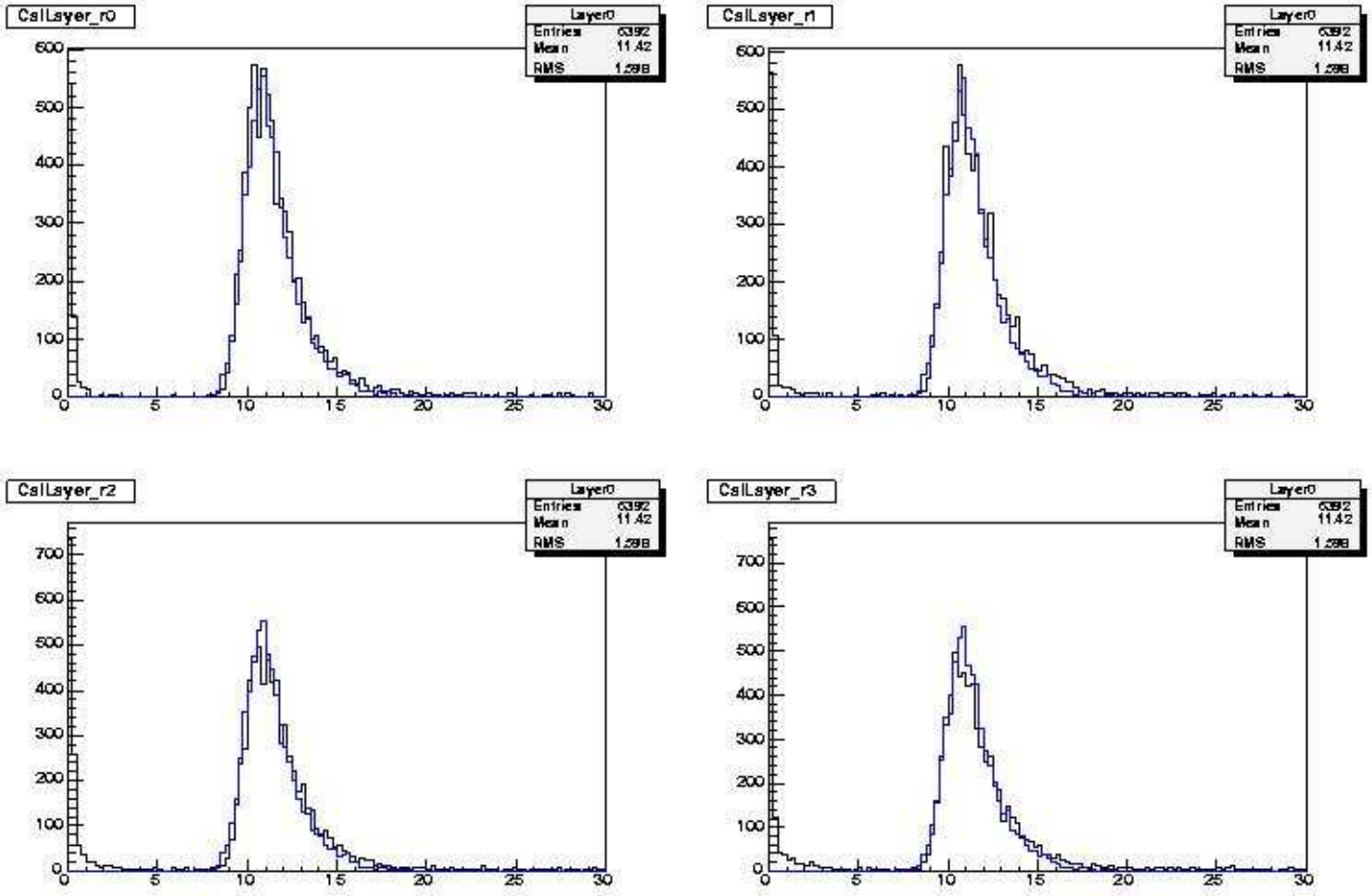
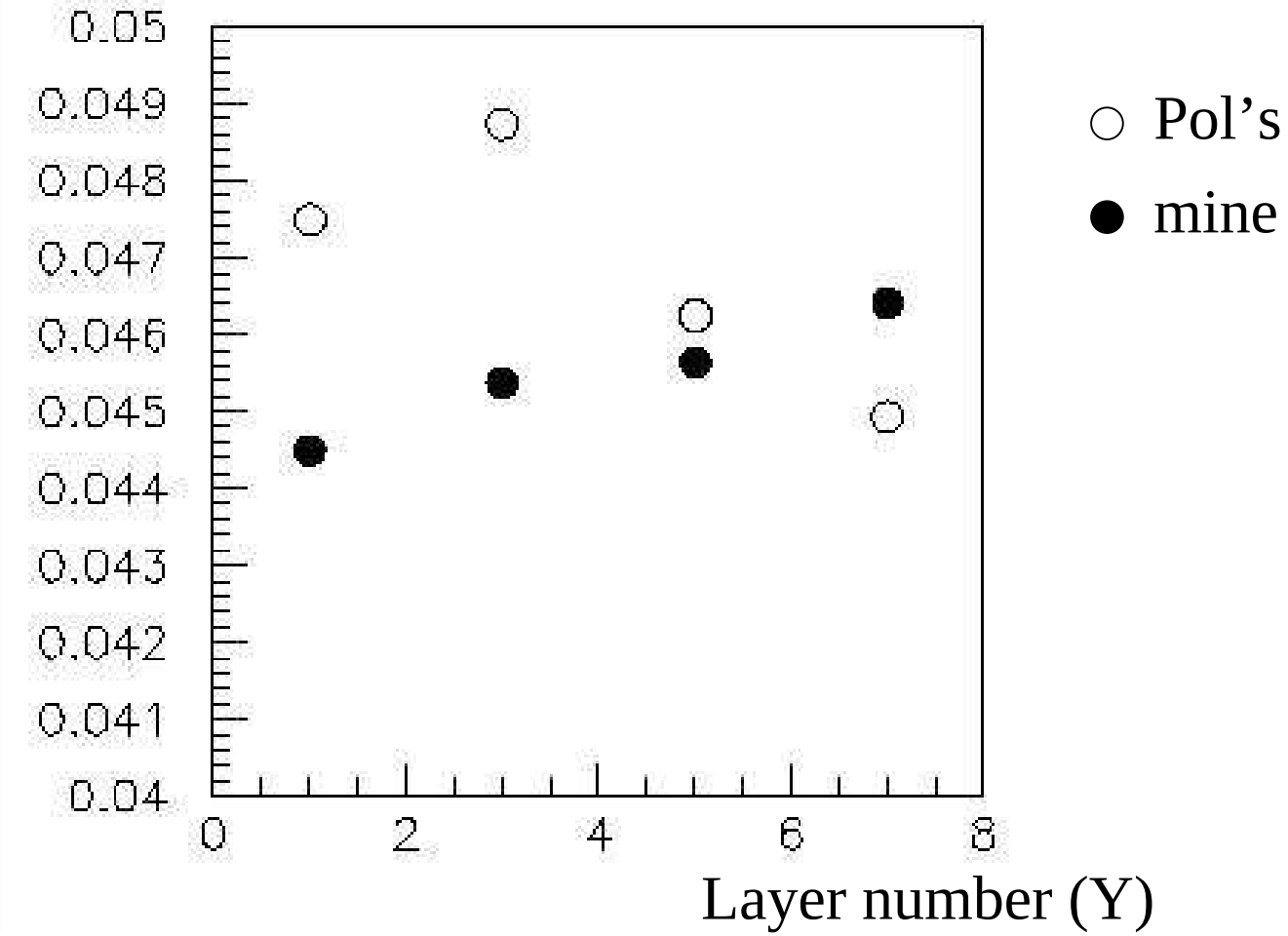
Position X=6 Y=6: run 165

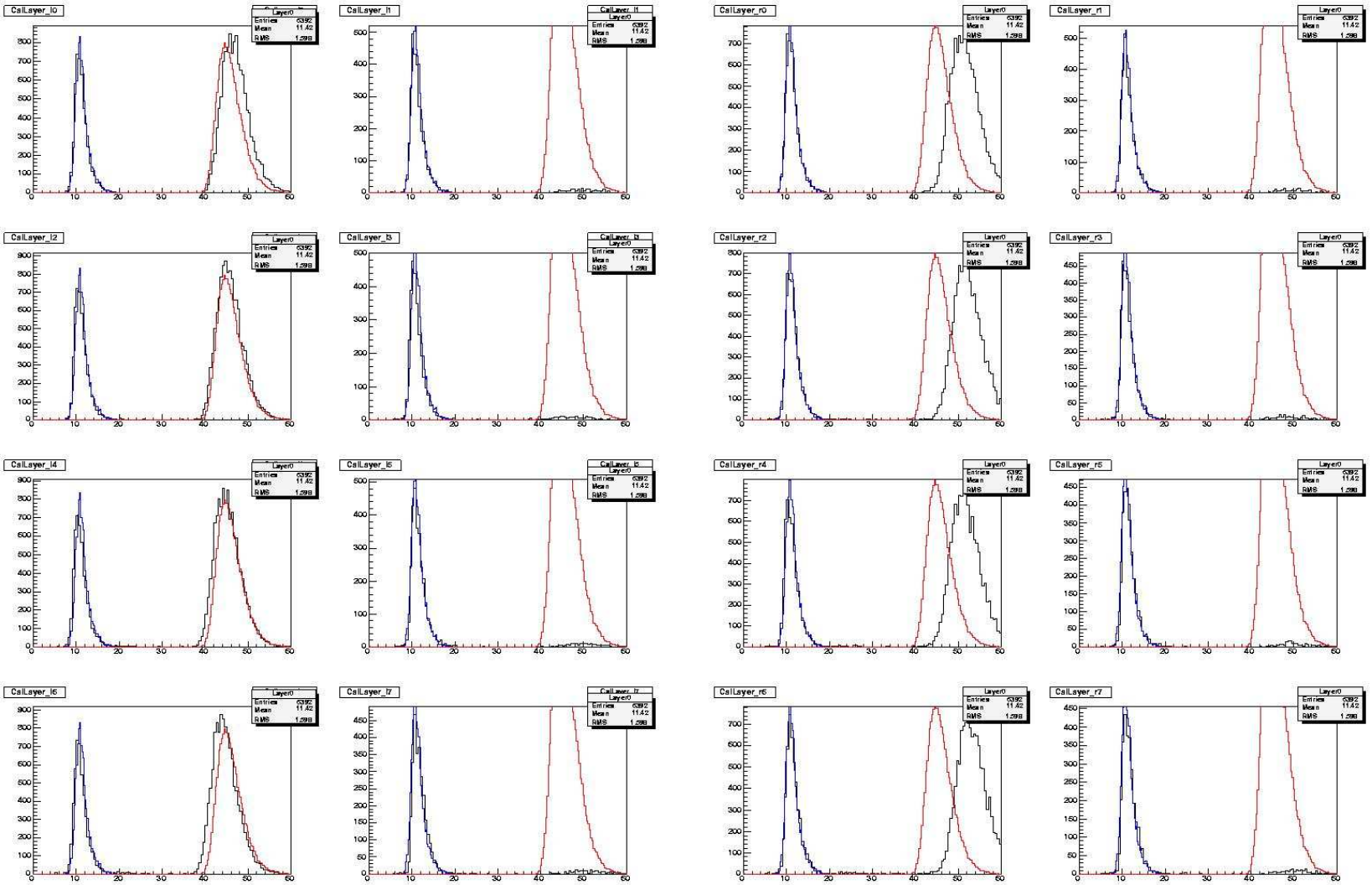


blue:G4+broadening (0.66 MeV)
black:data

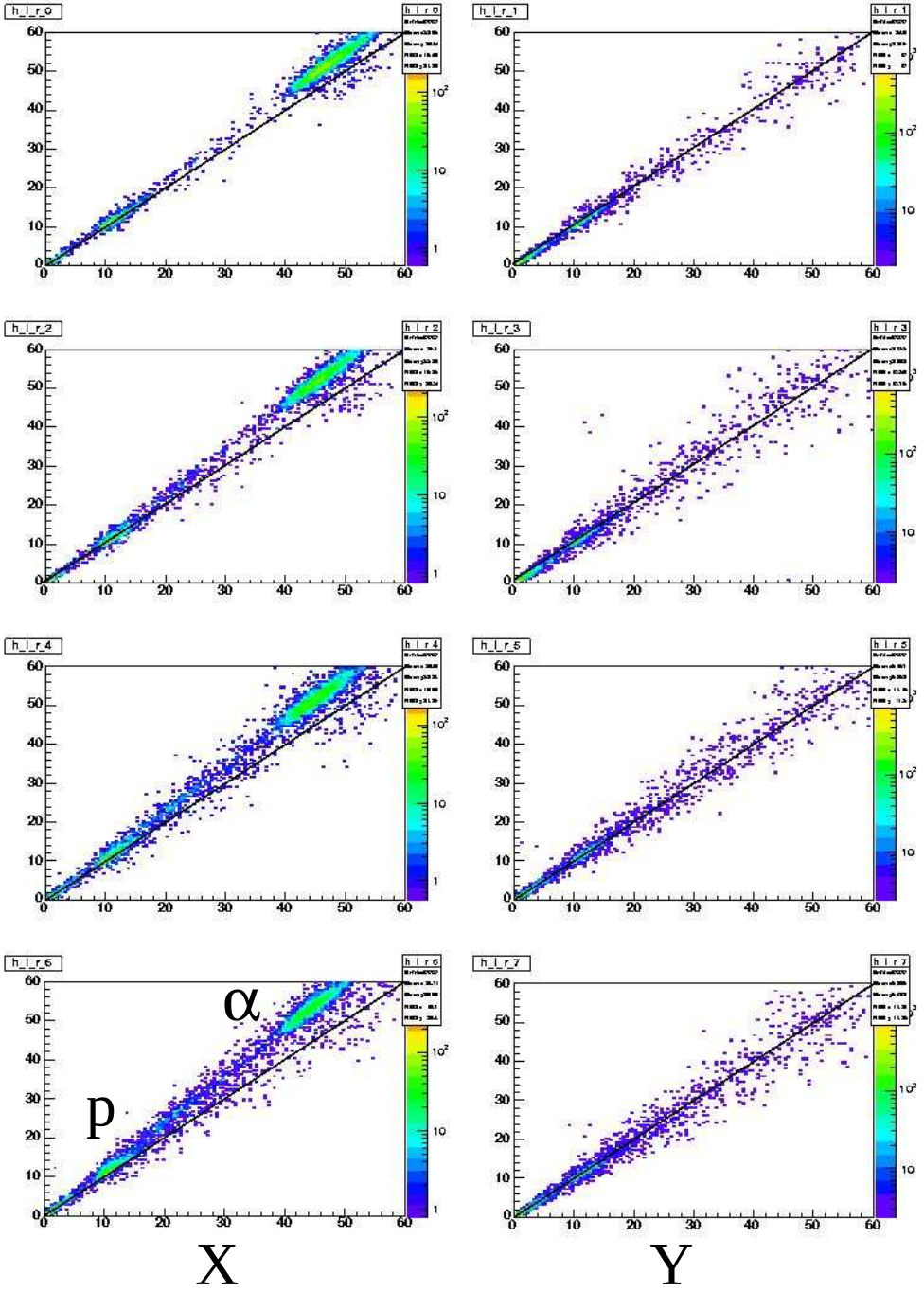
Comparison with Pol's values (Y layers)
obtained from the muon data



Run 178 « alpha beam» « X=6 Y=6 » but the alphas hit the Y=8 crystal!



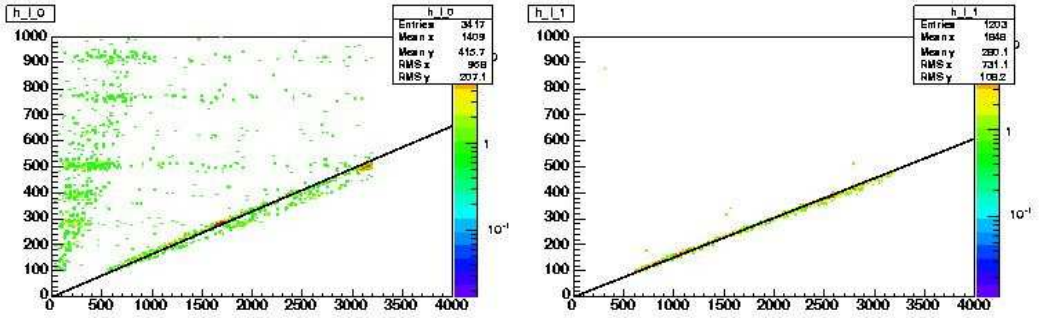
X « 0 / L» Y X « 1 / R » Y

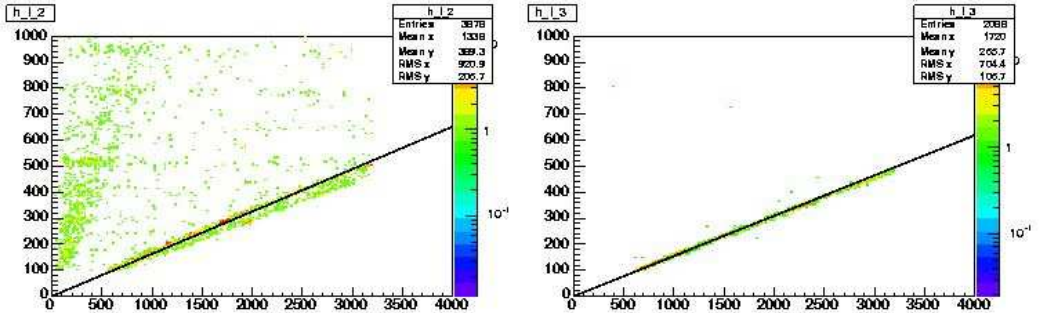


Protons and α do not hit at the same location. Correcting for this effect, the measured energy deposit for α is 9% (50.0 MeV instead of 45.9 MeV) too high as compared to the G4 predictions.

Left vs Right amplitudes

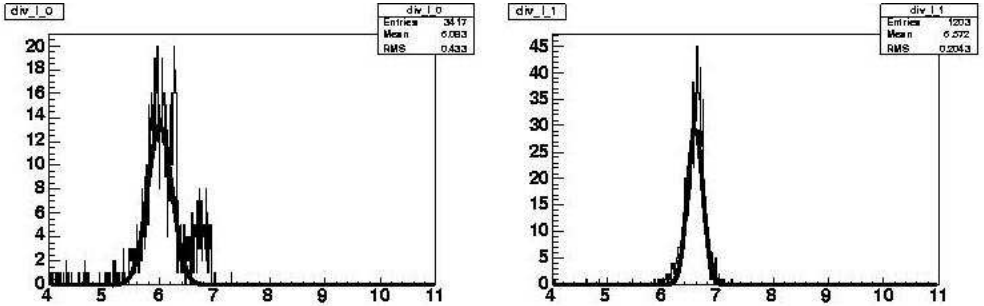
LEX1 vs HEX8

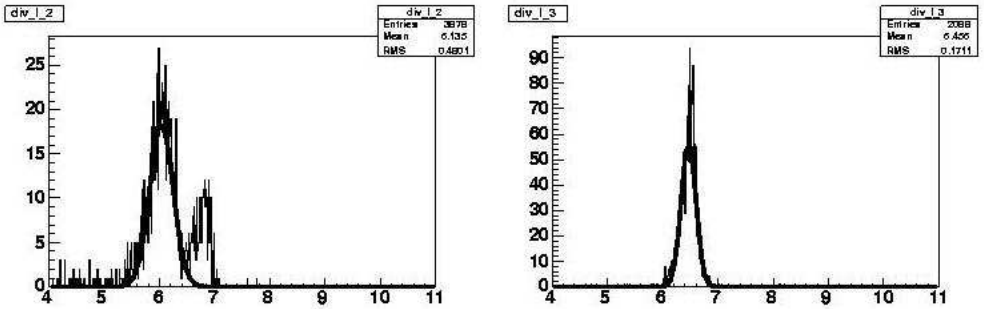




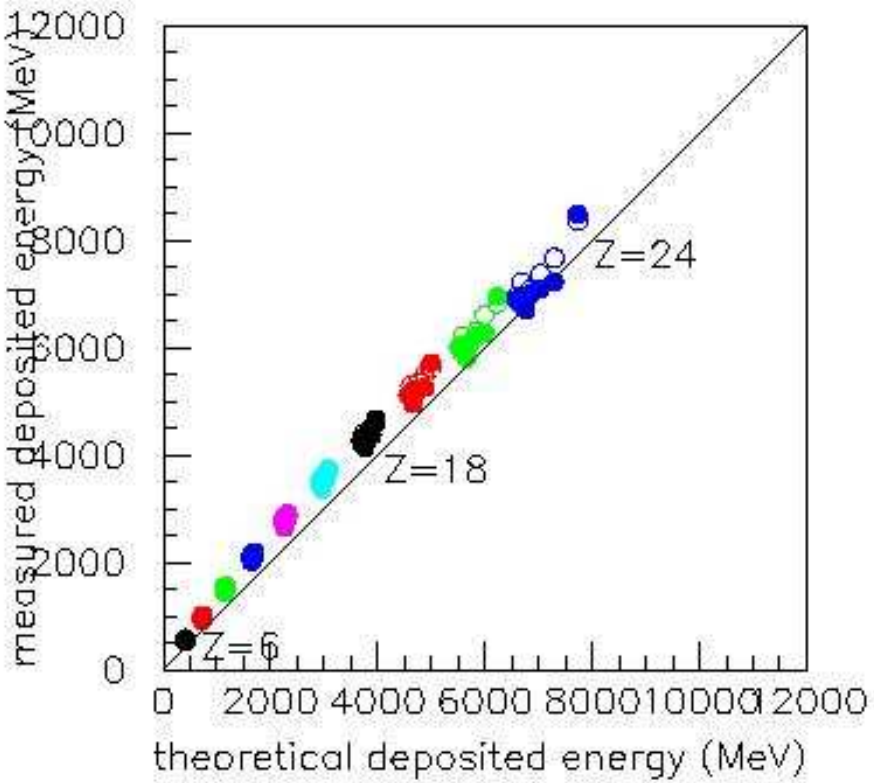
HEX8/LEX1

Ratio

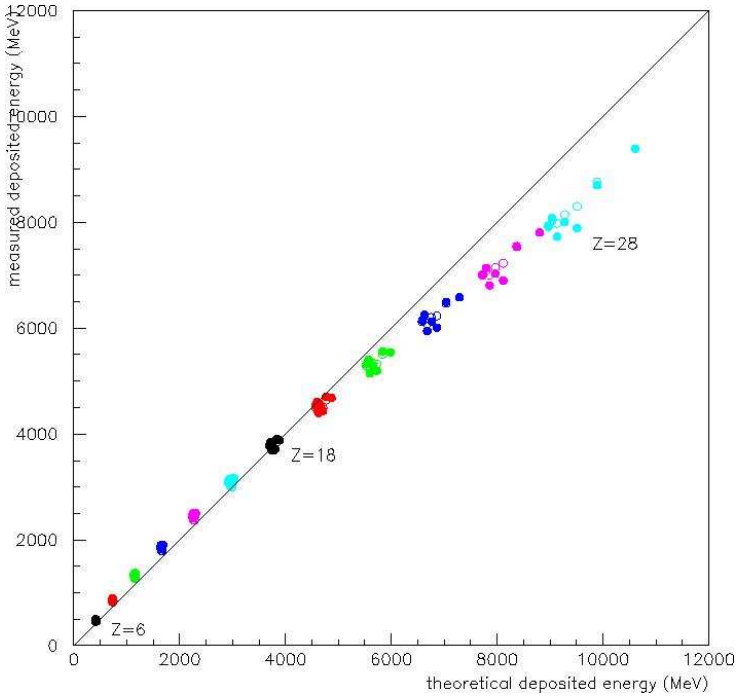




Quenching



EM



minical

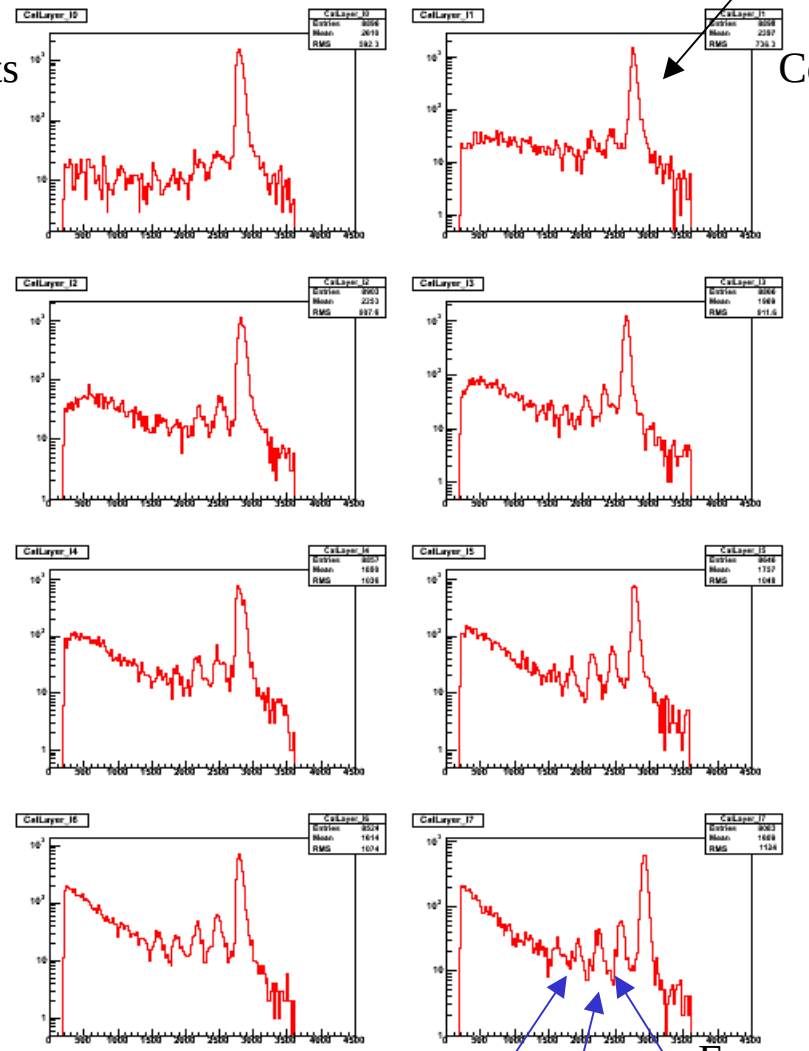
Silicon (Z=14)

GSI data (1.7 GeV/nucleon)

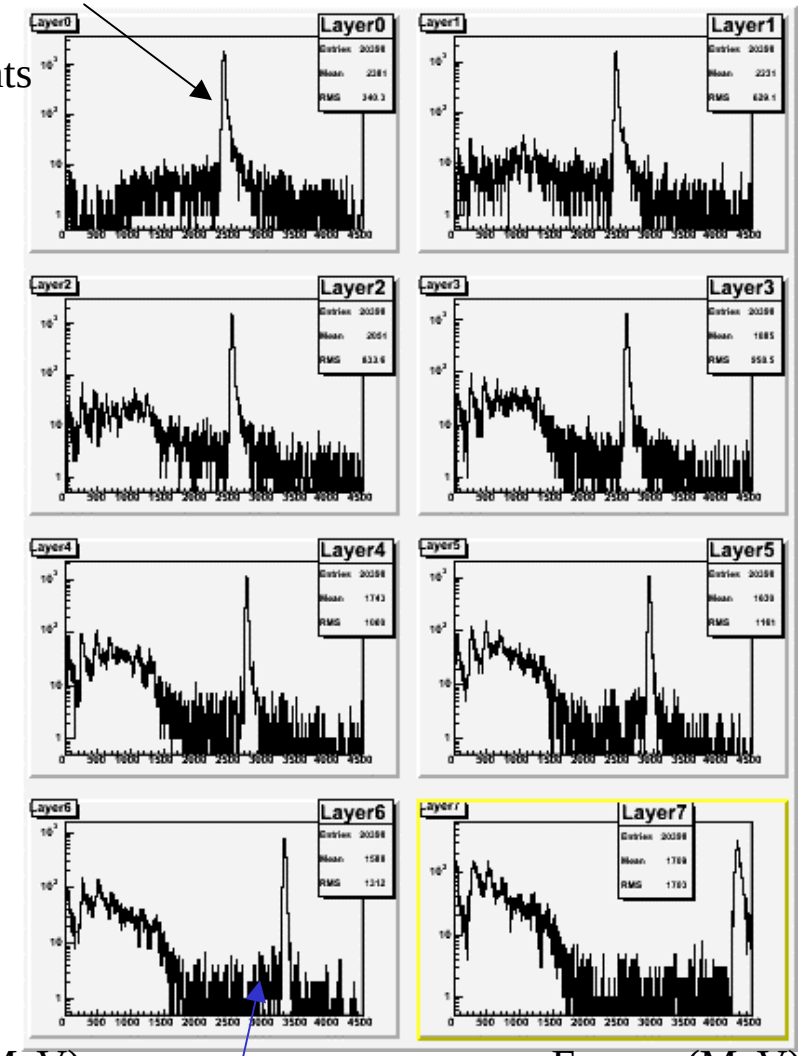
JQMD (1 GeV/nucleon)

Ionisation peaks

Counts



Counts



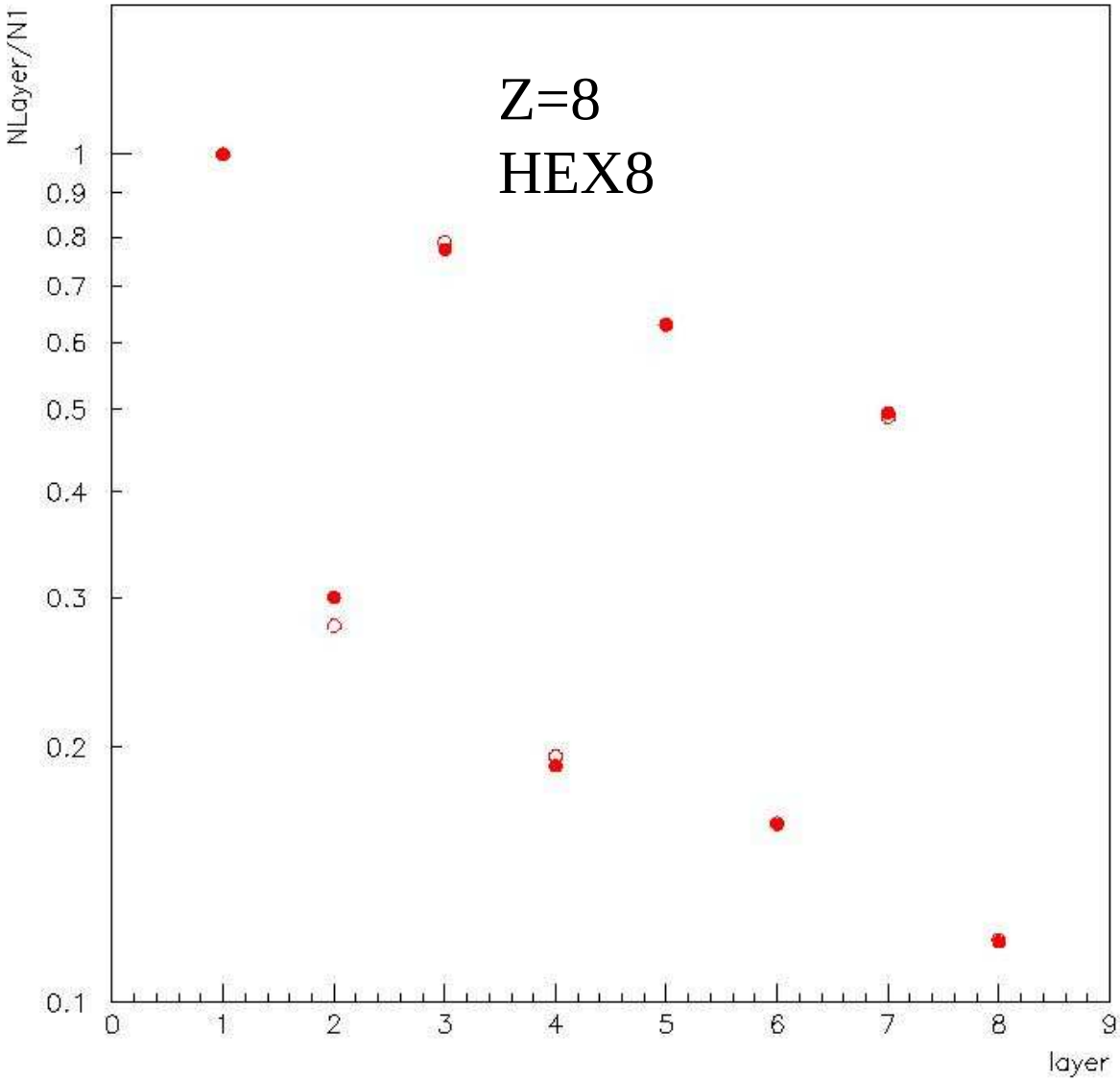
Energy (MeV)

Energy (MeV)

Charge-changing events: Z=11 Z=12 Z=13

Where are the charge-changing events?

Cross sections



$P=\exp(-x\sigma\rho)$

x:depth

σ:reaction cross section

ρ:density

σ in G4+JQMD is twice too large!