Update on the longitudinal shower profile

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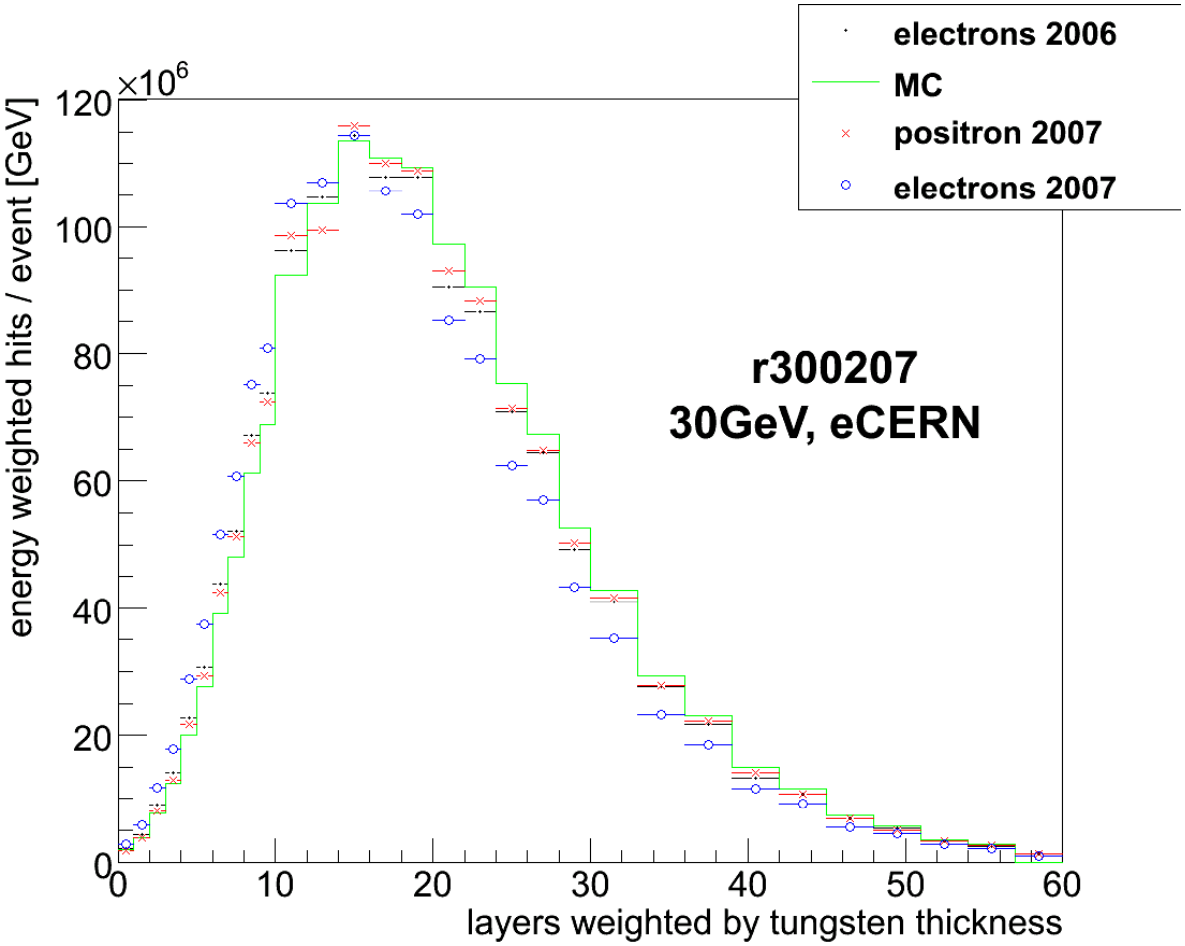
Event selection

- gap correction
- energy range cut
- threshold value for ECAL / MIP
- double event cut

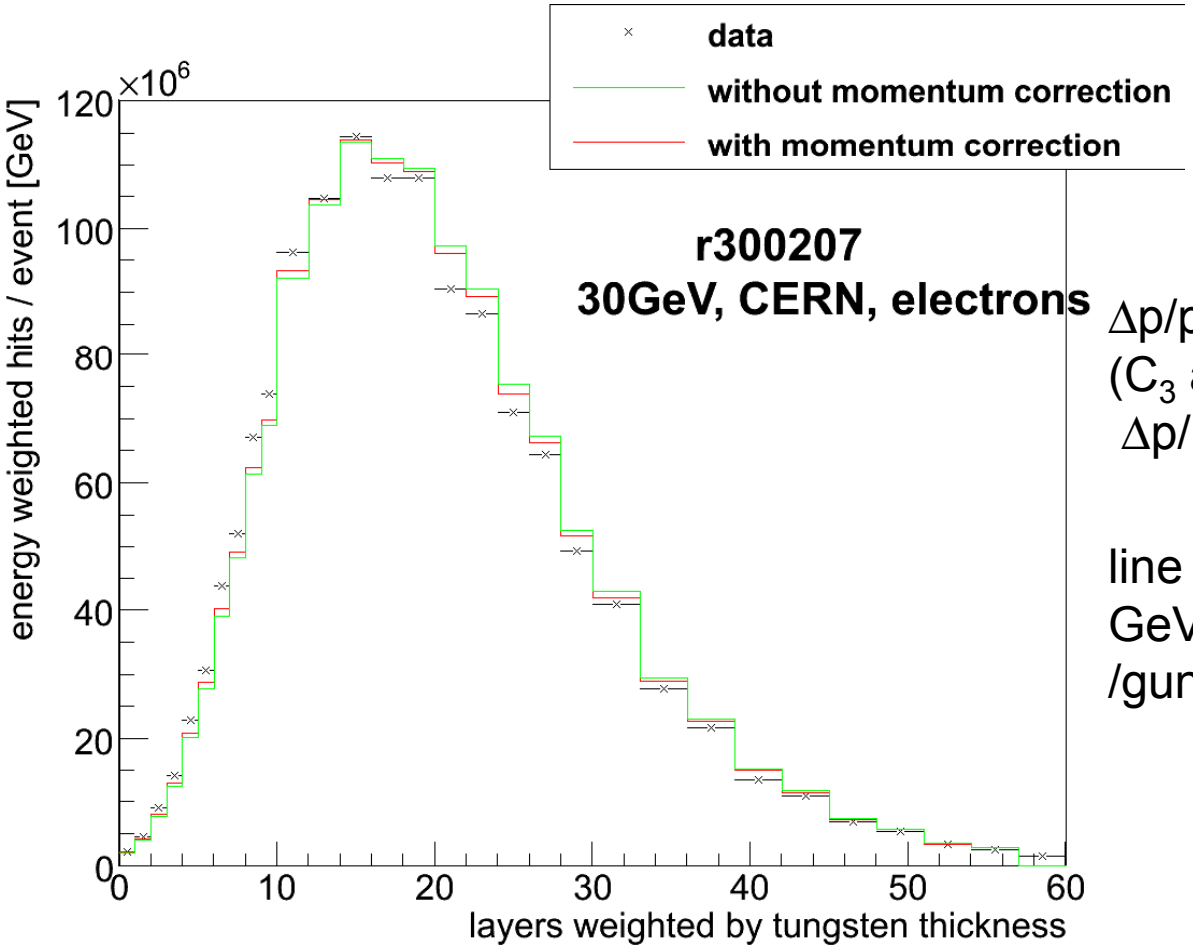
$\Rightarrow$Used the MARLIN processor by David Ward

2006 -2007 comparison



- all of David's cuts incorporated
- electron profile quite different between 2007 and 2006

effect of momentum smearing on the simulation



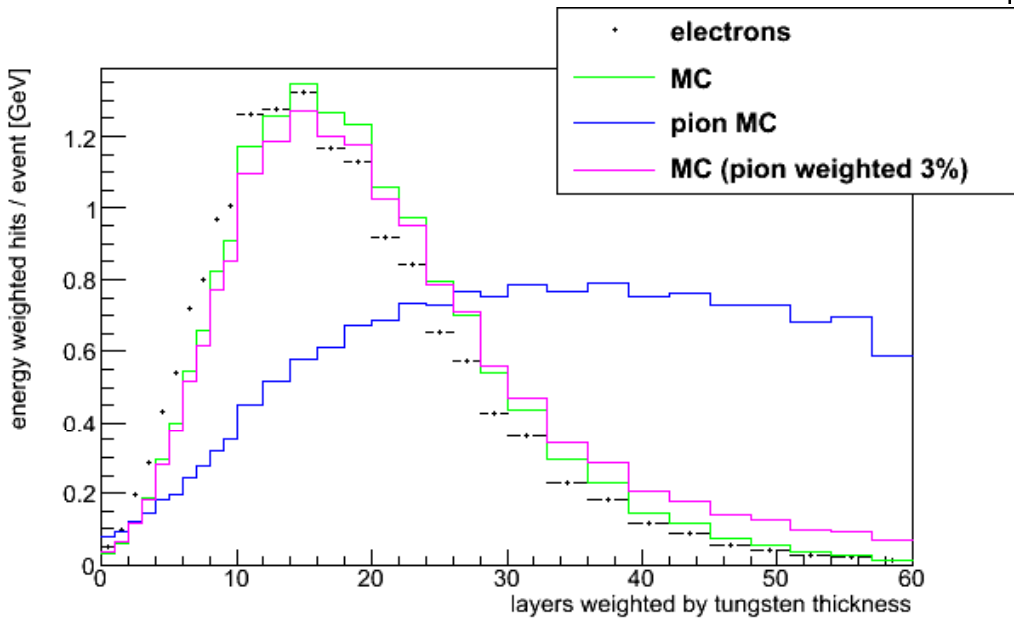
$\Delta p/p = \sqrt{(C_3^2 + C_8^2)} / 19.4\text{mm}$ [%]
(C_3 and C_8 being collimator settings)
$\Delta p/p = 0.22\%$

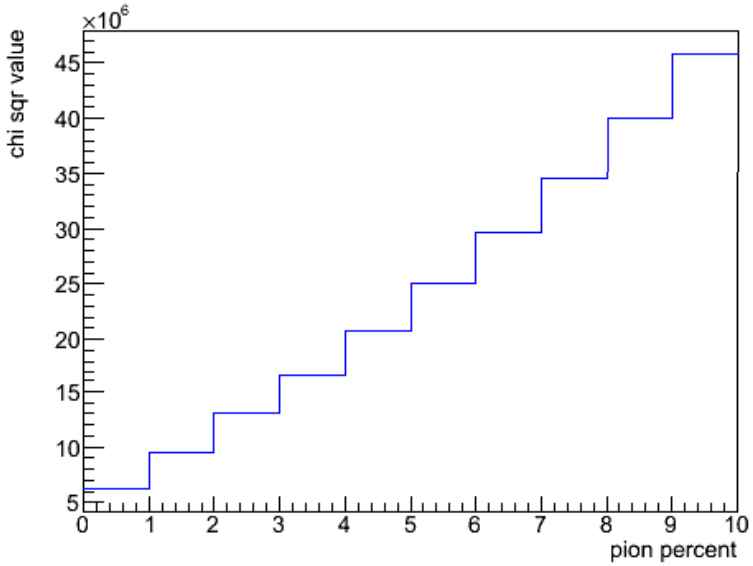
line in MOKKA steering (e.g. for 45 GeV):
/gun/momentumSmearing 0.098GeV

momentum smearing helps decreasing the discrepancy between MC and data

Pion contamination

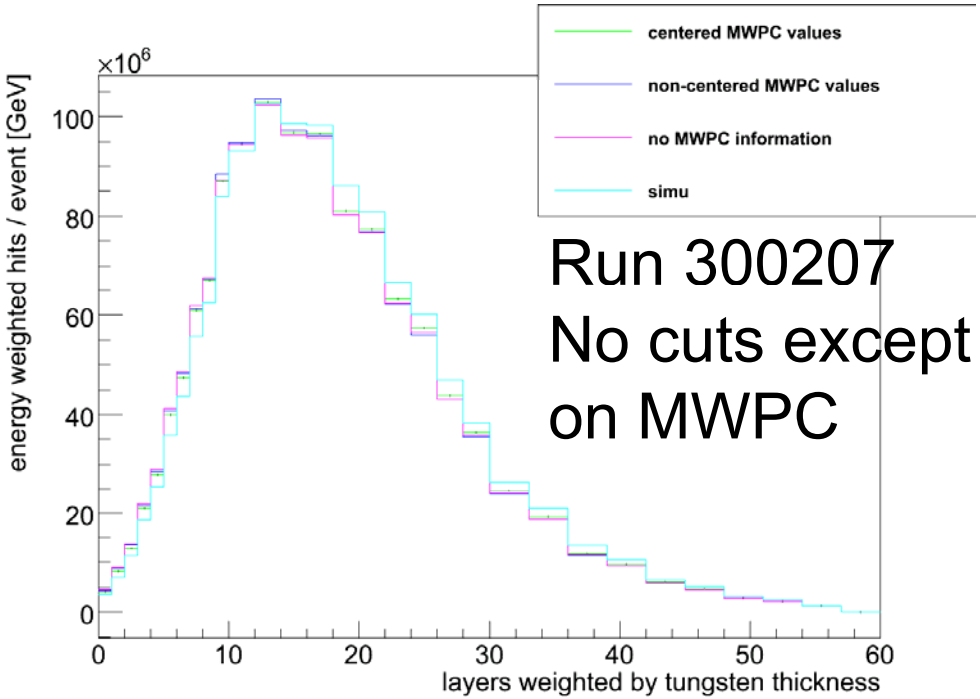
Michael Abraham

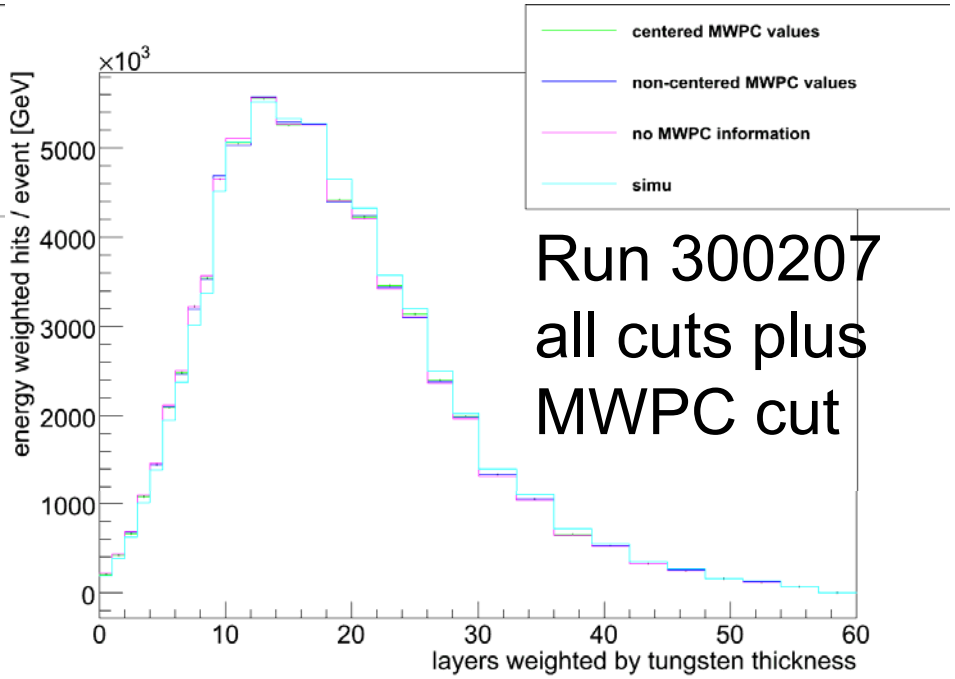




tested over a range of 0-10% pion contamination. steady increase in Chi^2 value as pion contamination is increased

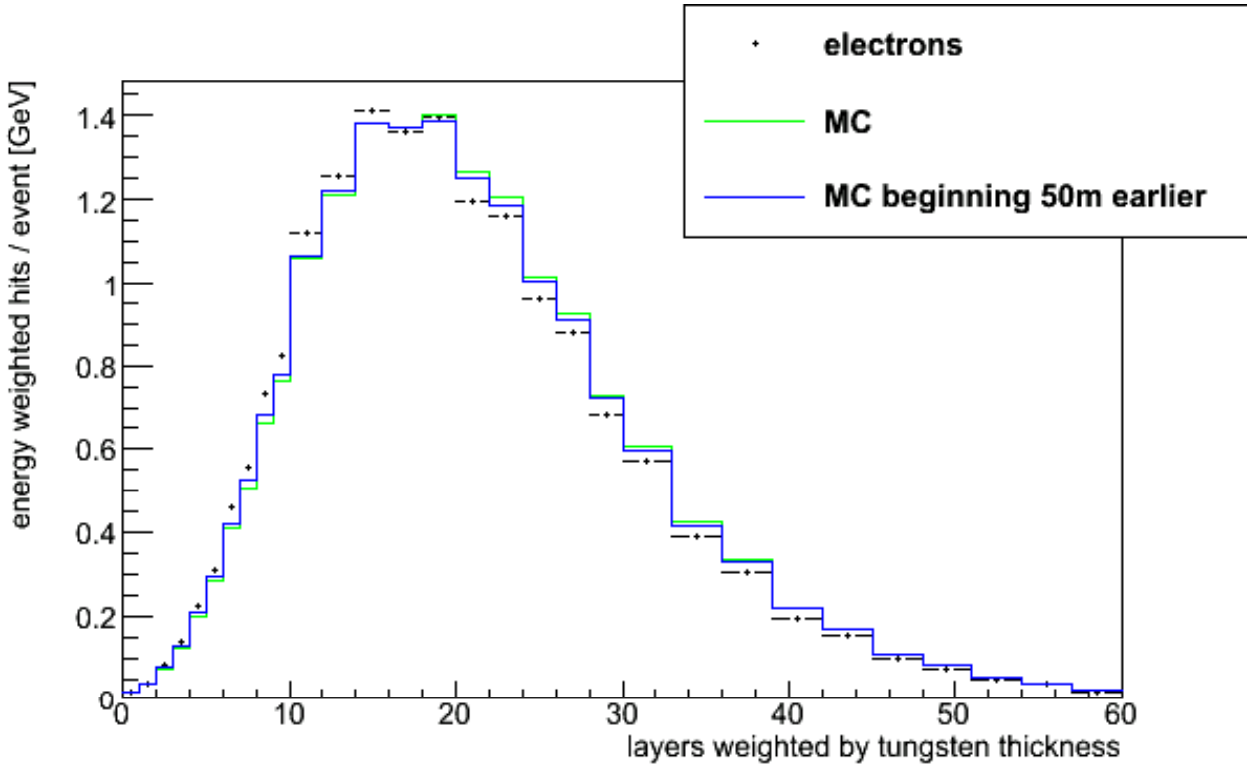
MWPC tracks





- MWPC cut highly correlated to double event cut
- plus reduces data and MC by 50% because of efficiency of MWPC

simulation of air in front of testbeam setup



slight improvement with David's MC samples

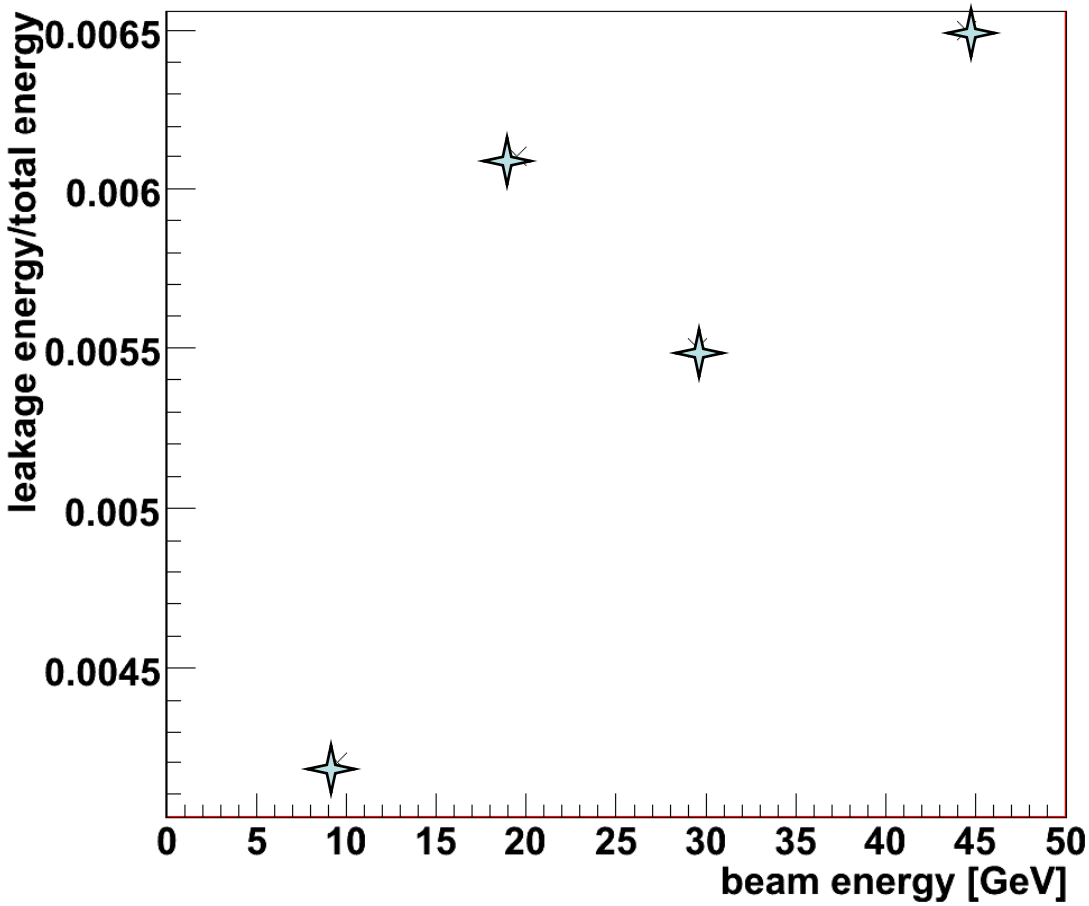
conclusion

- new MC for 2007 needed for comparison

- slight improvement in the MC simulation by incorporating momentum smearing, air before calorimeter

- update on leakage energy comes soon

leakage energy



fractional longitudinal leakage energy vs beam energy