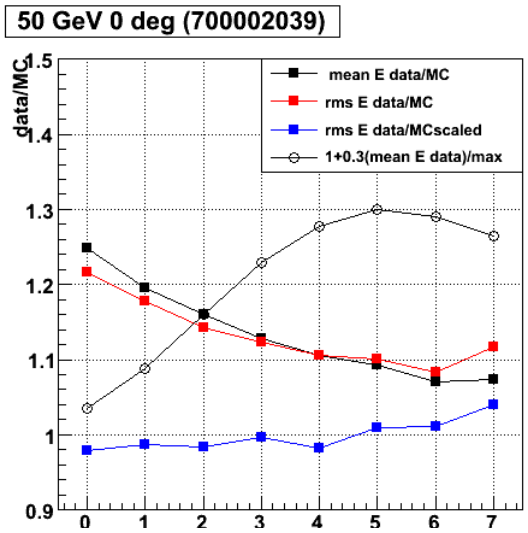
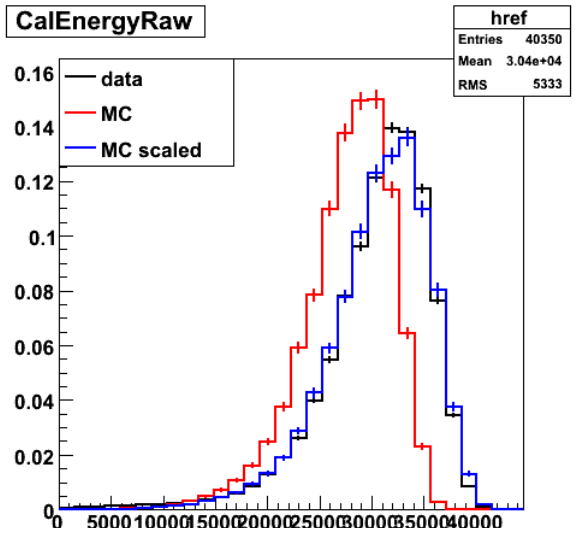
Data/MC comparison with and without LPM

- Last data reprocessing :
  - -recon-v2r71215p1
- Simulation
  - v8r130101p1-GLAST
  - v8r130101p1-NoBtLPM
  - only 50, 100, 196 and 282 GeV on-axis

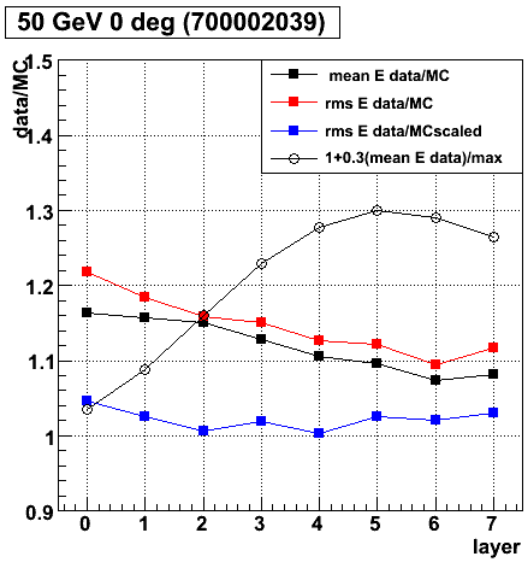
50 GeV on-axis

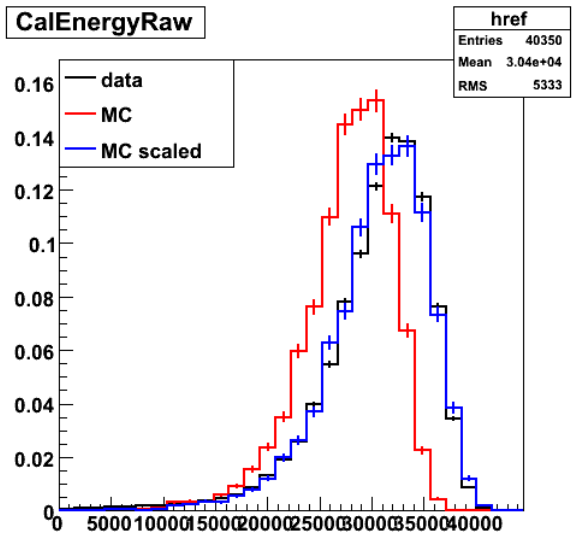
Old LPM





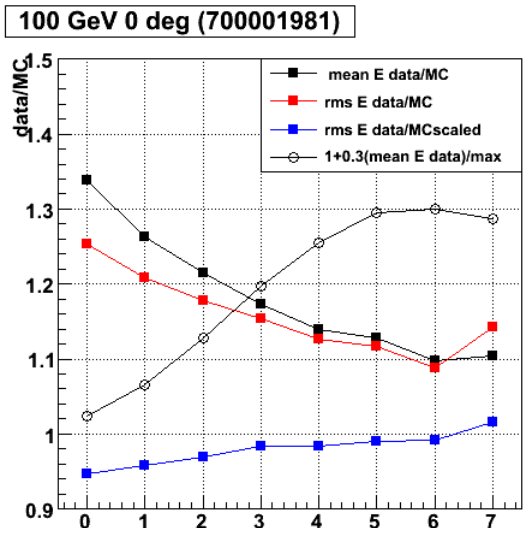
LPM off

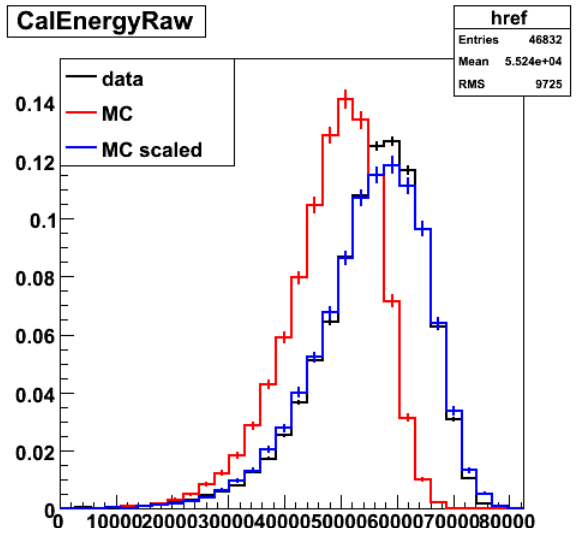




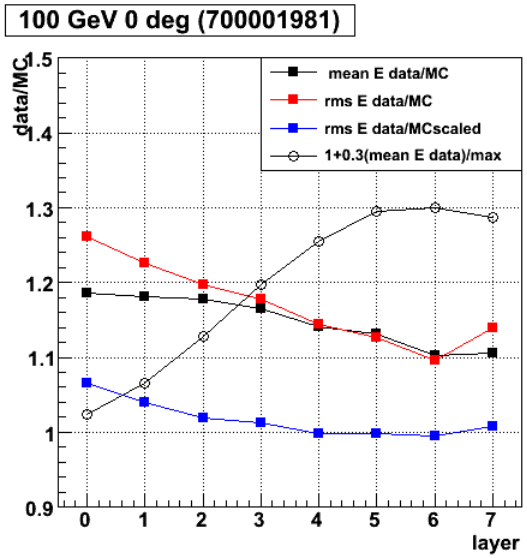
100 GeV on-axis

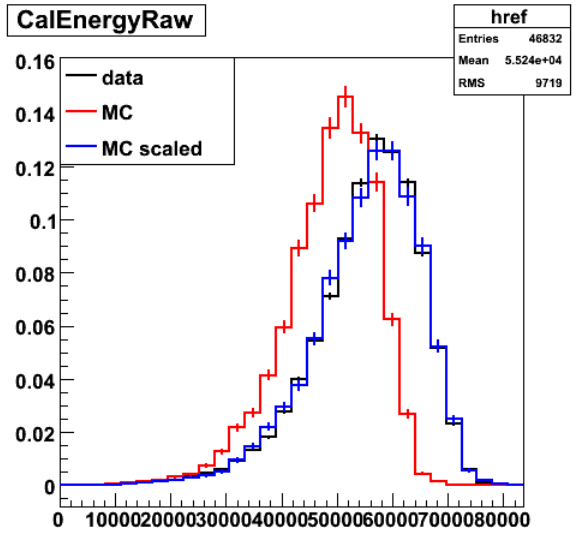
Old LPM





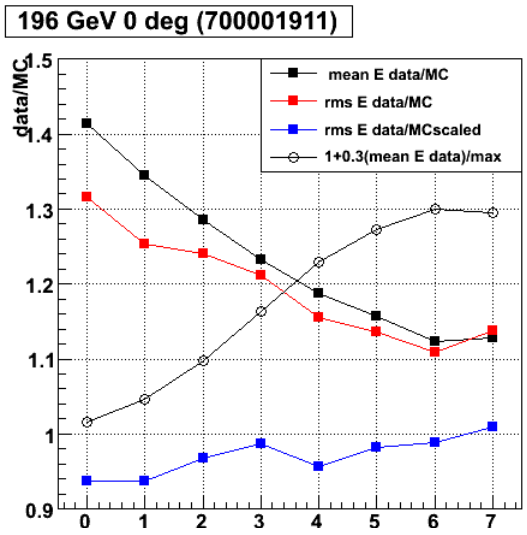
LPM off

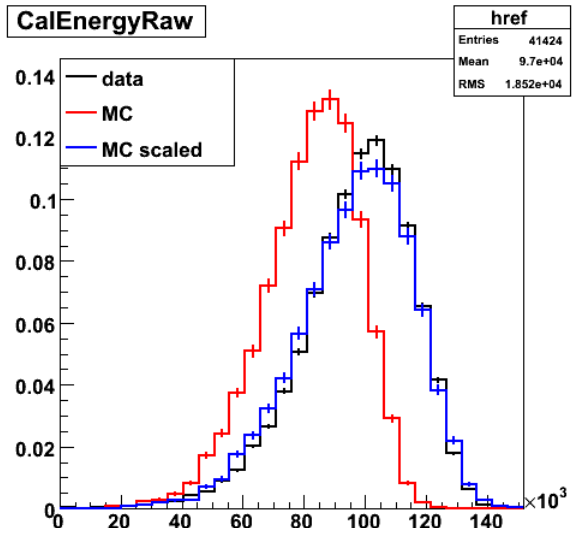




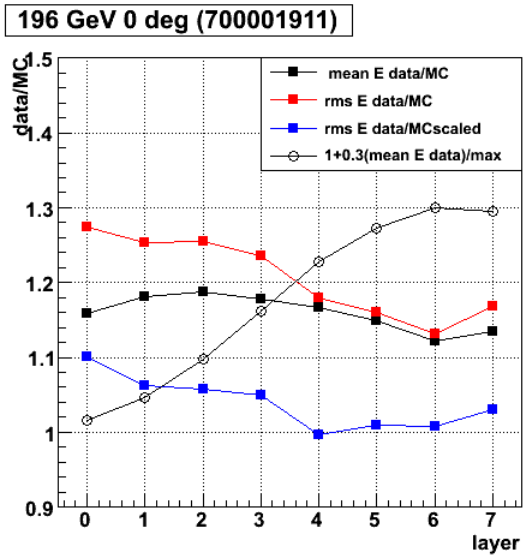
196 GeV on-axis

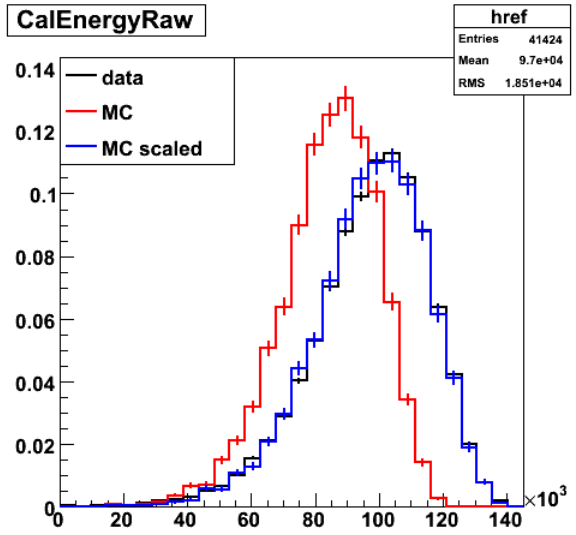
Old LPM





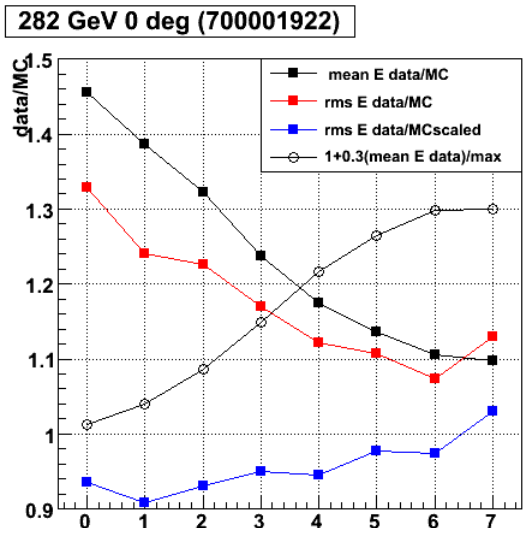
LPM off

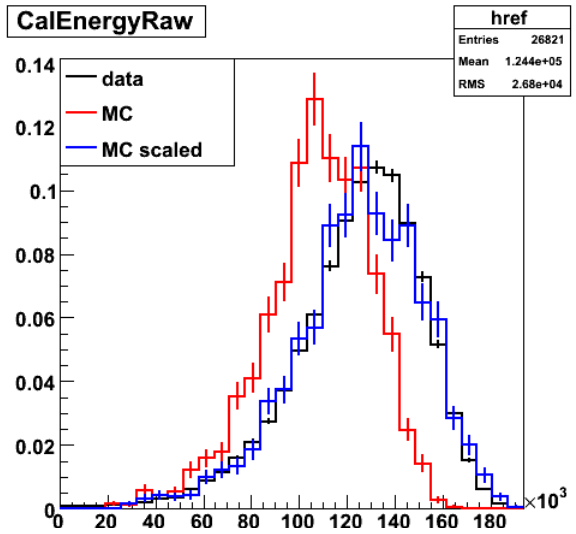




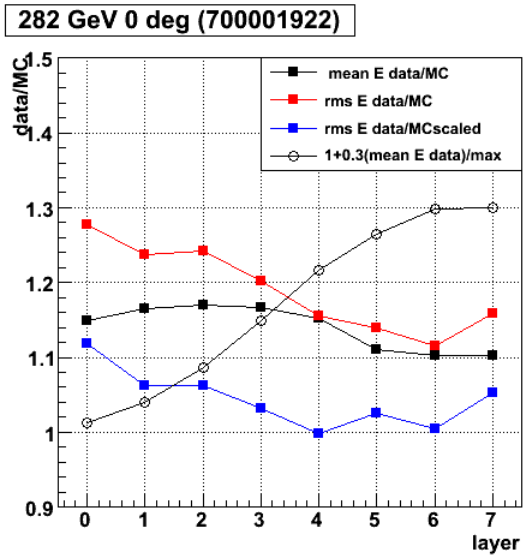
282 GeV on-axis

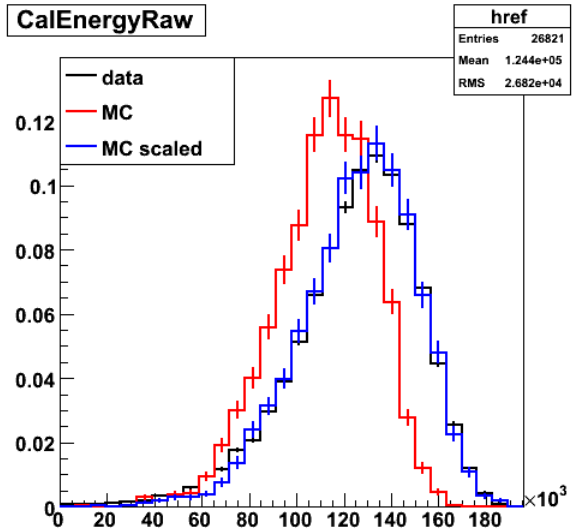
Old LPM





LPM off





Conclusions

- Turning off LPM -> the shower development is faster -> more energies in the first layers -> the data/MC discrepancy decreases in the first layers
- The discrepancy is much less dependent on the layer !
- Waiting for the new MC with the new LPM !
- We have two parameters :
  - LPM strength increases -> ~ translation of the shower towards larger X0
  - Extra material increases -> ~ translation of the shower towards smaller X0
- We have many variables :
  - Tkr number of hits, energy in each layer
- We can hope that, with the new LPM, we can find an amount of extra material that works for all energies and configuration…