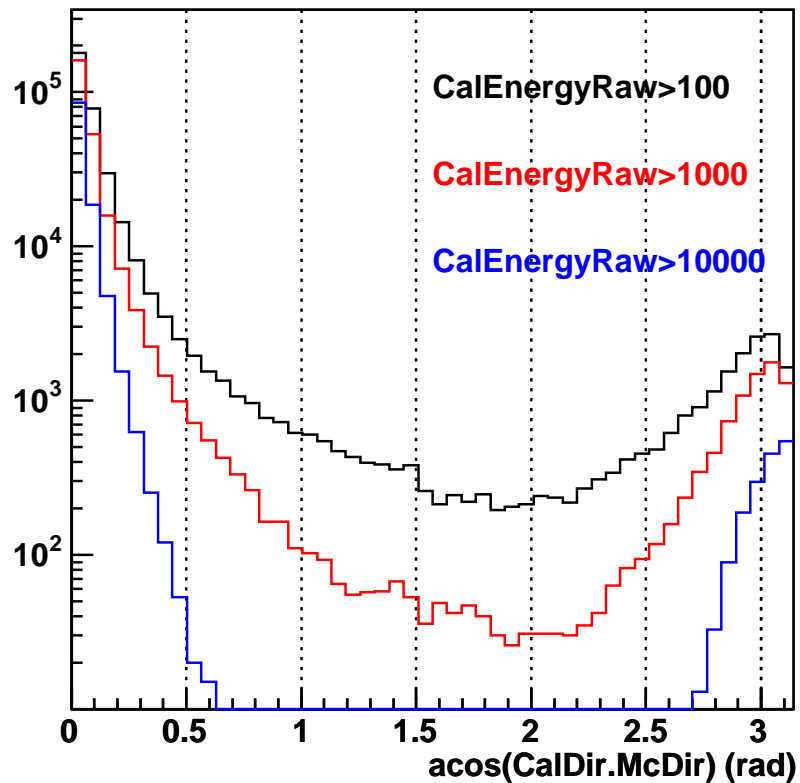


# Quick look at cal-only events

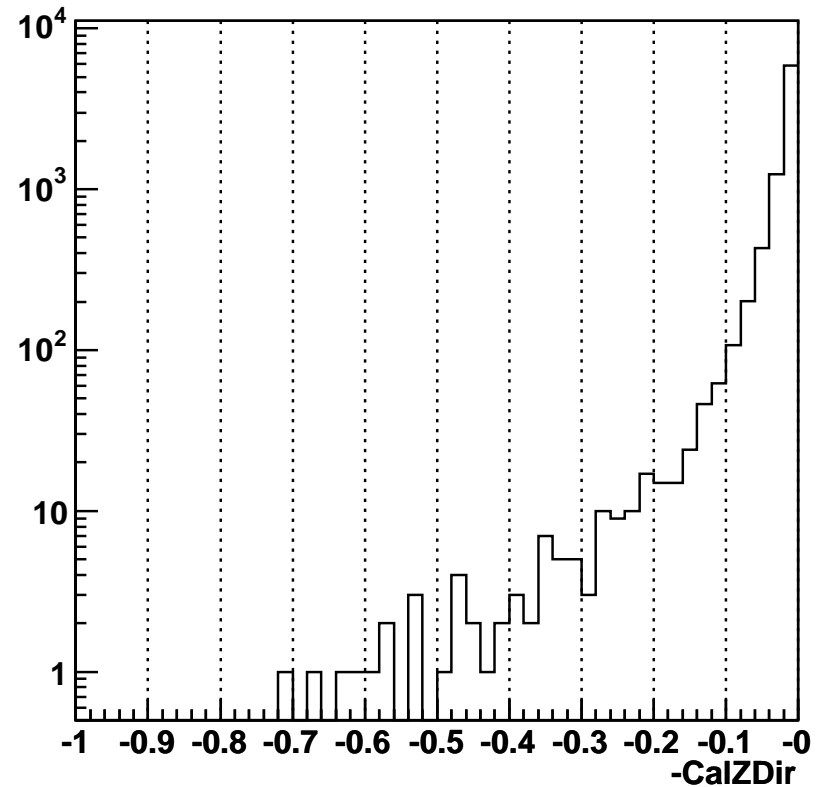
- what's the current situation ?
- allGamma-GR-v7r0p2 cal only
- direction reconstruction
- energy reconstruction

# Direction reconstruction

- good direction reconstruction
- except for the  $\pi$  peak
- 35% of events with  $\text{CalZDir} < 0.1$

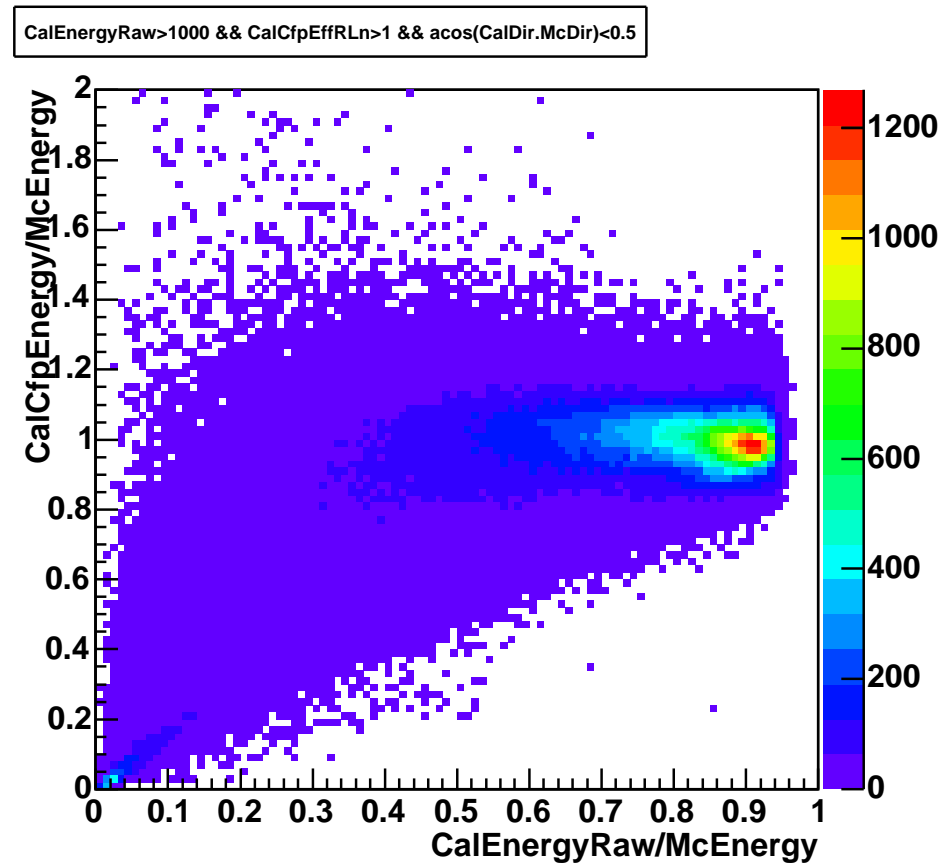
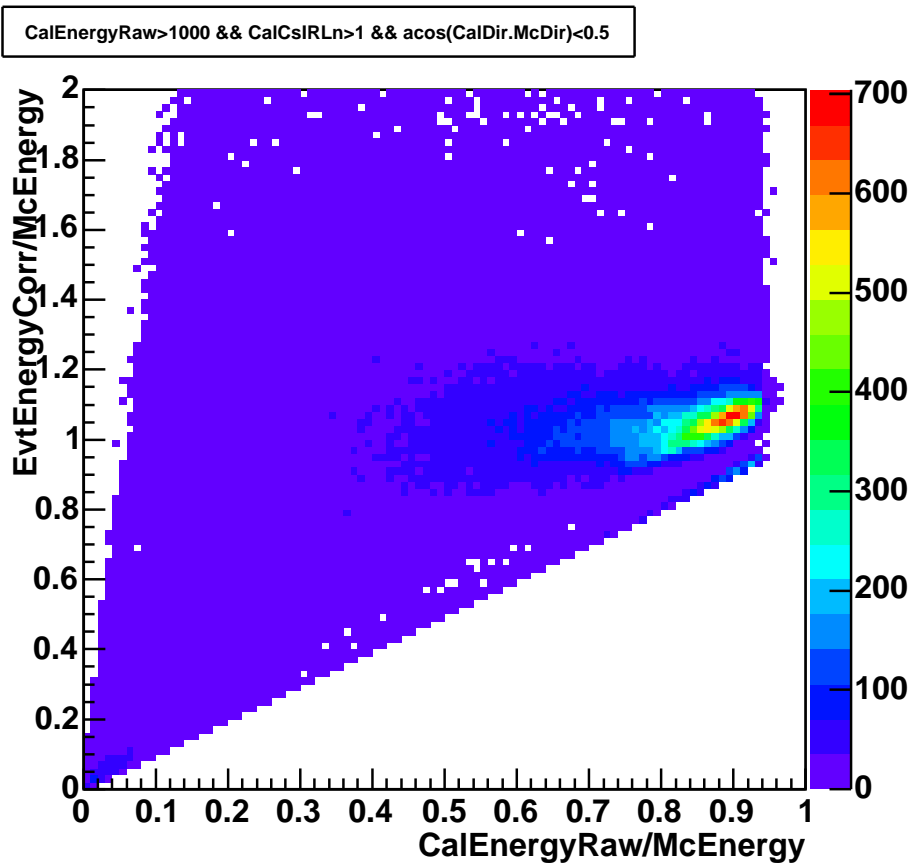


CalEnergyRaw > 1000 &&  $\text{acos}(\text{CalDir.McDir}) > 2$



# Energy Reconstruction

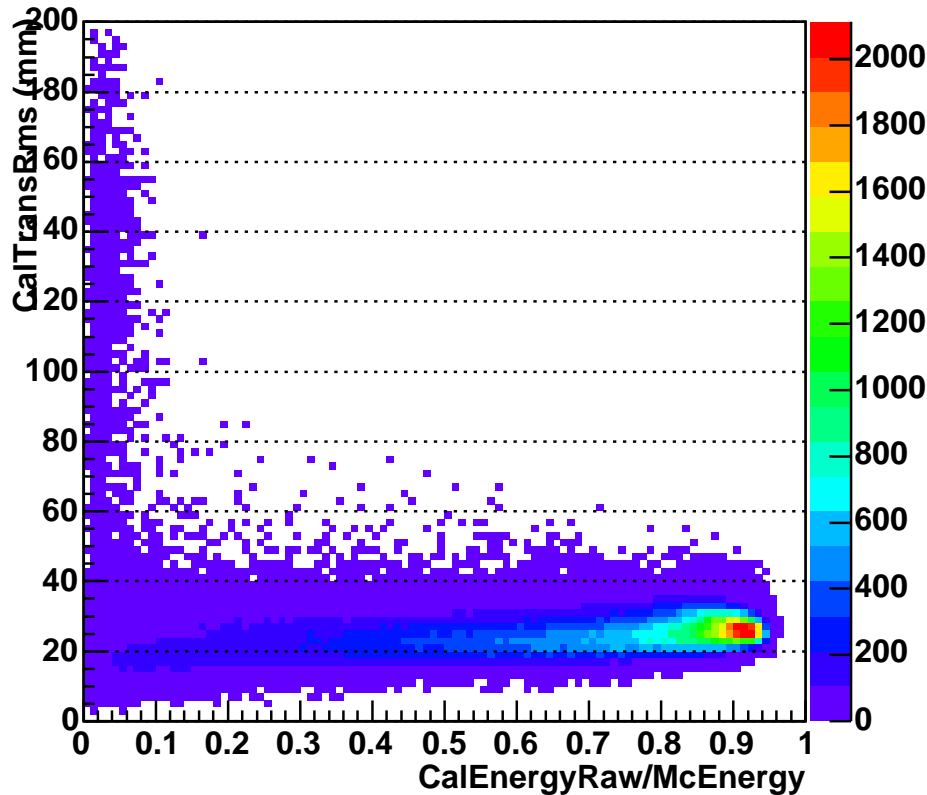
- two algorithms : parametric (left), full profile (right)
- $\text{CalEnergyRaw}/\text{McEnergy} < 0.2$  : no good energy reconstruction



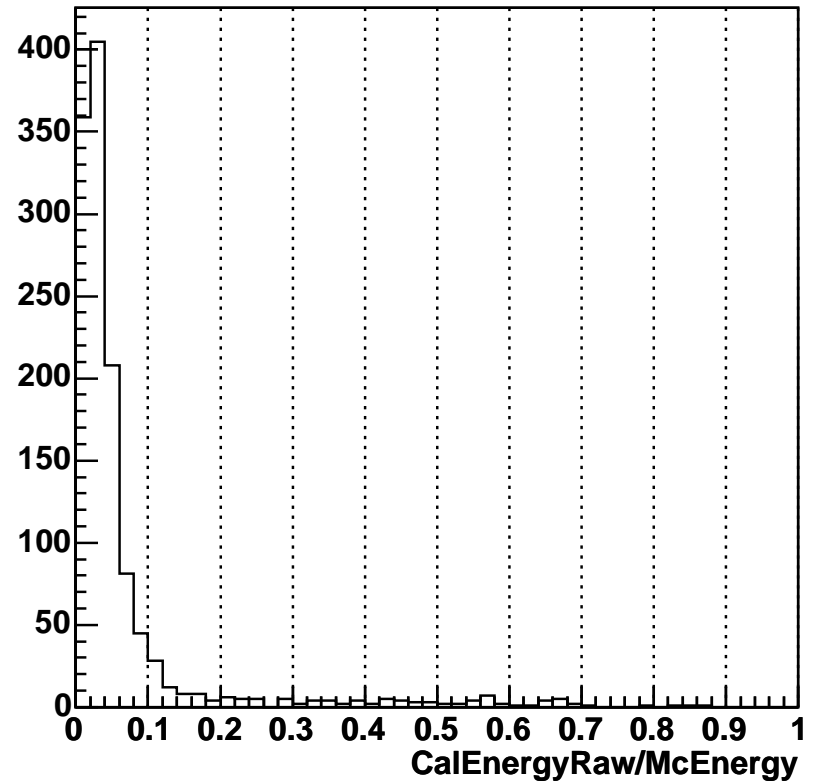
# CalTransRms

- large CalTransRms events ->  
CalEnergyRaw/McEnergy<0.2
- -> requiring CalTransCal<50

CalEnergyRaw>1000 && acos(CalDir.McDir)<0.5



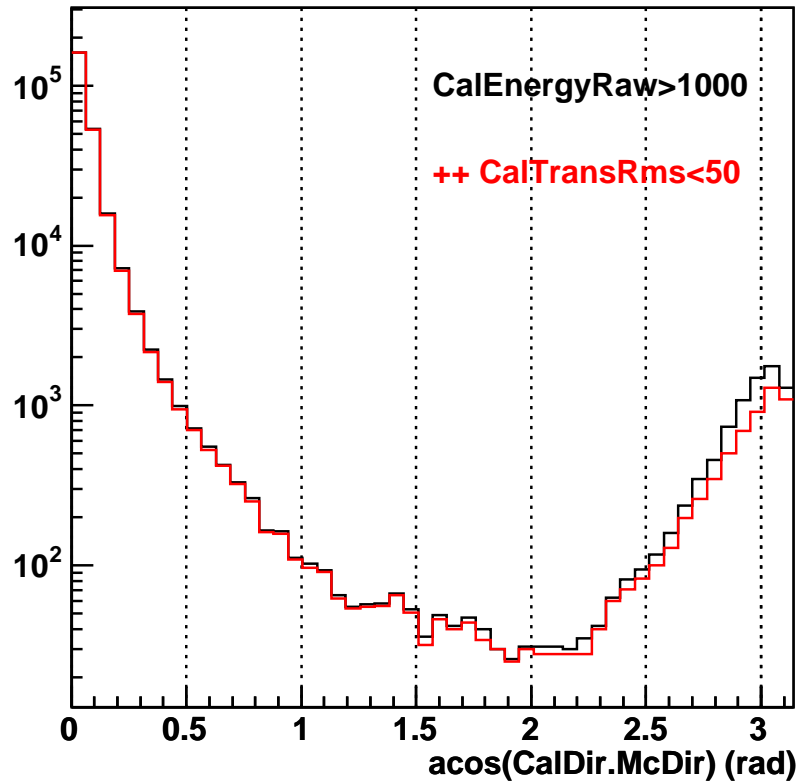
CalEnergyRaw>1000 && acos(CalDir.McDir)<0.5 && CalTransRms>50



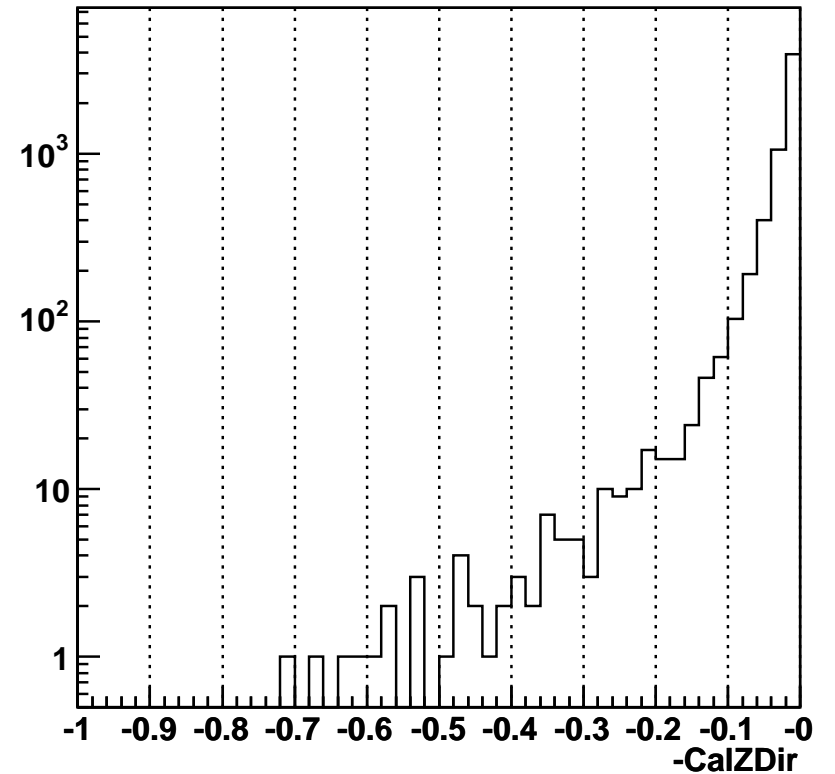
# Back to direction reconstruction

- CalTransRms doesn't cure the  $\pi$  peak

CalEnergyRaw>1000



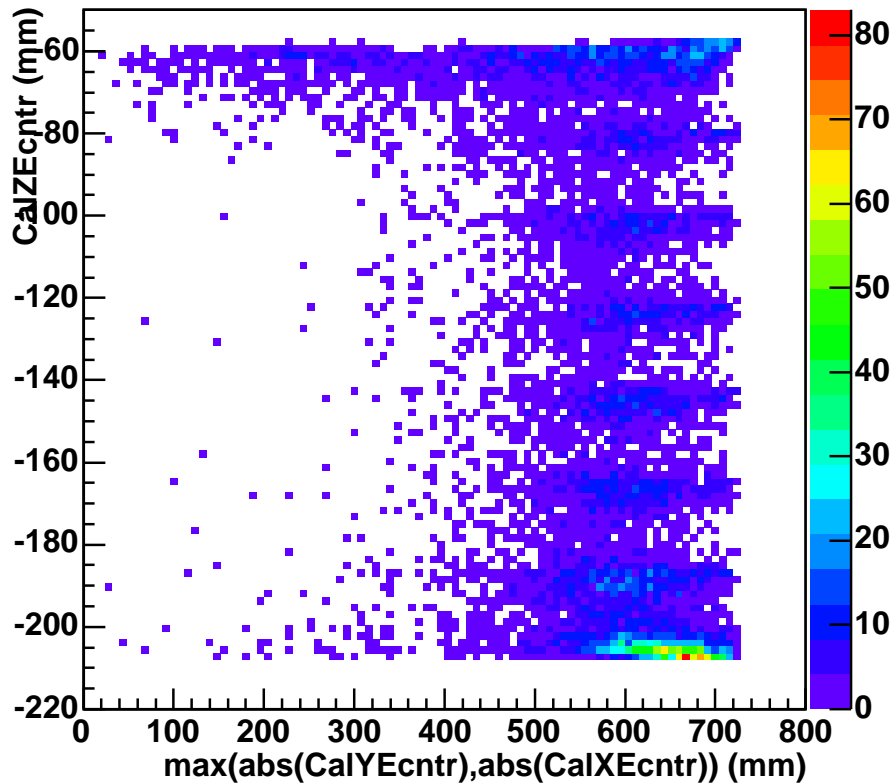
CalEnergyRaw>1000 && CalTransRms<50 &&  $\text{acos}(\text{CalDir.McDir})>2$



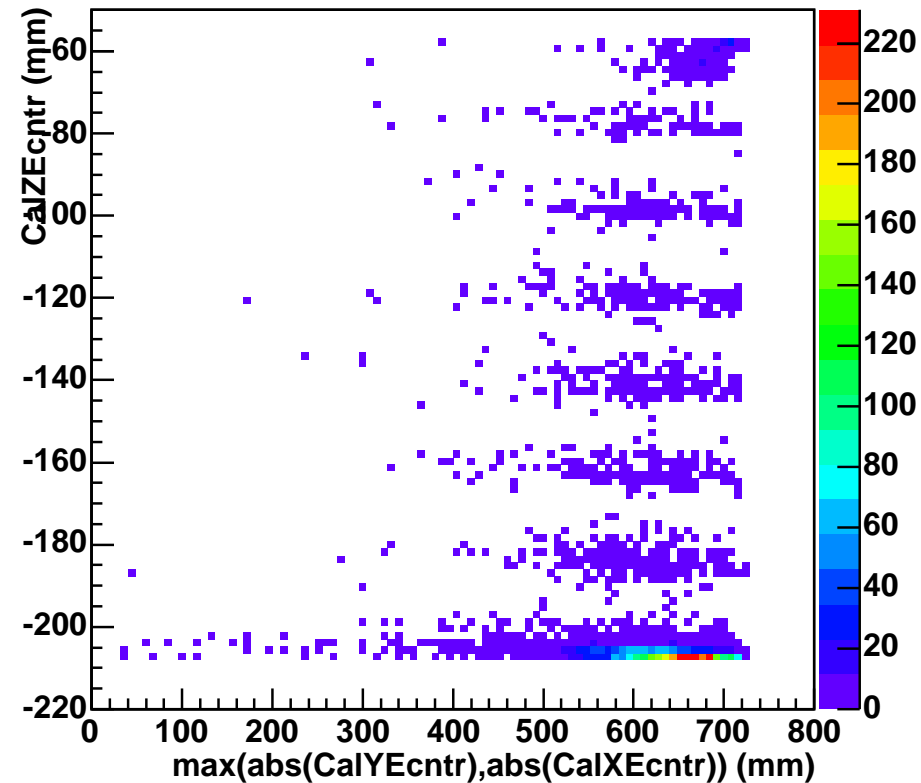
# Where are these events ?

- position doesn't help to reject the  $\pi$  peak

CalZDir<0.1 && acos(CalDir.McDir)<2

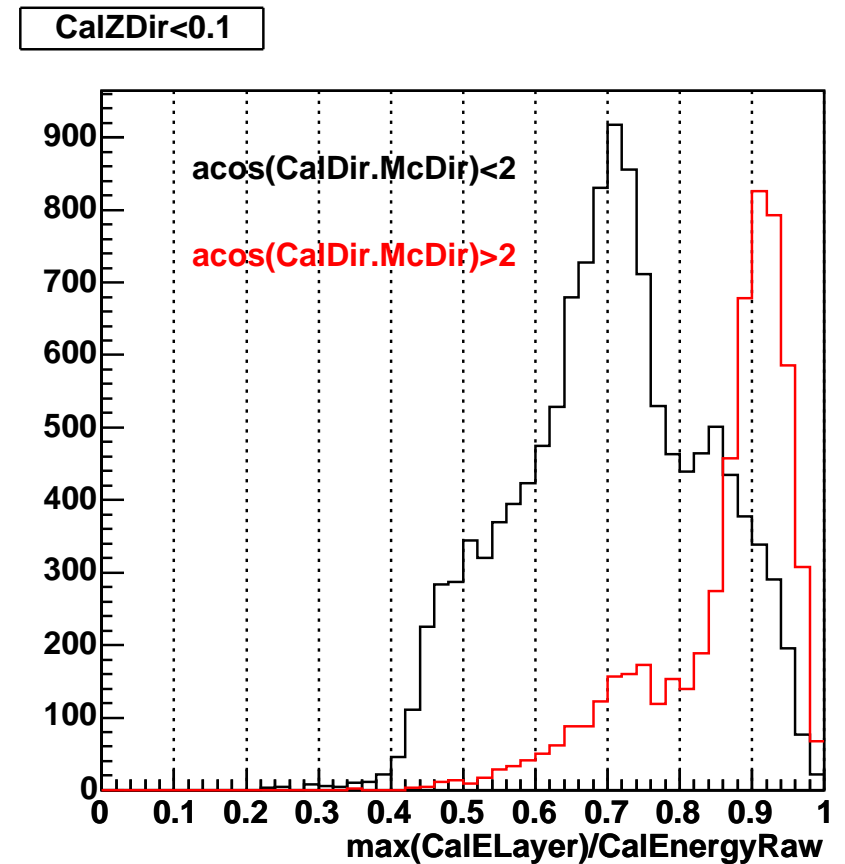
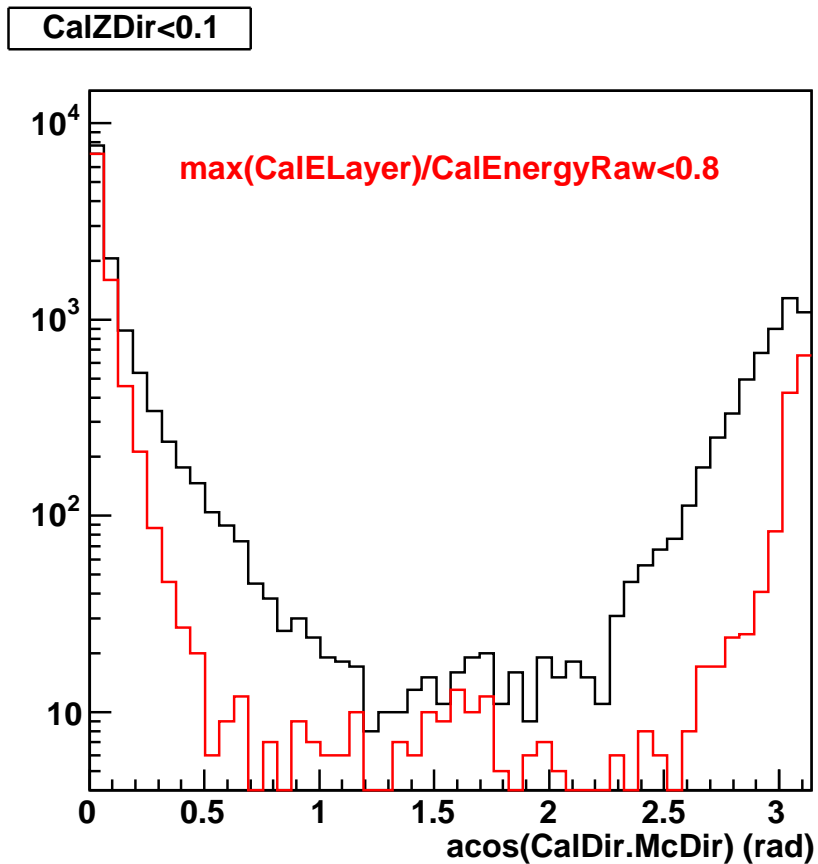


CalZDir<0.1 && acos(CalDir.McDir)>2



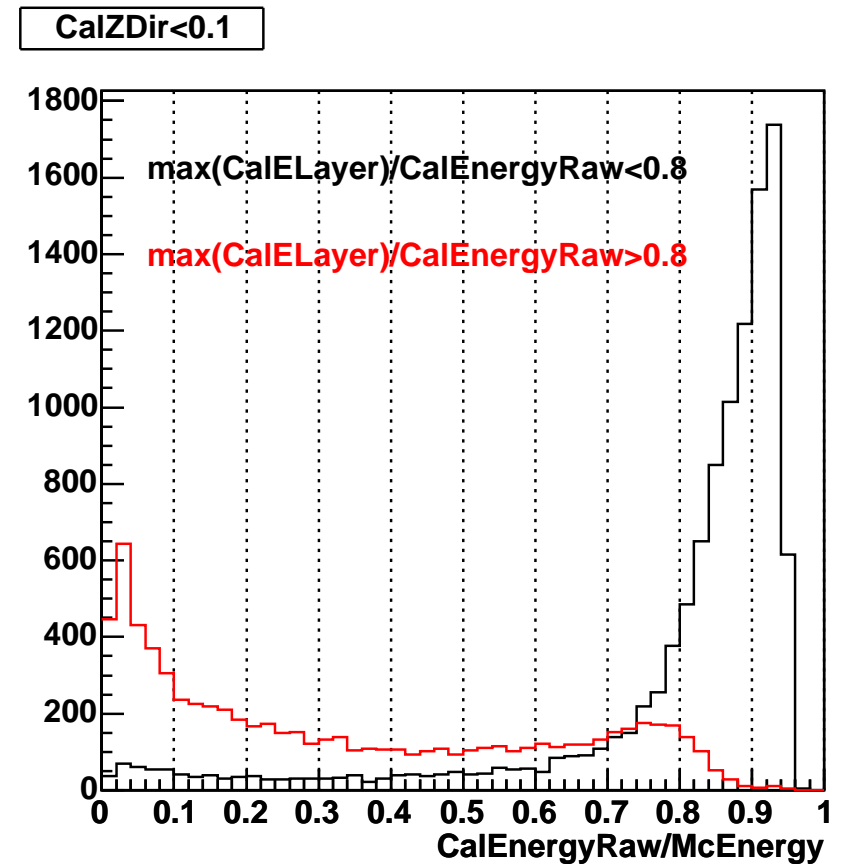
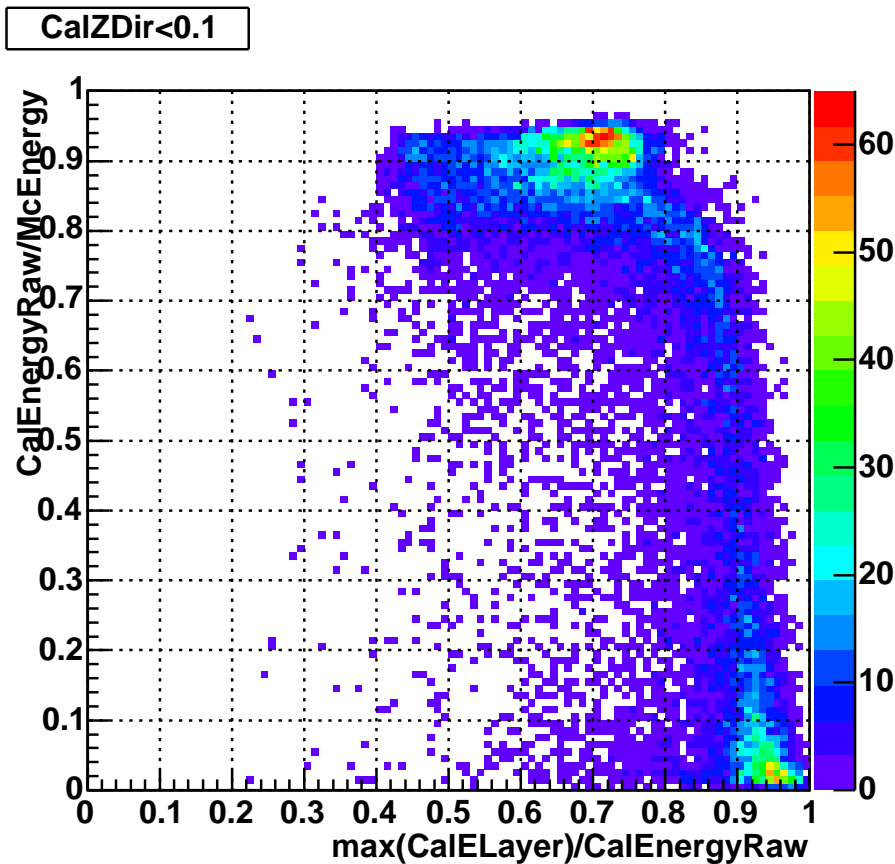
# Lever arm problem ?

- almost all the energy is deposited in one layer
- $\pi$  peak : 35%  $\rightarrow$  12% of events with CalZDir $<0.1$



# Back to energy reconstruction

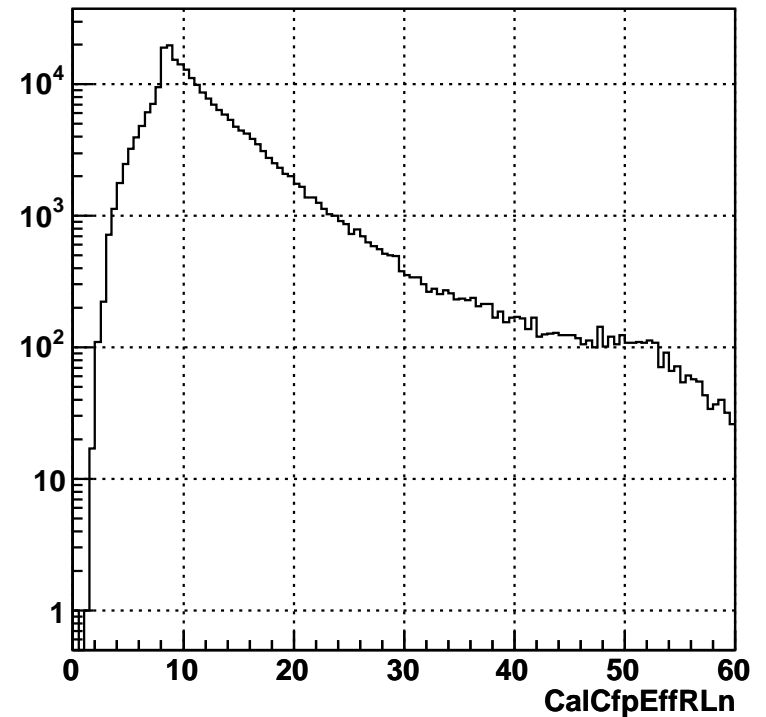
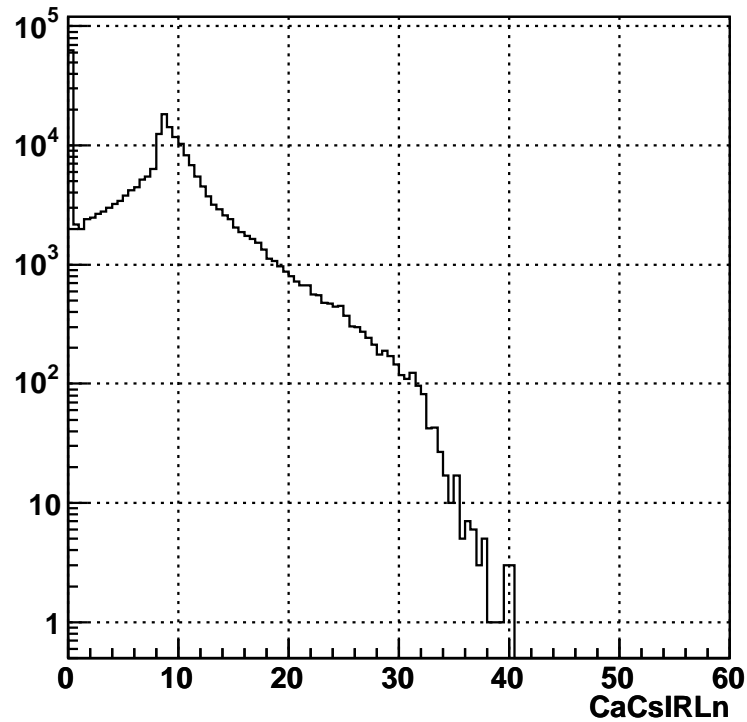
- $\max(\text{CalELayer}/\text{CalEnergyRaw}) < 0.8$





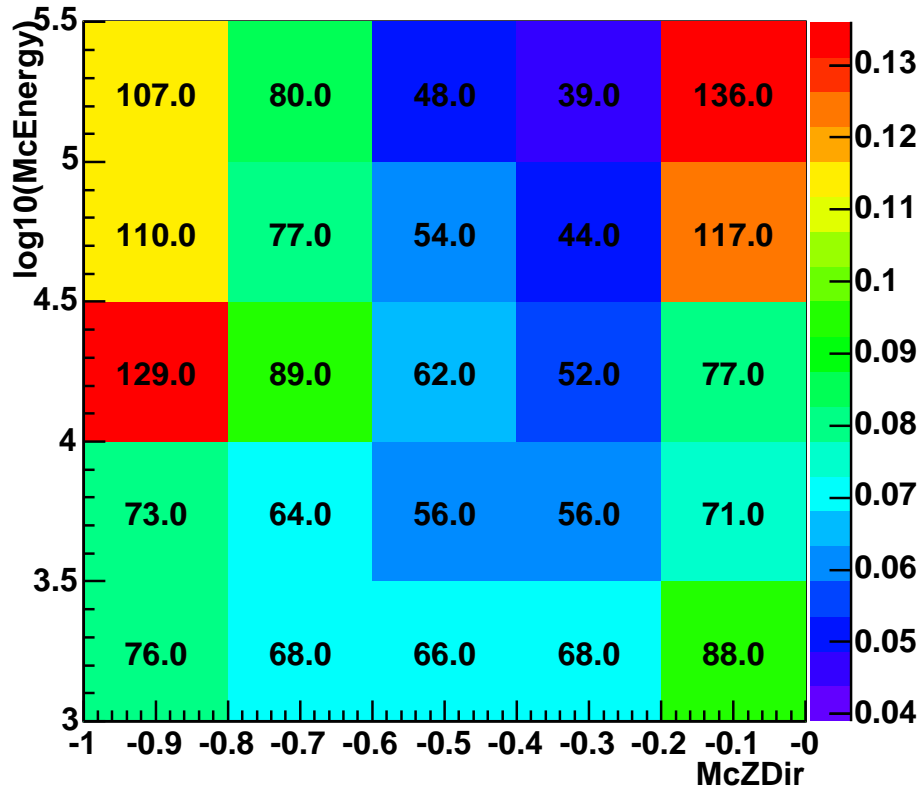
# Radiation length in cal

- CalCsIRLn<1 peak ?

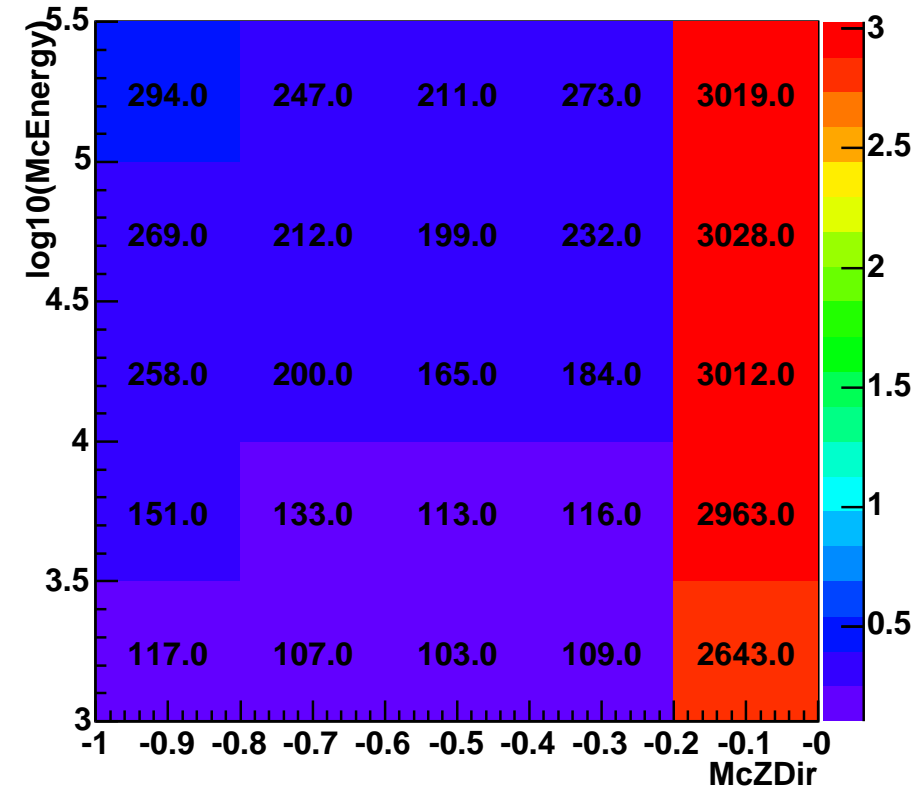


# PSF in mrad : no cut

68% PSF

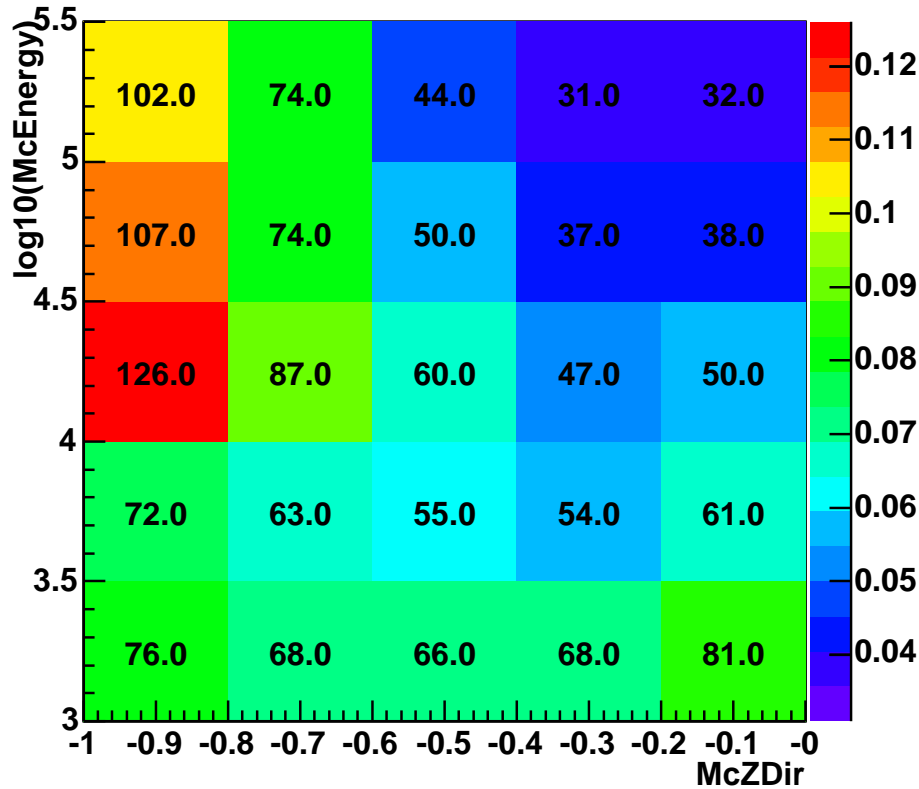


90% PSF

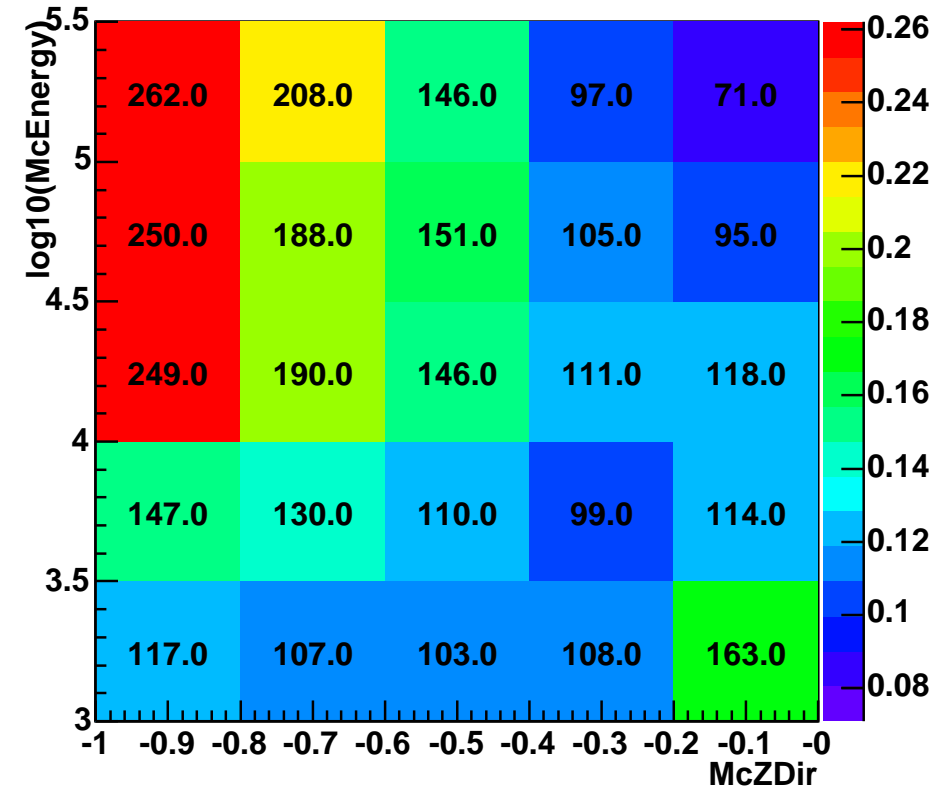


# PSF in mrad - after cuts

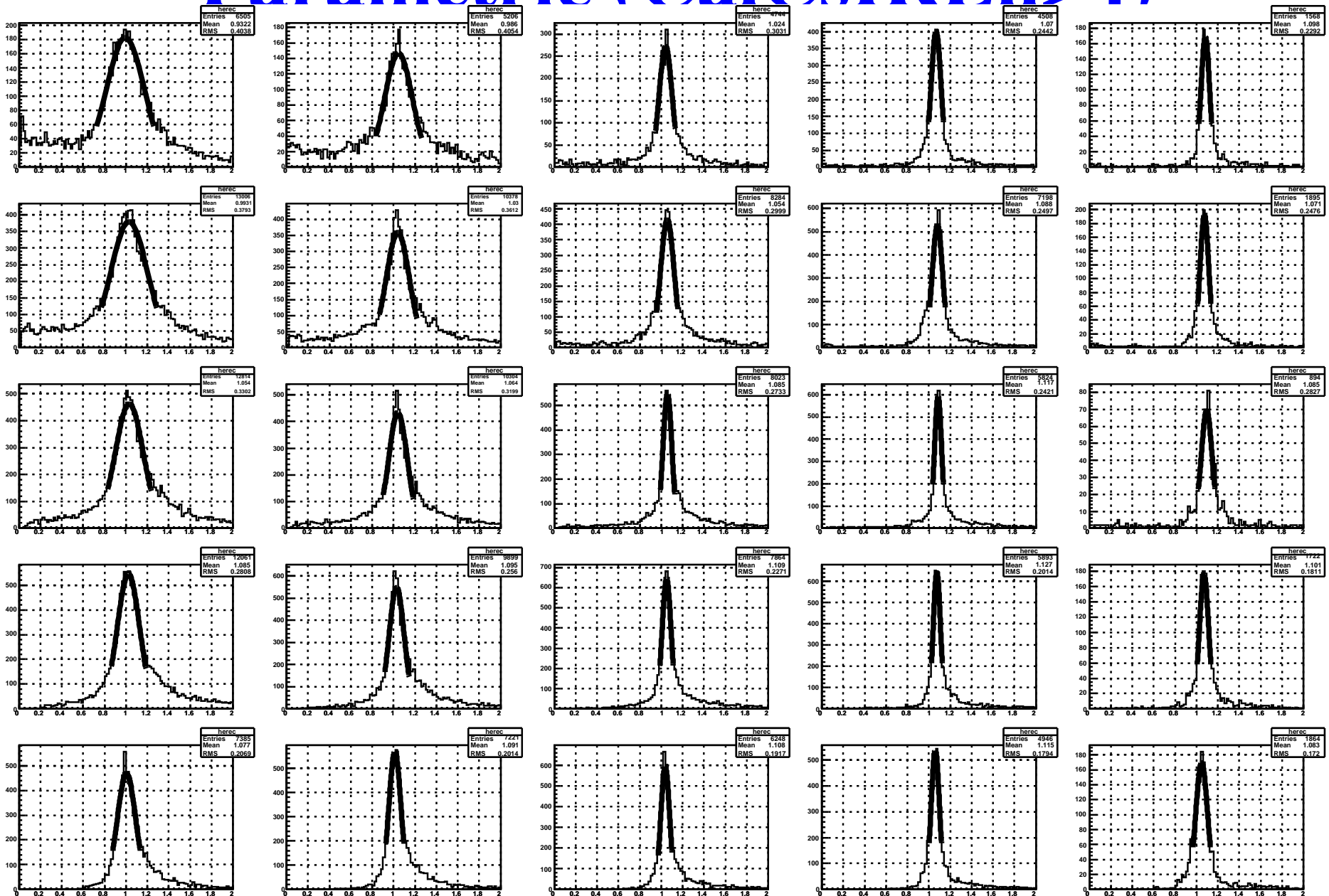
68% PSF



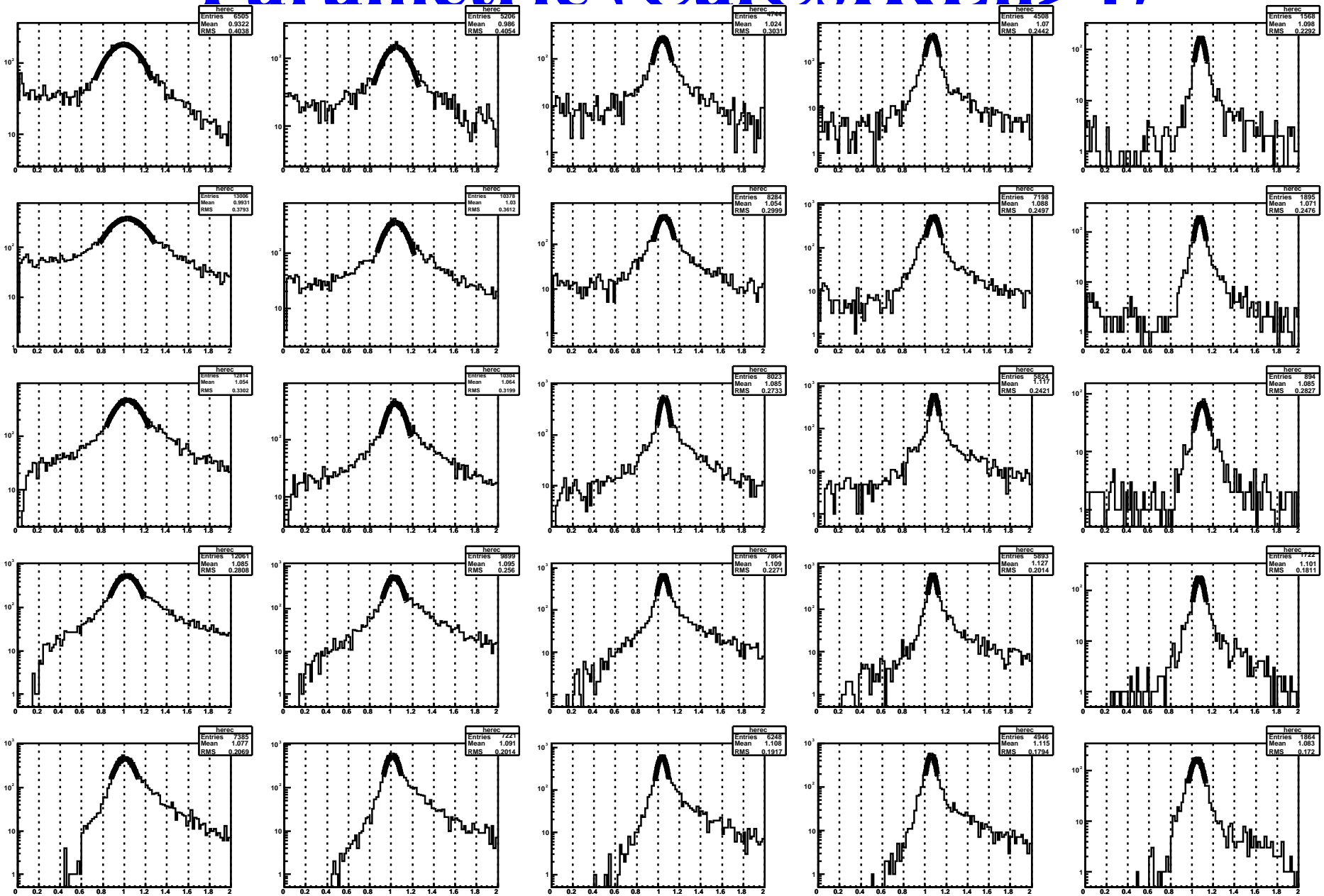
90% PSF



# Parametric (CalCsIRLn>4)

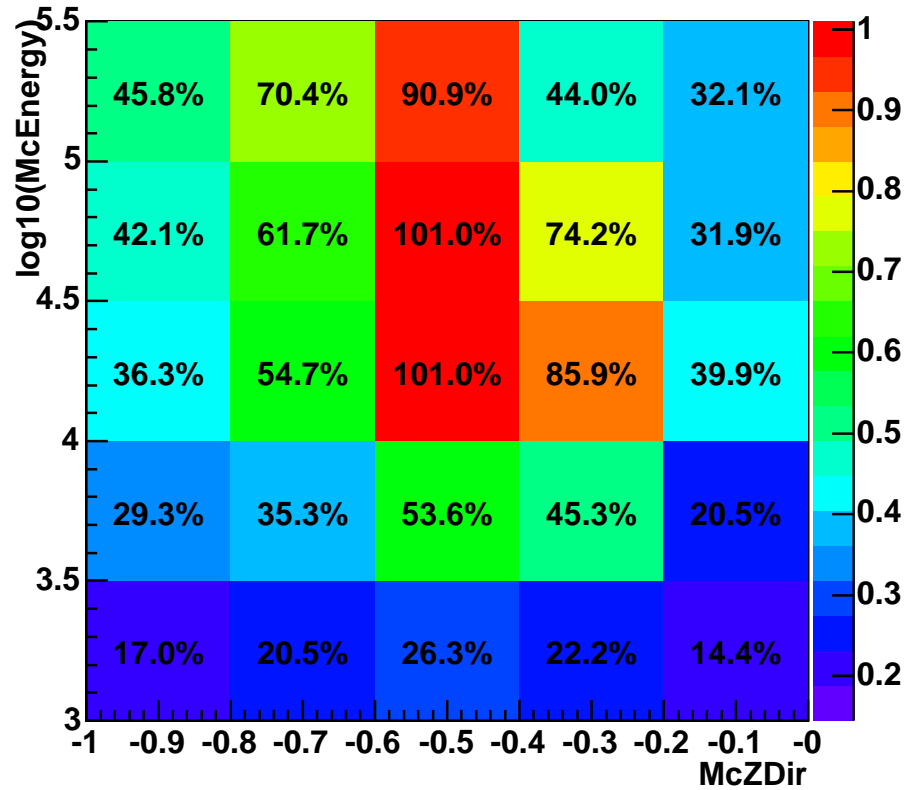


# Parametric (CalCsIRLn>4)

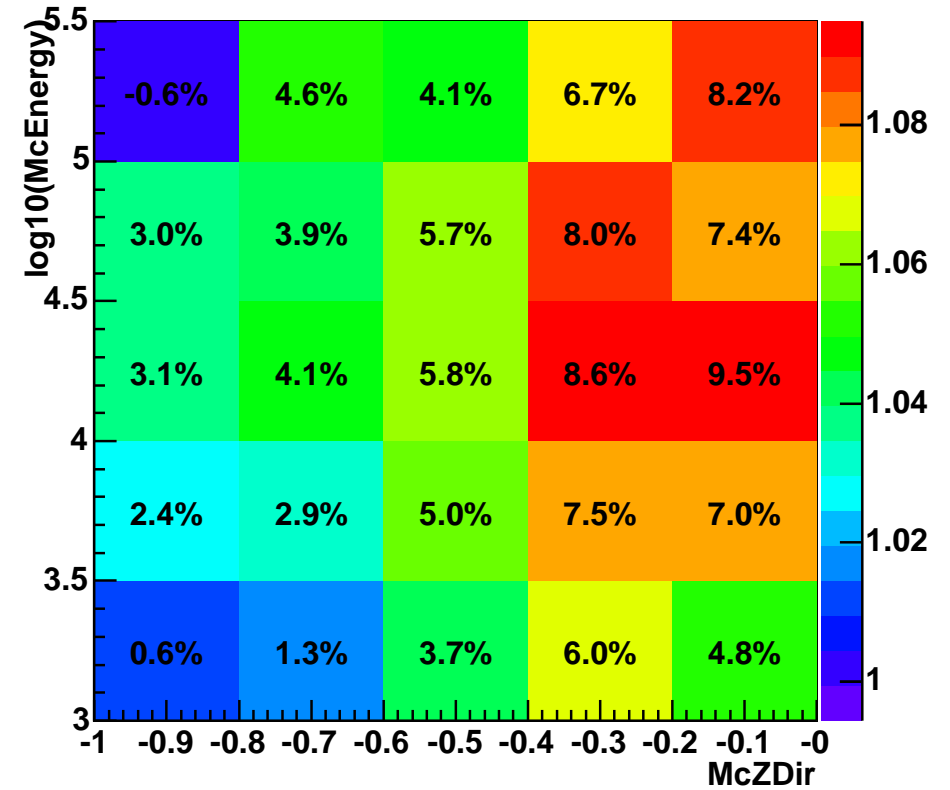


# Parametric (CalCsIRLn>4)

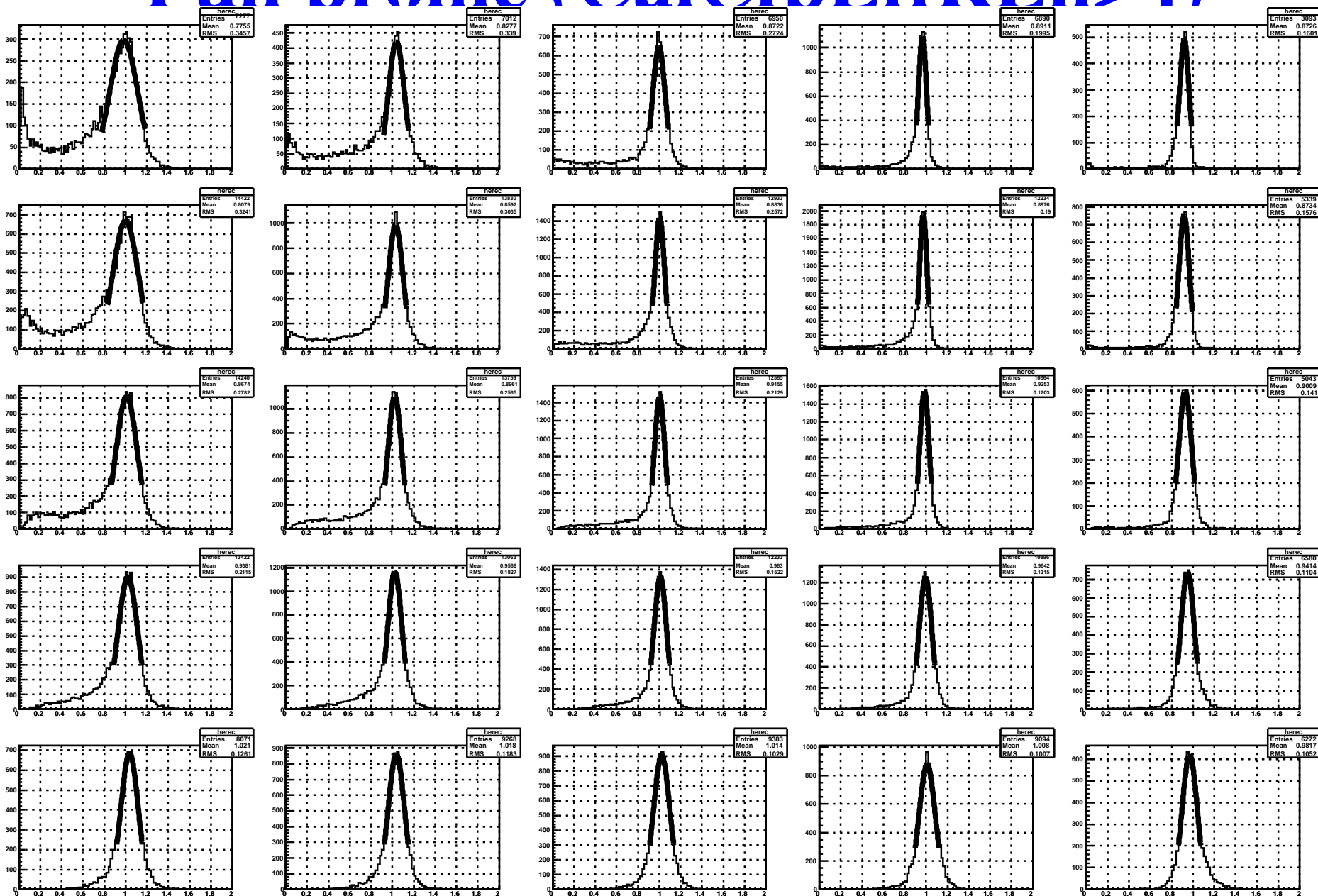
resolution



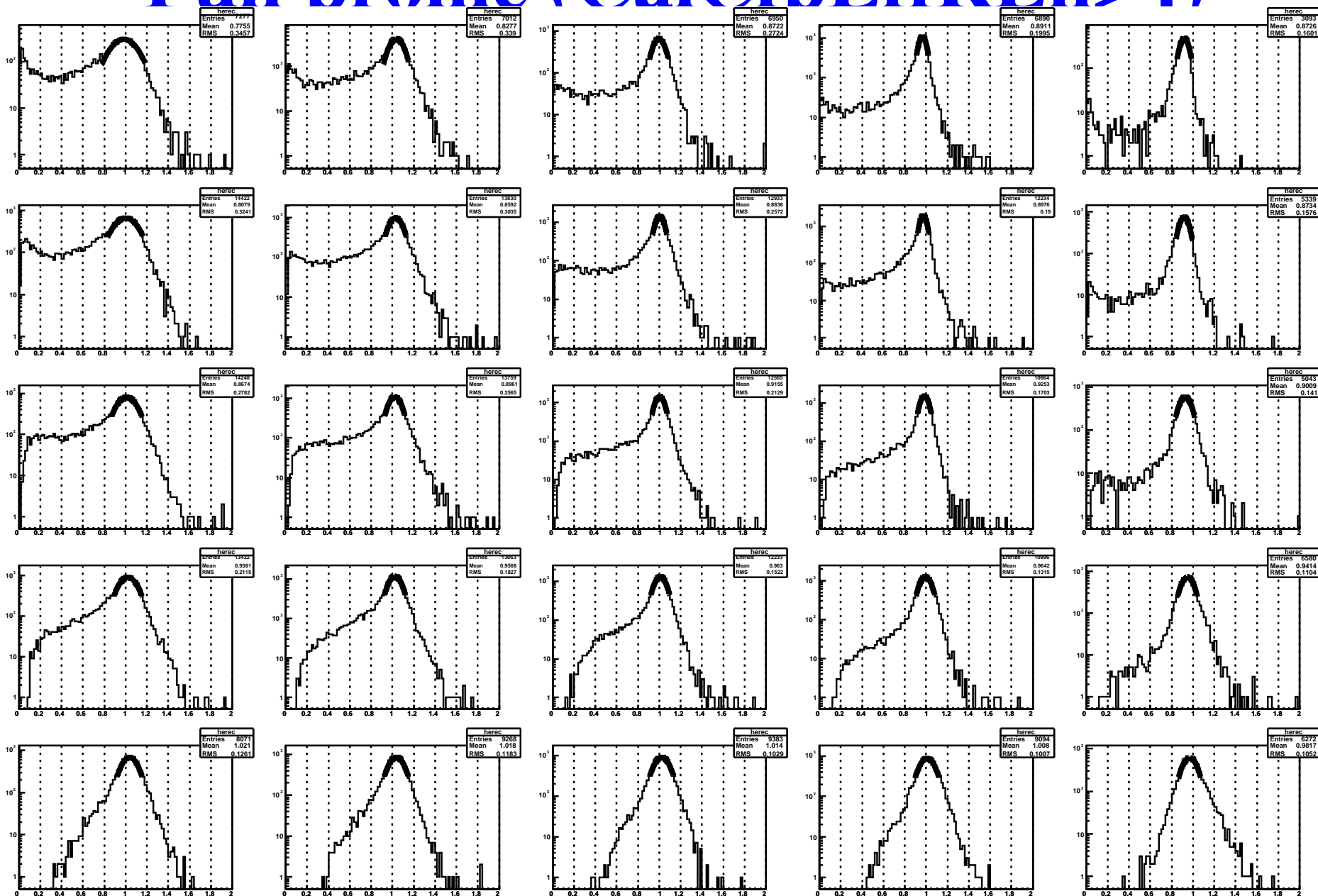
bias



# Full profile (CalCfbEffRLn>4)



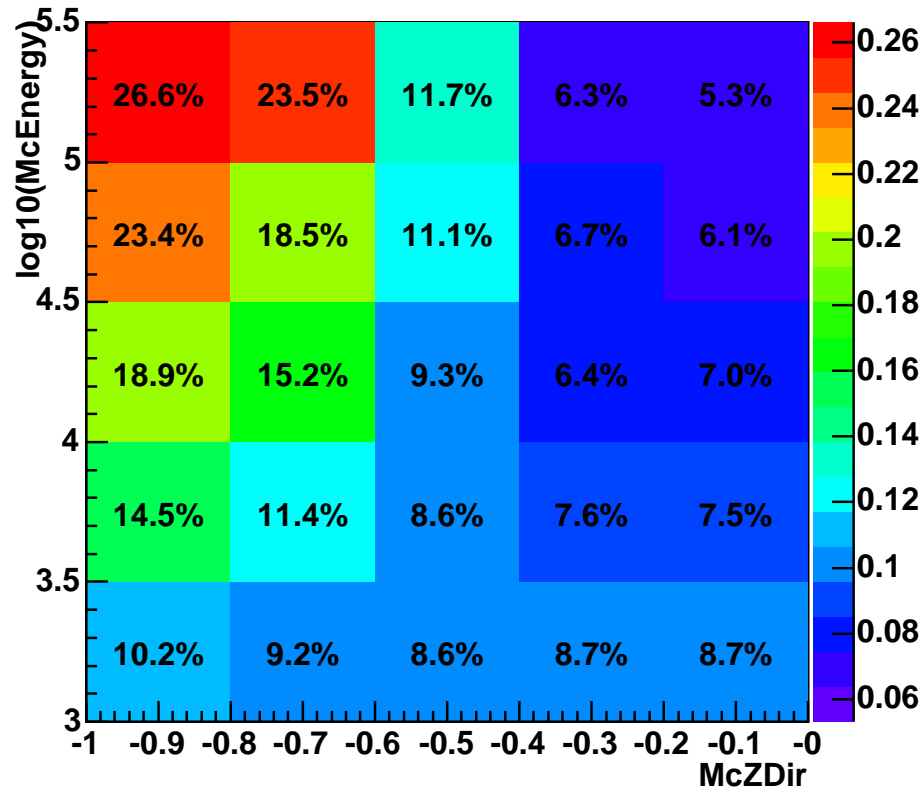
# Full profile (CalCfbEffRLn>4)



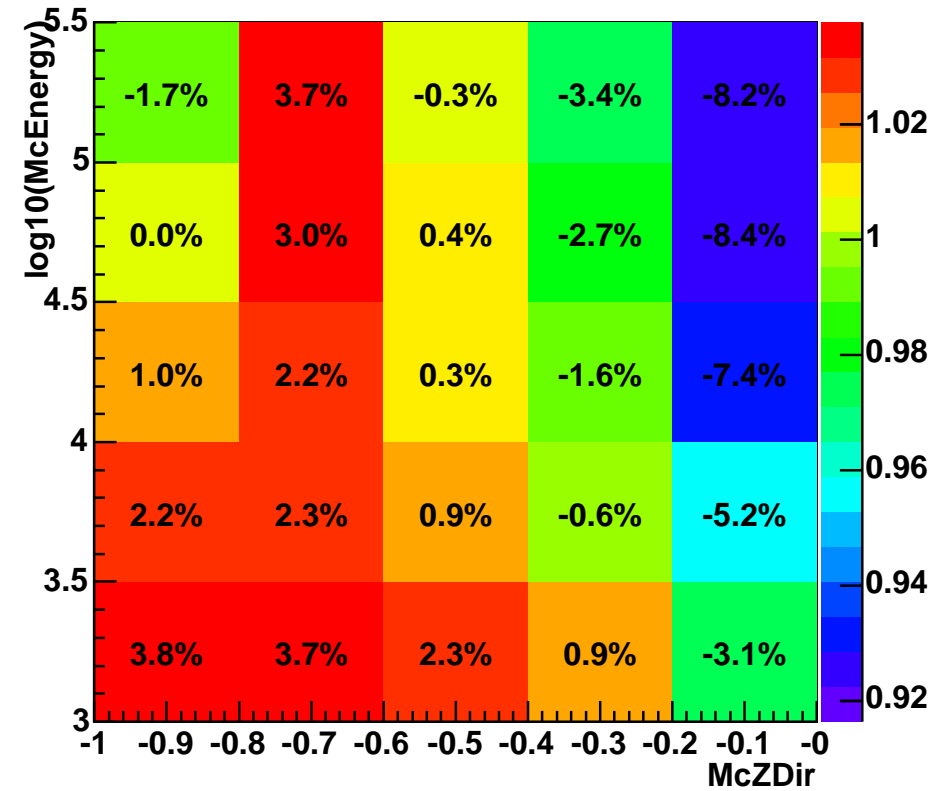


# Full profile (CalCfpEffRLn>4)

resolution



bias



# Conclusions

- what's the current situation ?
- after rather simple cuts : quite good !