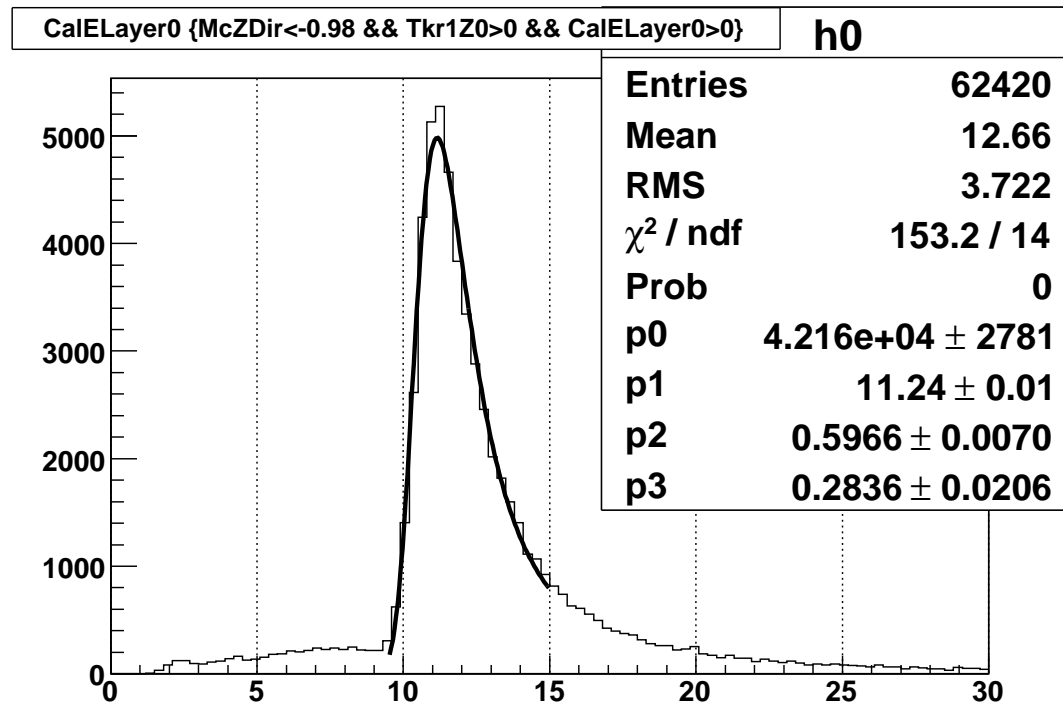


Muon calibration and muon spectrum

Where does the standard 11.2 MeV come from and how precise is it ?
surface muon (EngineeringModel v6r070329p28)
fit with a Landau convoluted with a gaussian



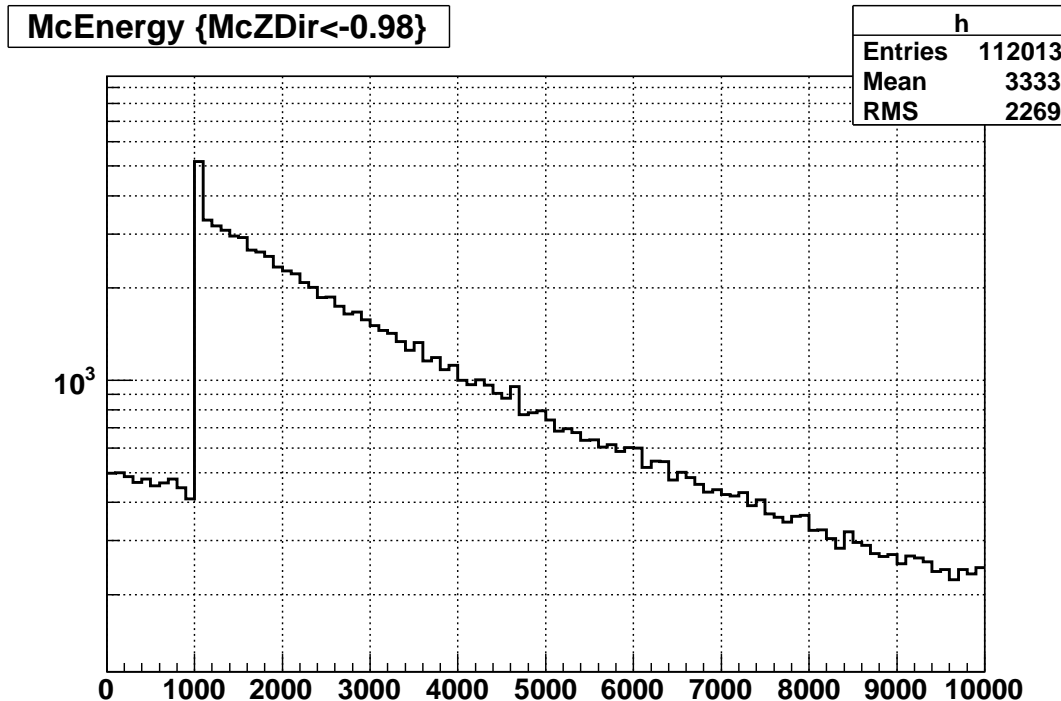
Surface muon spectrum

Why is there a discontinuity at 1 GeV ?

talk of Xin Chen (instrument analysis workshop june 2004) :

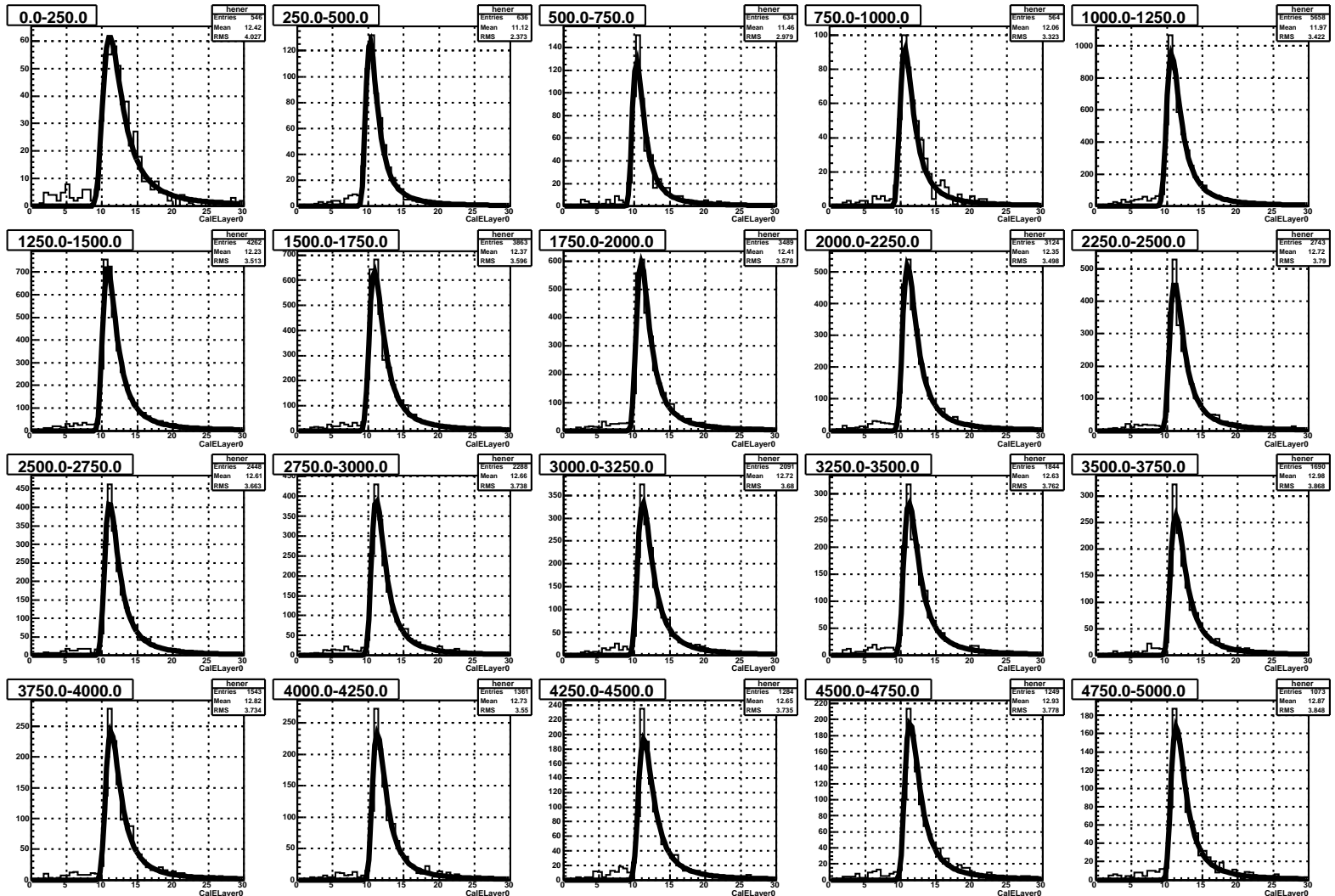
“Toby is working on extending the spectrum to below 1 GeV”

PDG and Peter K.F. Grieder : flat spectrum below 1 GeV



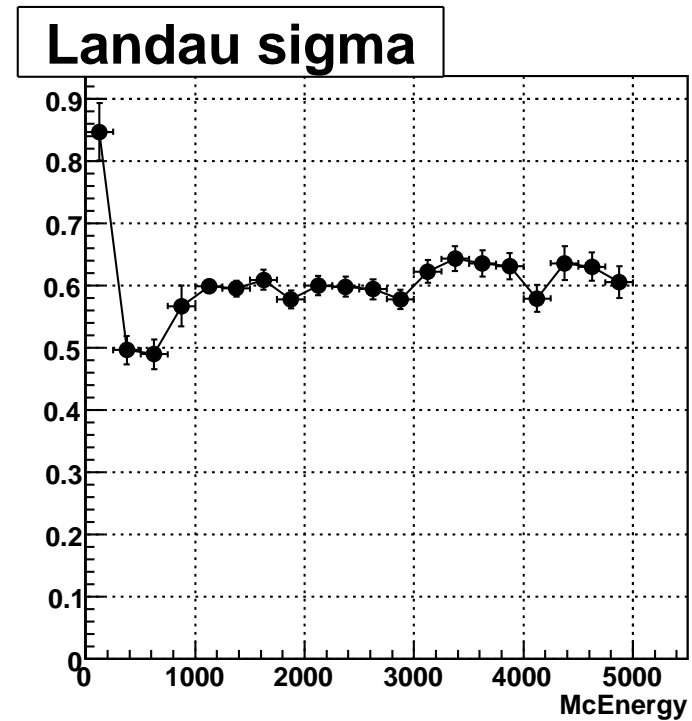
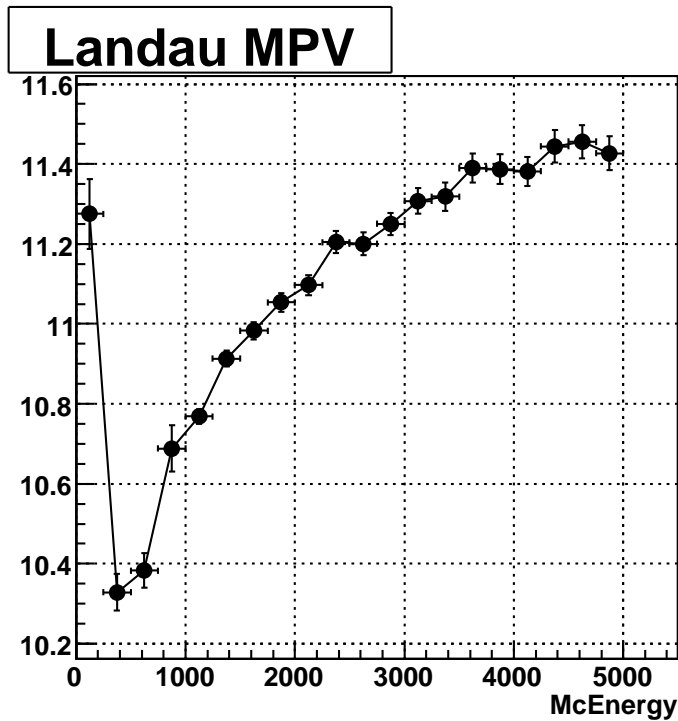
Bethe-Bloch in merit

CalELayer0 per bins in McEnergy



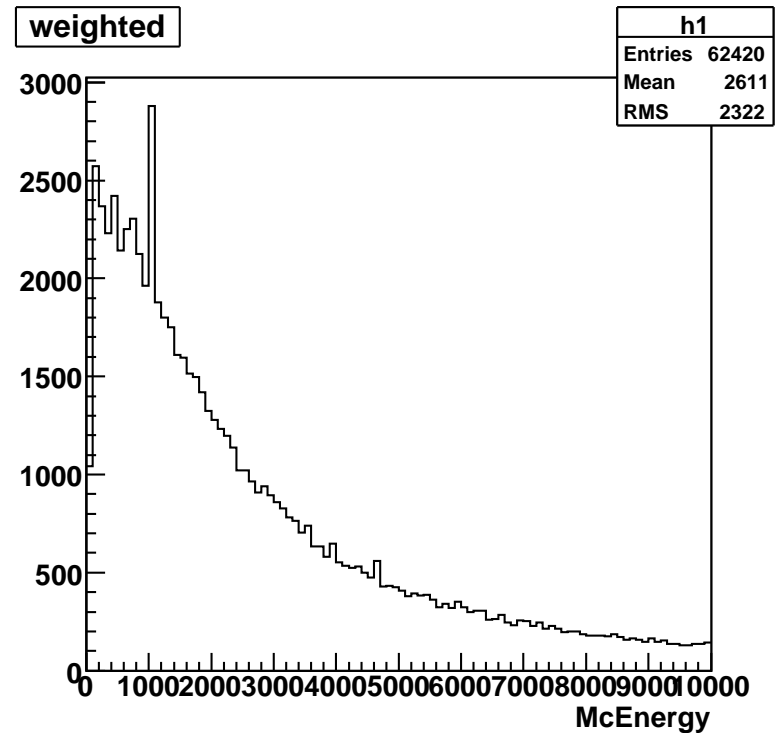
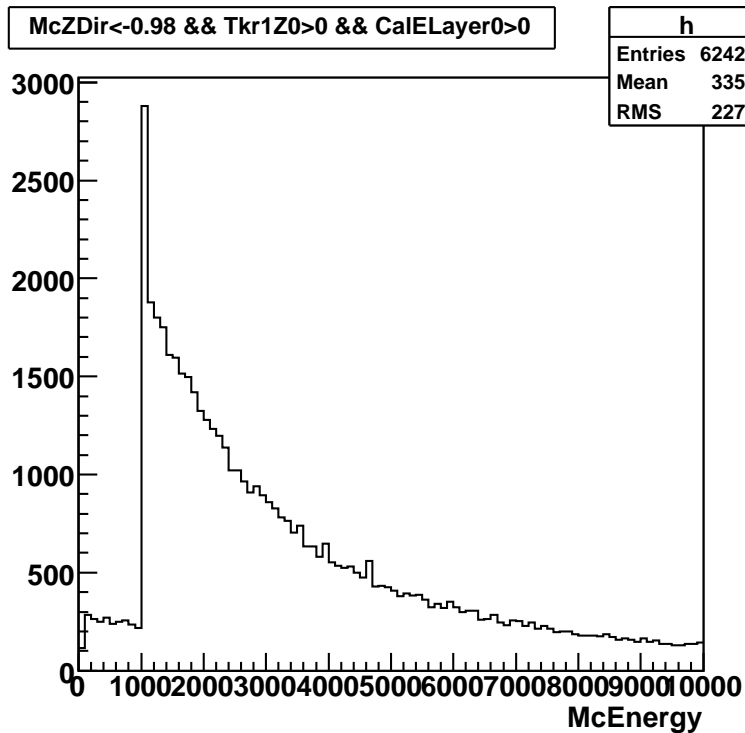
Bethe-Bloch in merit

Bethe-Bloch is in Geant4...



Reweighting below 1 GeV

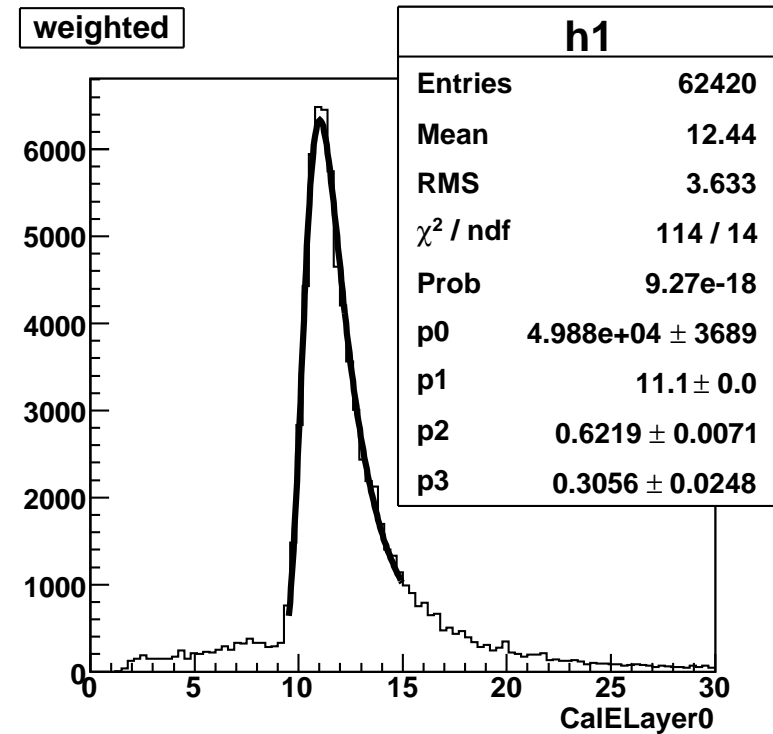
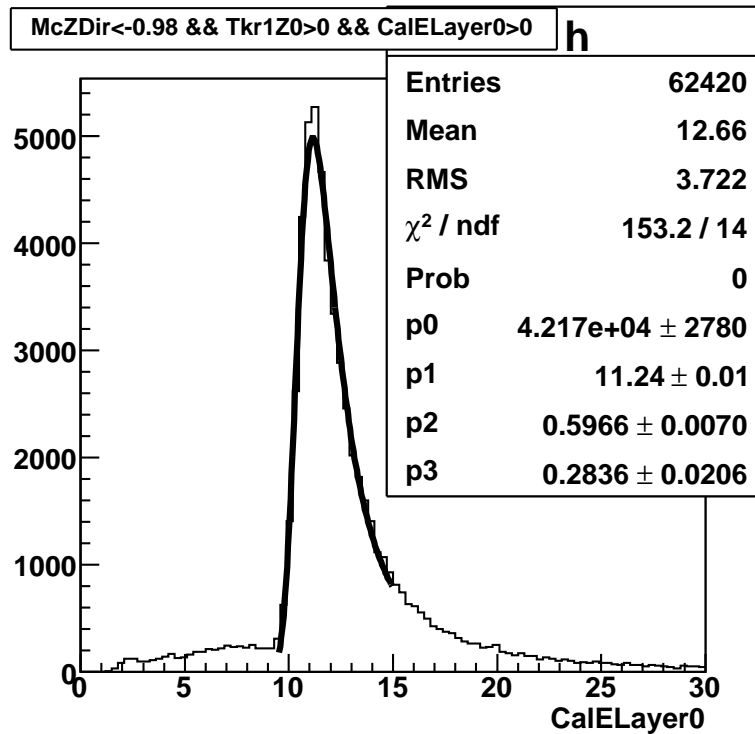
weight = 9 when McEnergy < 1000;



Reweighting below 1 GeV

12.4 MeV \Rightarrow 11.1 MeV

$\Rightarrow a \sim 1.2\%$ difference



Conclusion

- this effect is maybe negligible after standard muon cuts
- the cal has also been calibrated with protons
- where can I find some documentation about this 11.2 MeV ?