

A proposed plan for fine tuning of EMC MC

The plan is to :

- ❑ **SURVEY** the existing situation over the 2001 2002 runs
 - Validation of plots using $\Phi \rightarrow \pi\pi\pi$ and $ee \rightarrow eey$ samples
- ❑ **Insert certified existing tools** we have in MC
- ❑ **COMPARE** MC corrected with VALIDATED plots
- ❑ **Final check of functionality** with golden samples $Ks \rightarrow \pi\pi$, $\eta \rightarrow \pi\pi\pi$

Minimum effort for max result: start with LARGE effects ...

IF succesfull continue with minor points

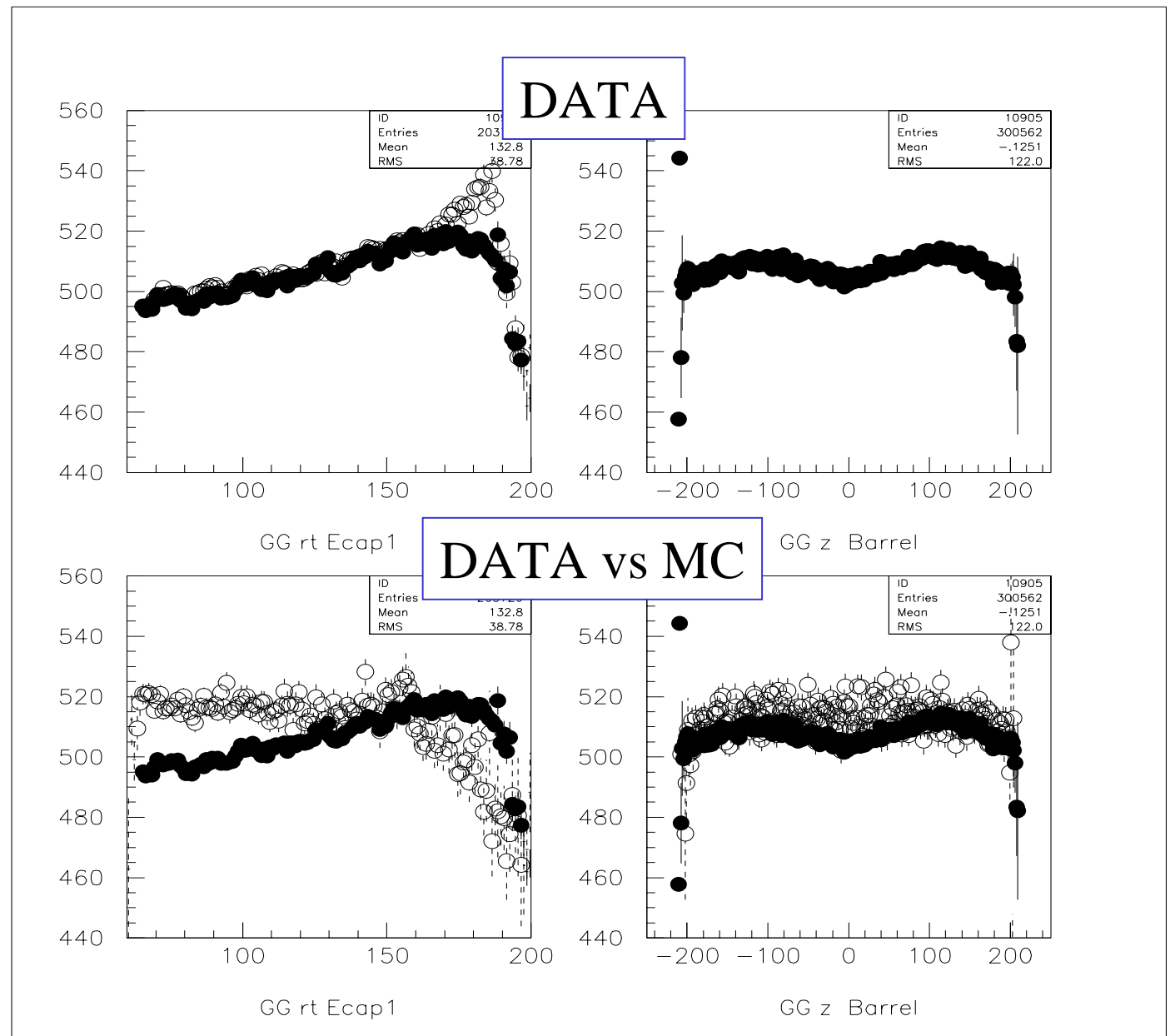
Example of problems in EMC scale (1)

Comparing the Energy scale as a function of hit position in fiber shows :

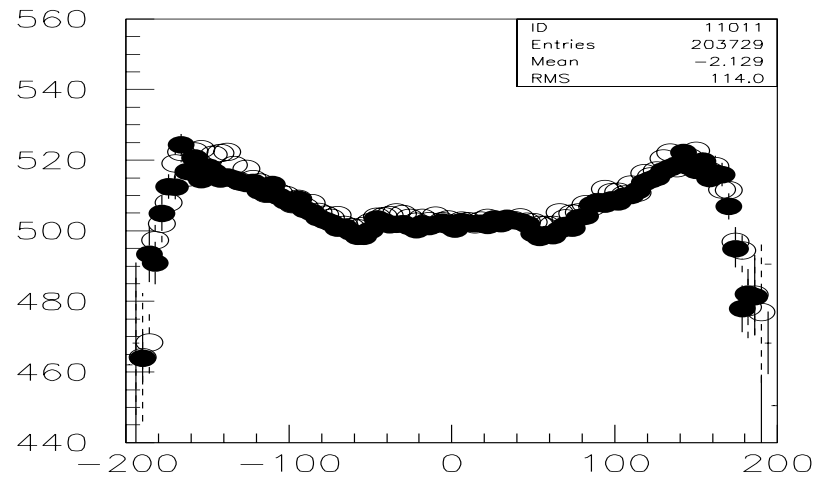
✓ no problems

just a small scale for **Barrel**

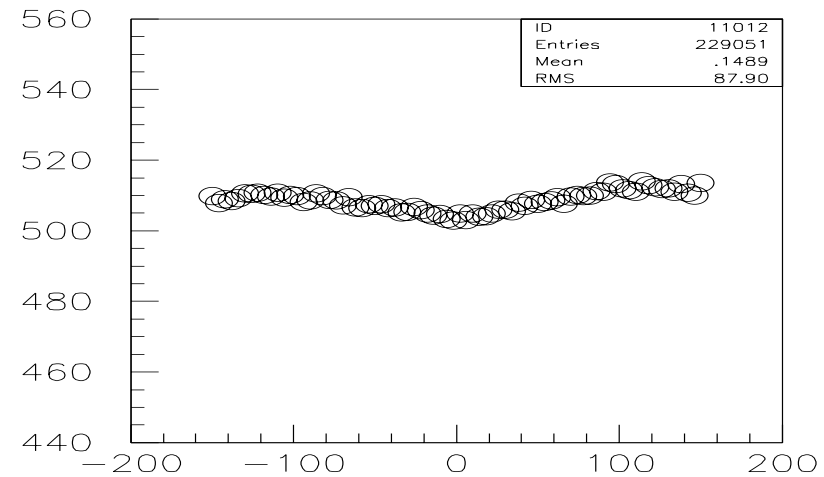
✓ 4-5% discrepancy along Rt or Y in **Ecap**



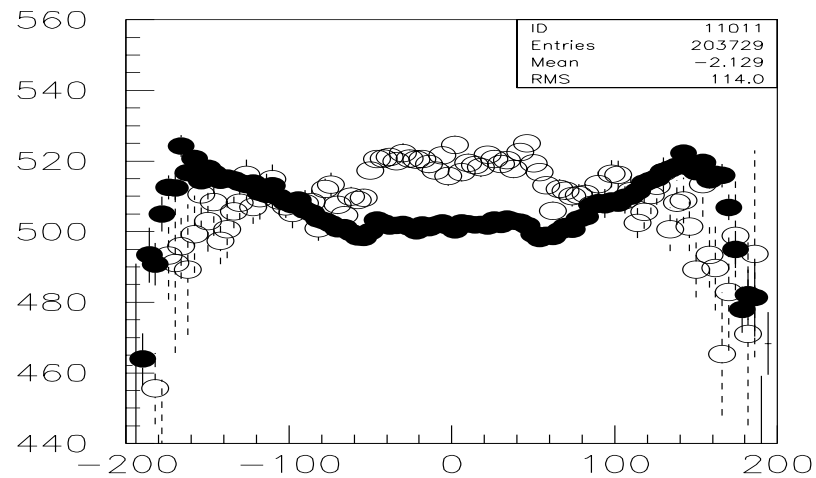
Example of problems in EMC scale (2)



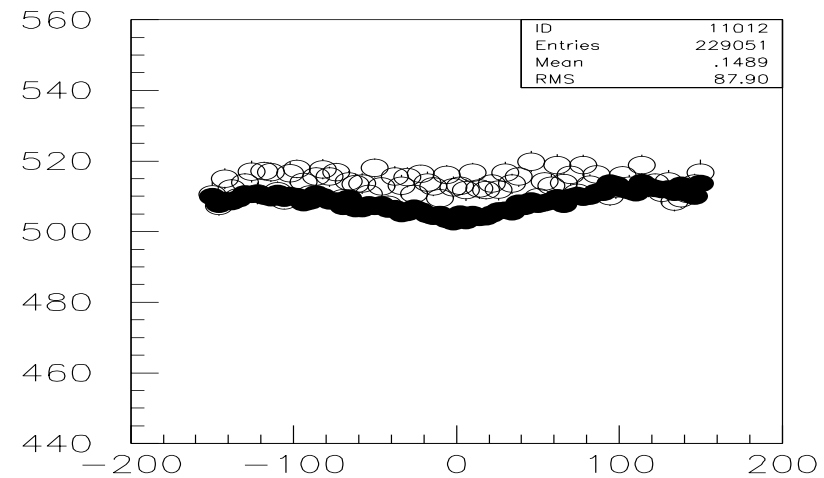
Ecap1z enec1 vs ycl



Barrelz enec1 vs zcl



Ecap1z enec1 vs ycl



Barrelz enec1 vs zcl

Example of validation plots

For a given data stat. (for instance 2 pb-1) and as a function of θ

☐ ENERGY (response and resolution)

- vs P_g (resolution tails and NON Linearity at low energy)
- vs Z, ϕ (Barrel) check att.lengths + “holes”
- vs Y, X (Ecap)

☐ TIMING (response and resolution) as above

☐ EFFICIENCY

this also as a function of Ecutoff, Cone opening, timing cut

☐ Splitting + shower fragments should be by-product of bkg simulation

Plan is to create a stable executable to produce “a certified” set of plots to compare data vs MC and check stability along running time.

MC adjustment

Already produced enough stat for the two basic calibration samples (190x20.000 3pi, 111x60 + 85x60 bhabha)

Create stable A_C modules in MCT library ?? To:

- ☐ SIMULATE THE THRESHOLDS

- compare data-MC effect on linearity, resolution
to then correct CLUFIXENE for MC

- ☐ Apply Recover Splitting

- ☐ “HOLES” ??

People involved

To create stable executable for VALIDATION

☐ **Misc + Palutan + Spadaro**

To create the A_C modules to correct MC:

☐ **Misc + Giovannella**

To run VALIDATION

☐ **All EMC group .. (first consultation started with A.Passeri)**

To compare results on golden samples

☐ **the usual guys ...**