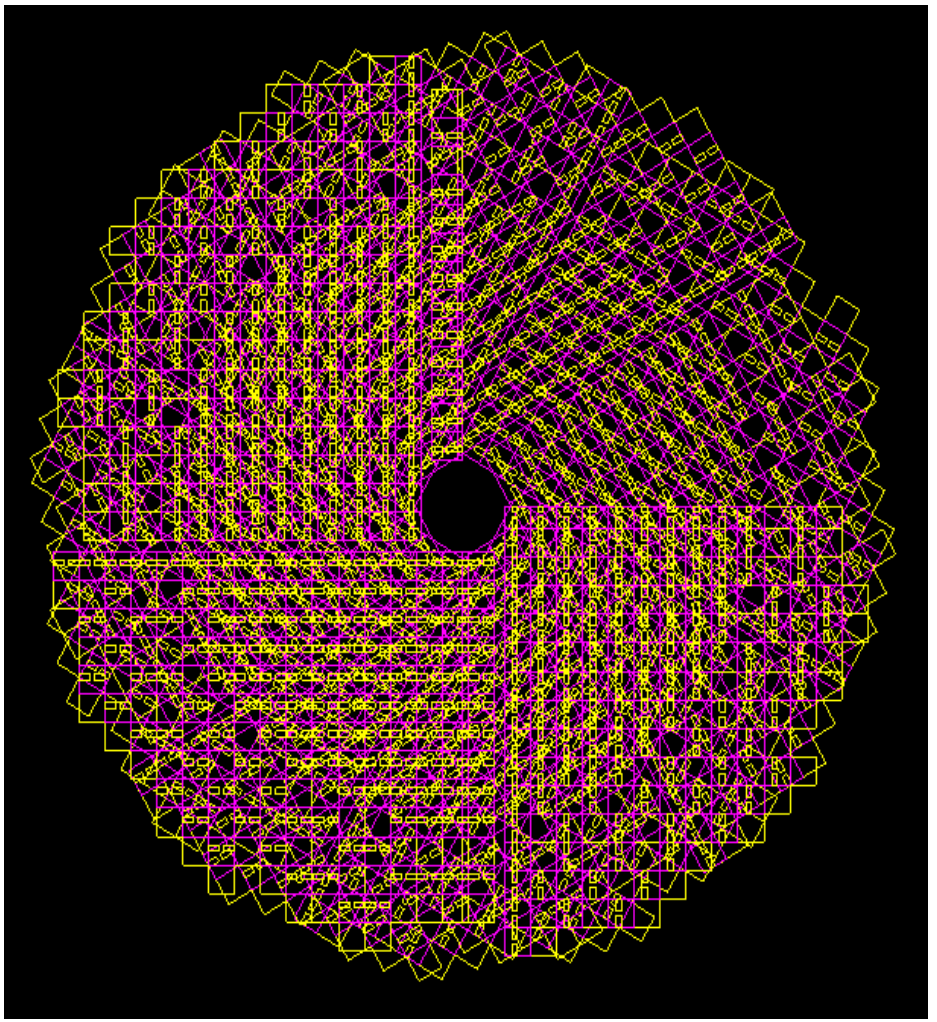
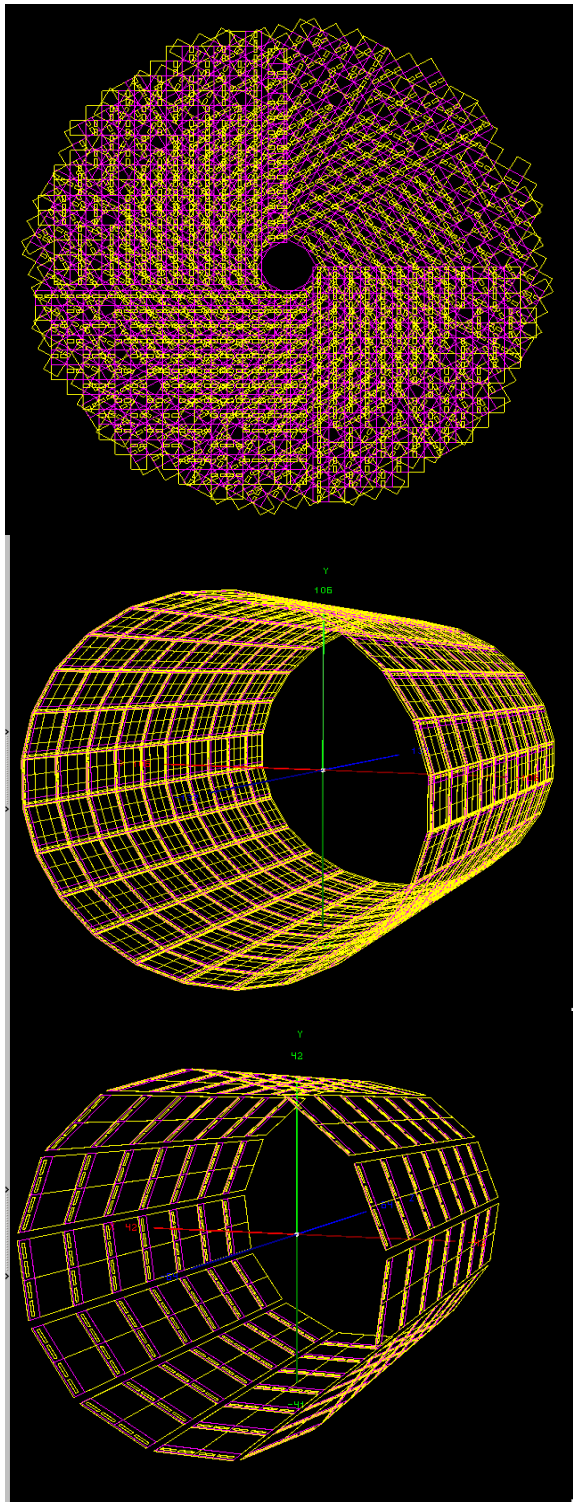
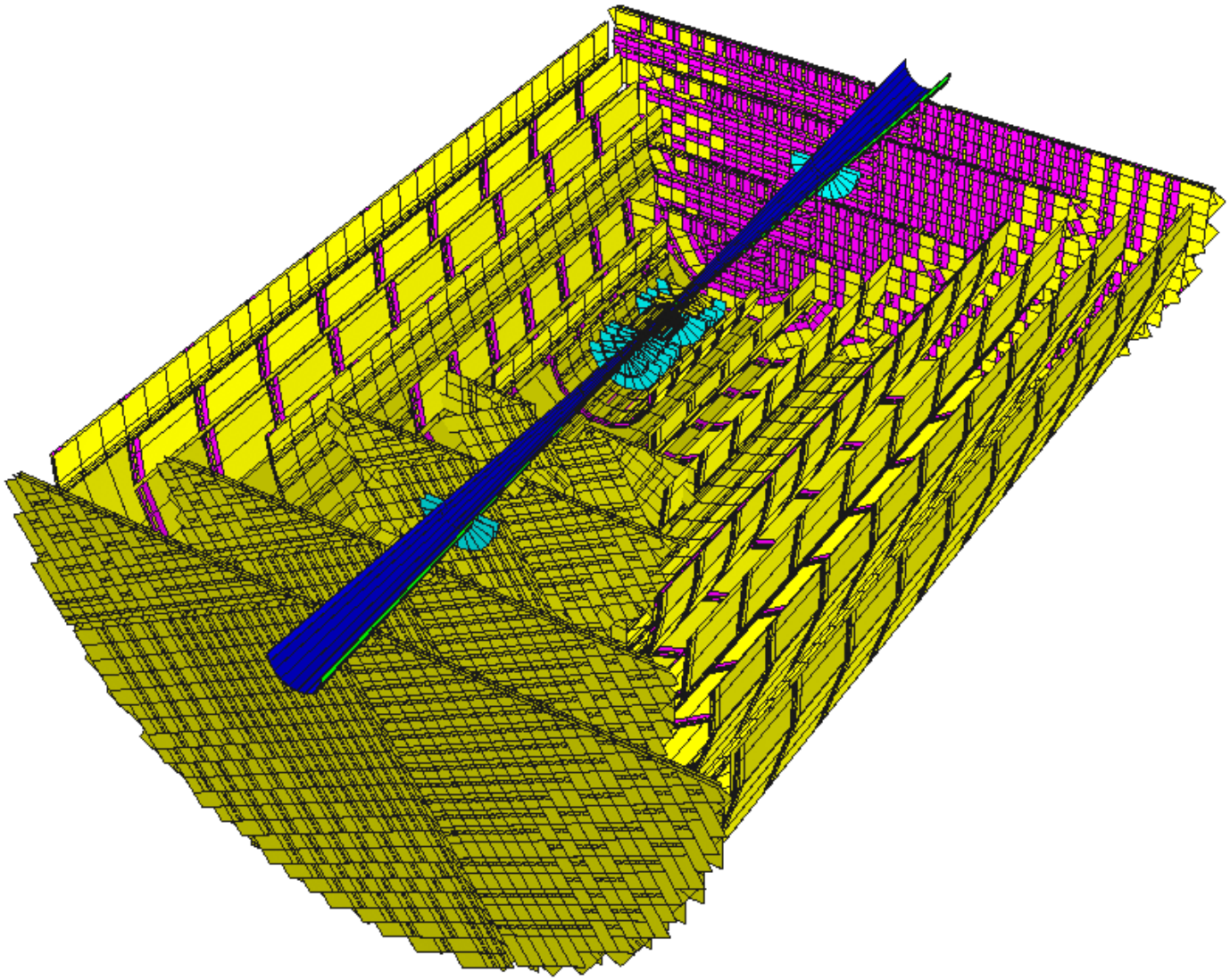


Si-Trackers in IlcRoot

(Current Status and idea)

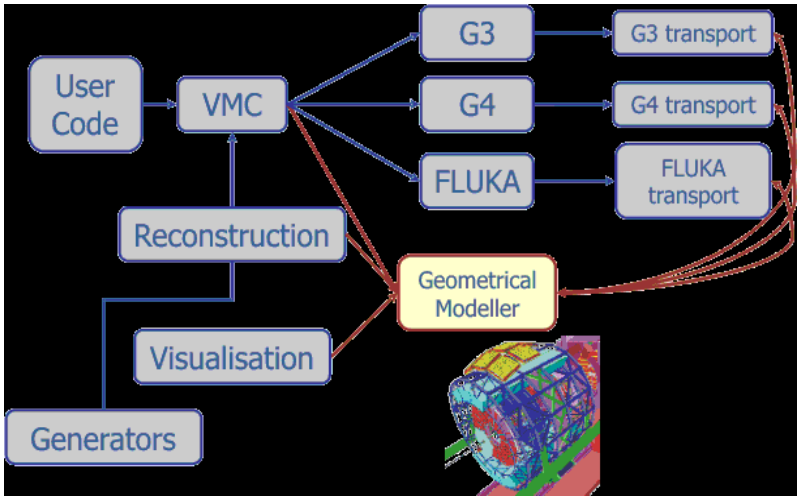




It is a big job: I need help to build and validate it (LicToy and Mokka) !!!!

Si-Trackers in IlcRoot

(baseline idea)



- Common framework for geometry builder
  - Geometry builder in “ROOTGeant”
  - Export towards GEANT4 for MOKKA
  - Import from GEANT4 to IlcRoot
- Re-define the design pattern for silicon sensors
  - Hierarchy of of volume in the geometry builder
  - Common parameters and object
  - Have to “workshop” ?
- New SiTracker implementation – join effort with CUE-CLUE and next ilcroot update to create a SiTracker modules !!!
- Use the Digitization (Zbynek) and electronic response (LPNHE)
- In all case, need to adapt the reconstruction algorithm (F.Ignatov)

Conclusion

- What do you think about this proposal? How can we complete it ?
- What is your ideas ?
- The Task force ? Who is interested ?
- ……..

Thanks for your intention