A to do list for simulation development

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Version V12.4



Available files

http://arpg-serv.ing2.uniroma1.it/twiki/bin/view/Main/FOOTAvailableSimulation

¹⁶O and ¹²C ions on 2 mm Polyethylene target (dens = 0.94 g/cm^3), 200, 350, 700 MeV /u:

¹⁶O and ¹²C ions on 2 mm C target (dens = 2 g/cm³), 200, 350, 700 MeV /u:

To be changed: 1

- Calorimeter: 14 cm BGO crystals
 more probable: ~11 or 21 cm
 - question: what will be the actual shape of crystals? Parallelepiped or truncated pyramids?
 - To be done: at the level of post-processing the inclusion of light collection effects have to be included (after lab and beam tests)

Some statistics generated with 21 cm crystals (V12.4.1) and 10.5 cm crystals (V12.4.2) availabe on Tier 3 @CNAF

To be changed: 2

- Magnets
 - We are waiting for a final design and the relative calculation of B map
 - B map will be measured with 10-3 error or better.
 Is it worthwhile to consider uncertainty in B map knowledge?

To be changed: 3

- Plume
 - at present was very idealized. Not realistic

From this:

We neet to pass to:

In addition: introduce at reconstruction level infos about cluster size of pixels etc.

To be checked or changed

• MSD

- real size, strip structure, possible dead regions...

This way or a single 9 x 9 double layer?



10.0 x 1.3 cm²

To be checked



Actual size, distances, etc of VTX detector

In addition: introduce at reconstruction level all useful infos for realistic digitization (see C. Finck's work)

In conjunction with SHOE developers

Build a unique code to generate at the same time MC geometry and corresponding TGeometry class for reconstruction software

To be implemented/improved

Introduce for scintillator a feasible parametrization for light collection response, dependence on impact point, etc.

Which is a realistic distance between scint and Calo?

Next steps

- We shall contact individually each relevant person for the quoted parted in order to work together towards a new version
- We aim to produce a V13 well before next general meeting
- Surely it cannot be the final version