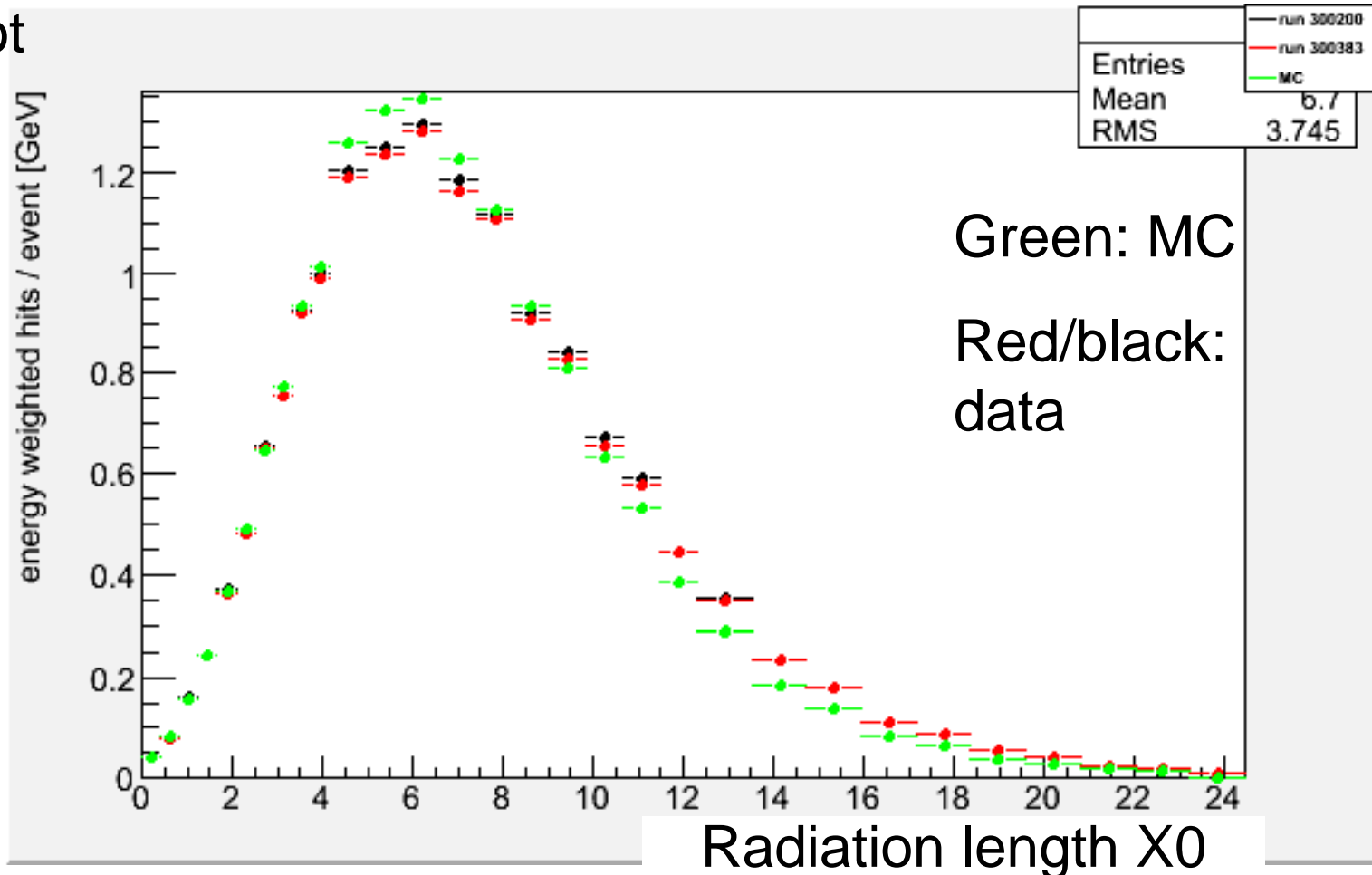# Longitudinal shower profile update

Valeria
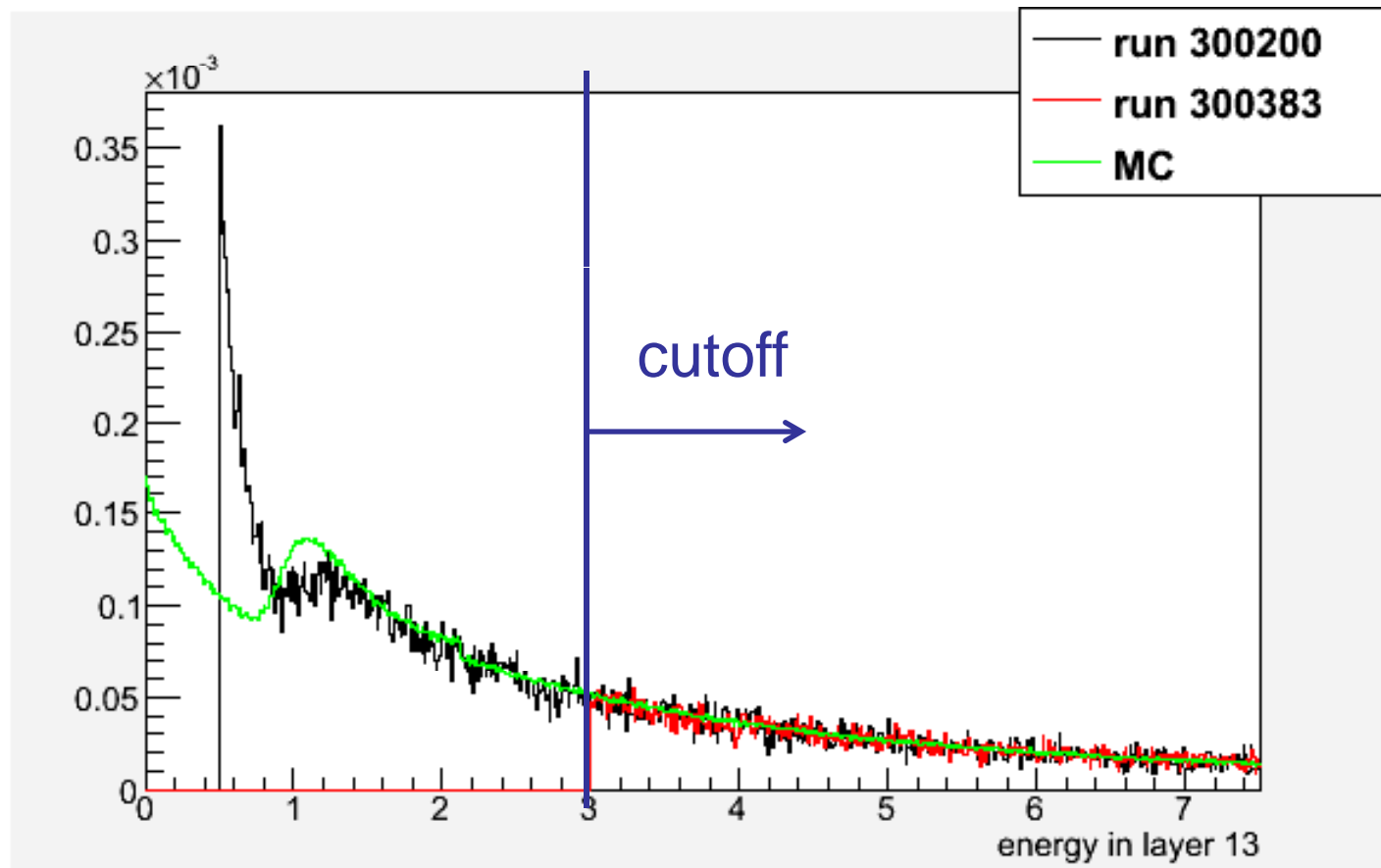
MC and data comparison

found a bug which helps the MC and data comparison a lot
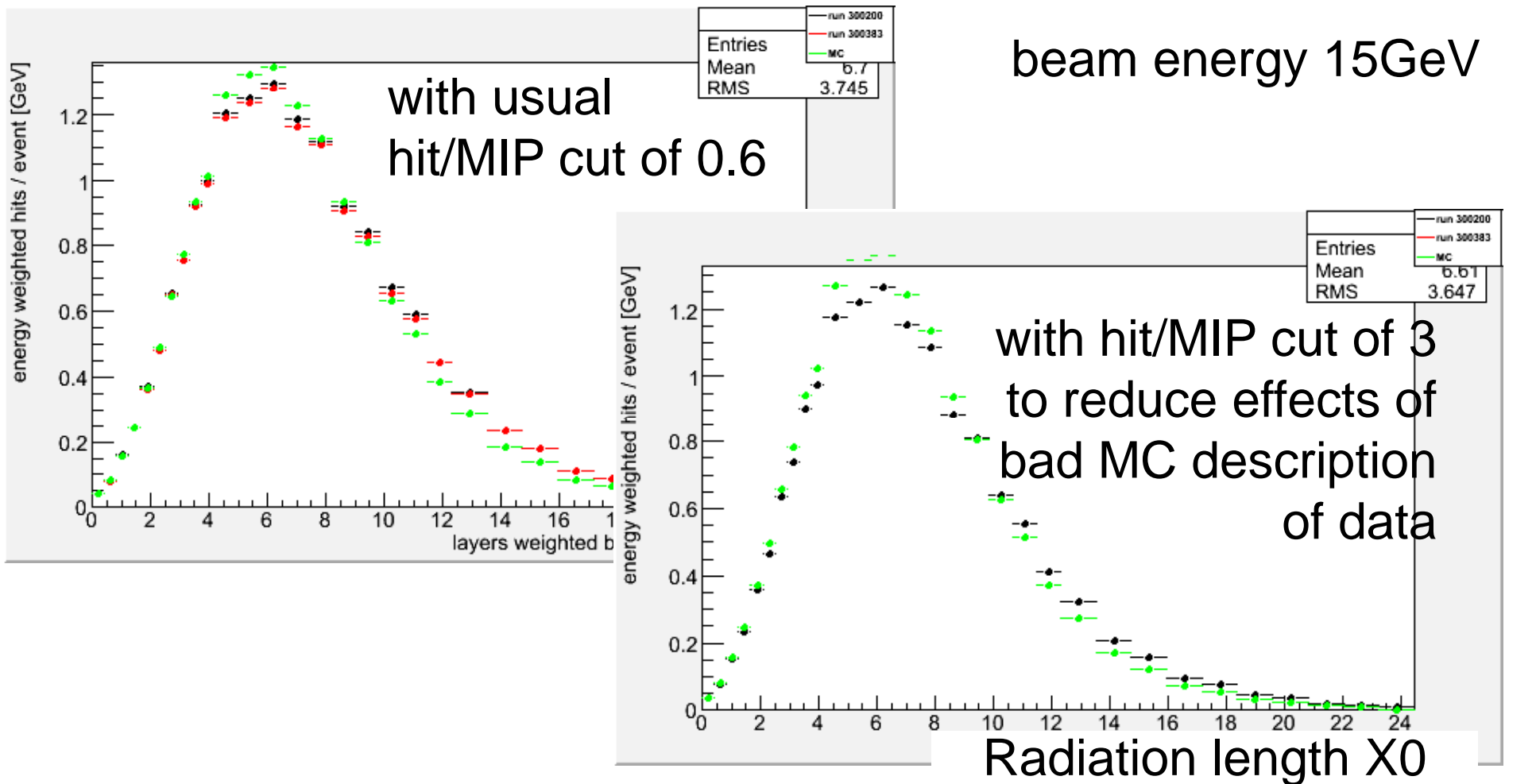

Green: MC

Red/black: data

Radiation length X0

- beam energy 15GeV

Change of energy/MIP cut

MC and data comparison

with usual
hit/MIP cut of 0.6

beam energy 15GeV

with hit/MIP cut of 3
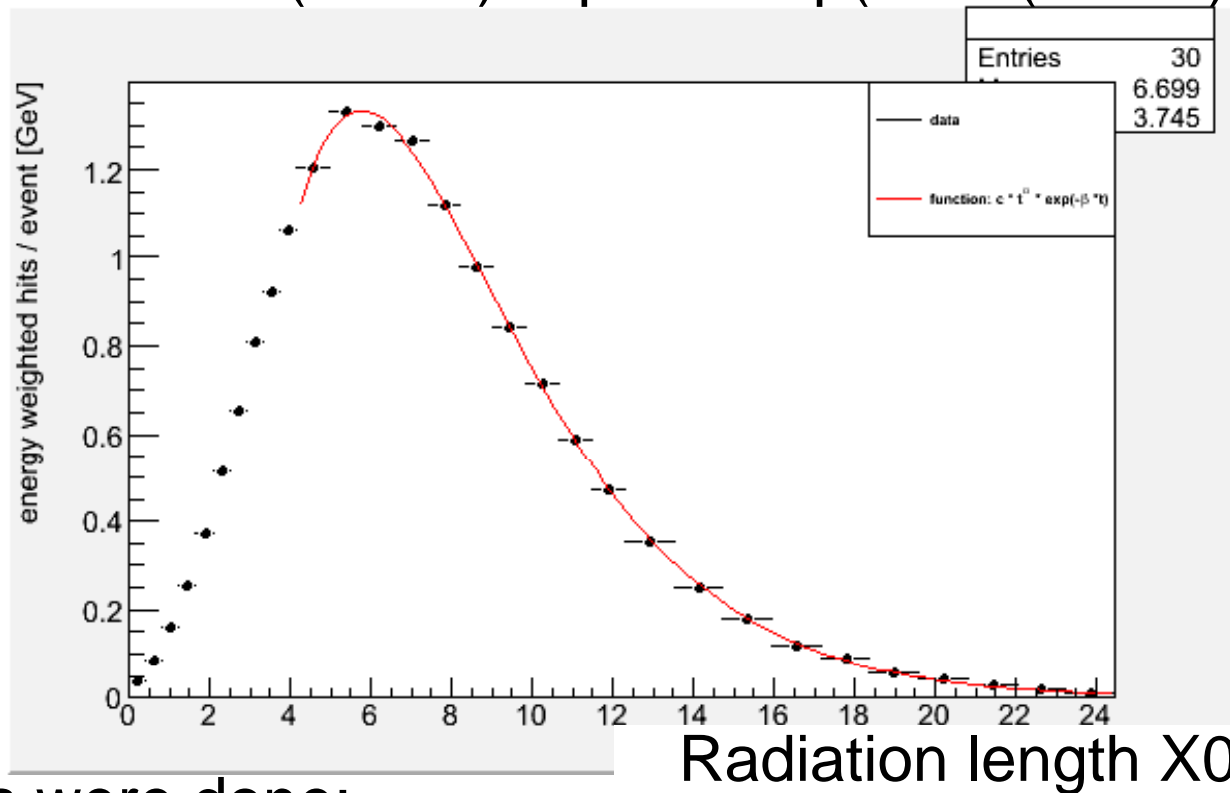to reduce effects of
bad MC description
of data

Radiation length X0

=> hit/MIP cut of 3 even worsen MC description of long. shower

Fit to data

Shift calculated from fit to data and MC:
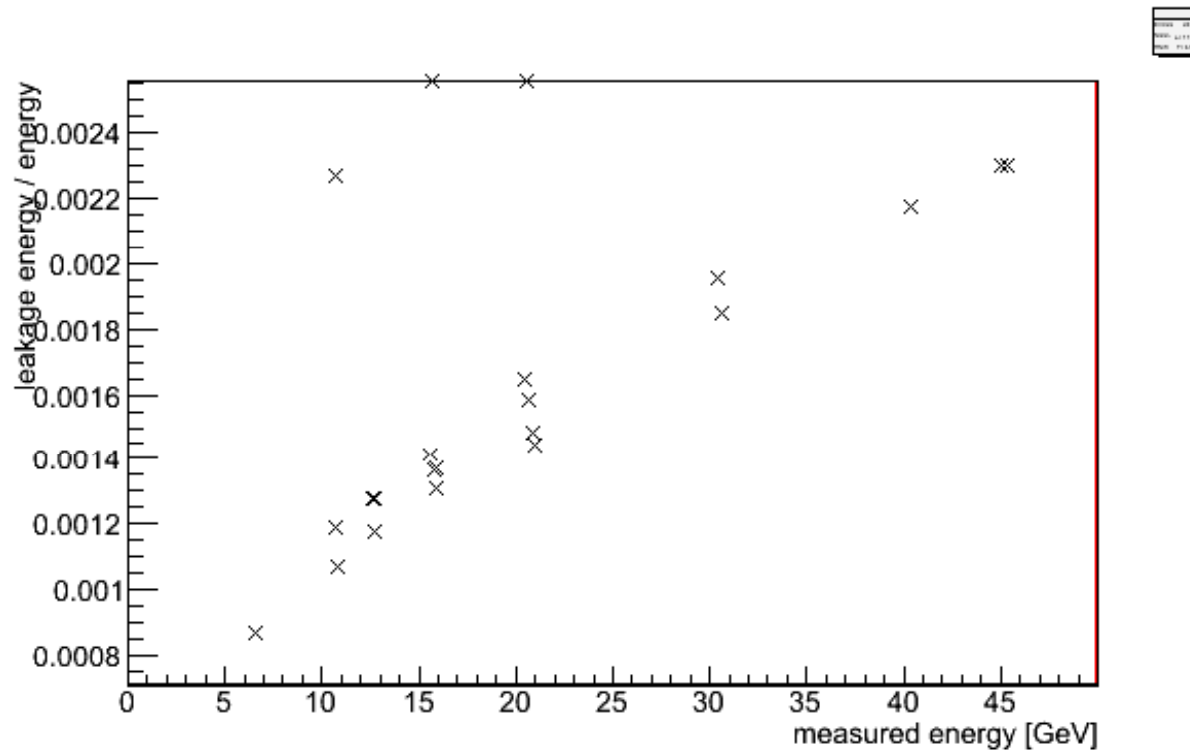Const * (x-shift)^alpha * exp(-beta(x-shift))

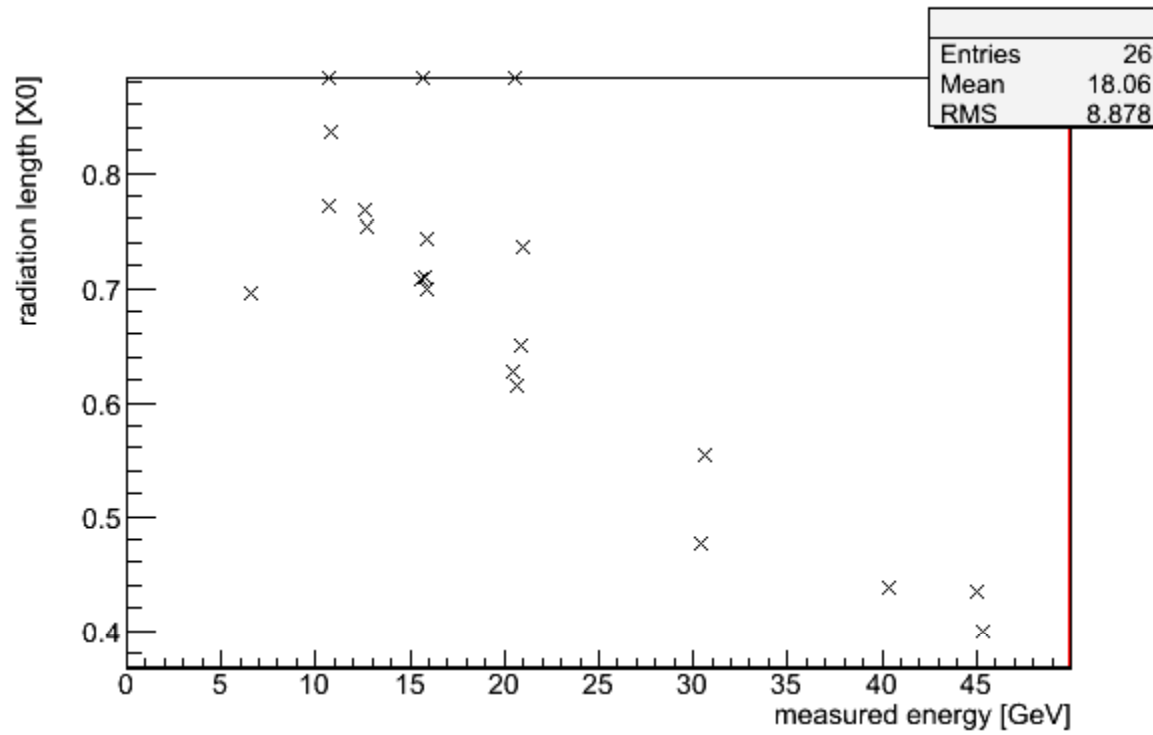Radiation length X0

3 fits were done:
- 1 to fit all layers for X0 in front of calo,
- 1 to fit the leakage energy correctly (shown above),
- 1 for the first layers

Leakage Energy

Well behaved
(outlayers only root fakes, 2 or 3 times the energy)

Open problem:
X0 in front of calo

=> Still an issue