Software status

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DI BASE E APPLICATE
PER L'INGEGNERIA

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Framework

- Development done by Chris
  - implemented several improvements of the Event display
  - a cleanup of setters and getters , private and public members, etc etc to have a more uniform coding strategy among the different classes [huge work, thanks!]
  - reviewed carefully the list of dictionaries that are really needed
  - Implementation of classes that handle the clusters and points in different sub detectors
  - Fixes of arrays, and other improvements across all the different classes of shoe (development happens in NewGeom branch but is constantly updated with the master branch)
- Plan for the near future:
  - Time profiling of the code understanding where / if we can significantly gain
  - Providing a class for the general setup of the experiment (beam, energy, etc etc). Valuable input from Chris, **will be discussed in the next sftw meeting..**

Simulation

- Worked with Giuseppe and Serena to revive the -exp flags in building different geometries for different experimental configurations. This will be used to simulate the He @ high energy runs with the electronic setup.
  - Now everything is fine and both in NewGeom and in the Master branch the -exp works as expected.
  - See presentation from Giuseppe on the MC production details.

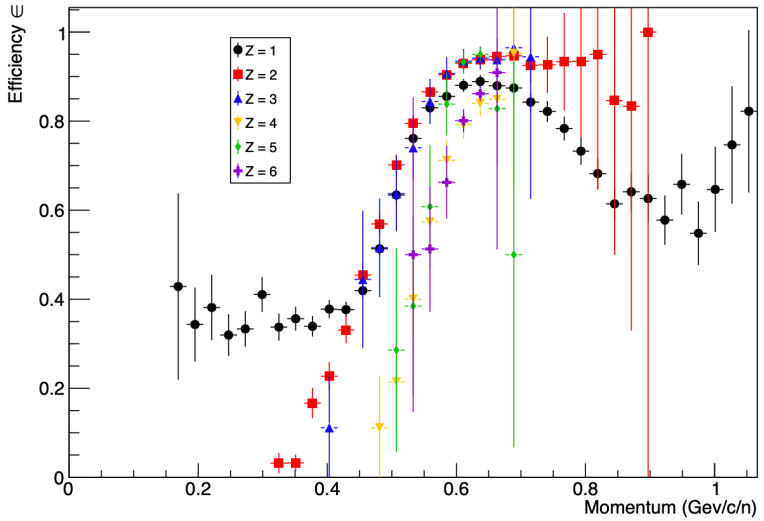
L0 reconstruction

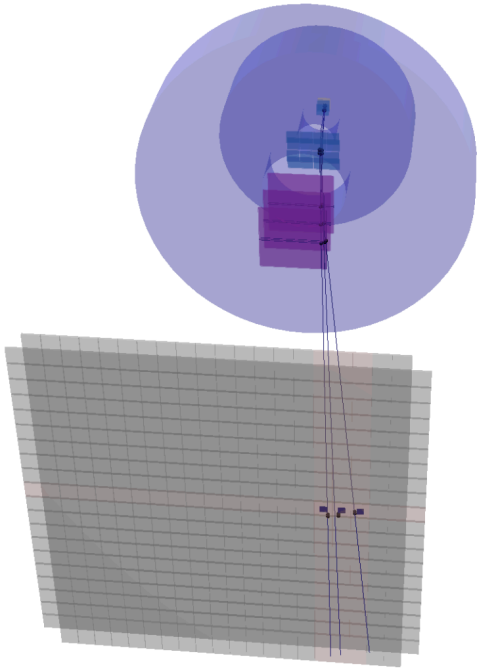
- A lot of work is ongoing:
  - ToF calculations: the waveforms analysis has been updated (Giacomo)
  - ToF and charge calibration (provided by Aafke and Roberto) are about to be implemented in shoe (Federica and Marco)
  - Z_ID: the algorithms have been released (See presentation from Federica and Marco)
  - Improvements in the tracking (both vtx and IT) and vertex reconstruction (Chris)
  - The digitisers of ~ all the sub detectors have been reviewed by Chris / experts ..
  - Developments in the CALO to study the energy release in the different crystals and to improve the digitisation implementation (Lorenzo)

Global Reconstruction

- The global reconstruction strategies are being implemented and tested.. so far we have 2 approaches:
  - TOE: based on arborescence, coded by Strasbourg
  - Kfitter: based on Genfit, developed by Bologna
- TOE: implemented and released in NewGeom/Master branch

12C_C_200_1.root : 100 000 events
•Purity: ~98 %





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- Kfitter: being implemented
  - Changed the point measurement implementation to planar measurements for the silicon detectors (more coherent with the info provided by the detectors)
  - worked hard in the extrapolation from VTX +IT to MSD ..
  - next step will be the implementation of the initial guess from the reconstructed quantities in the TW (Z_ID)