

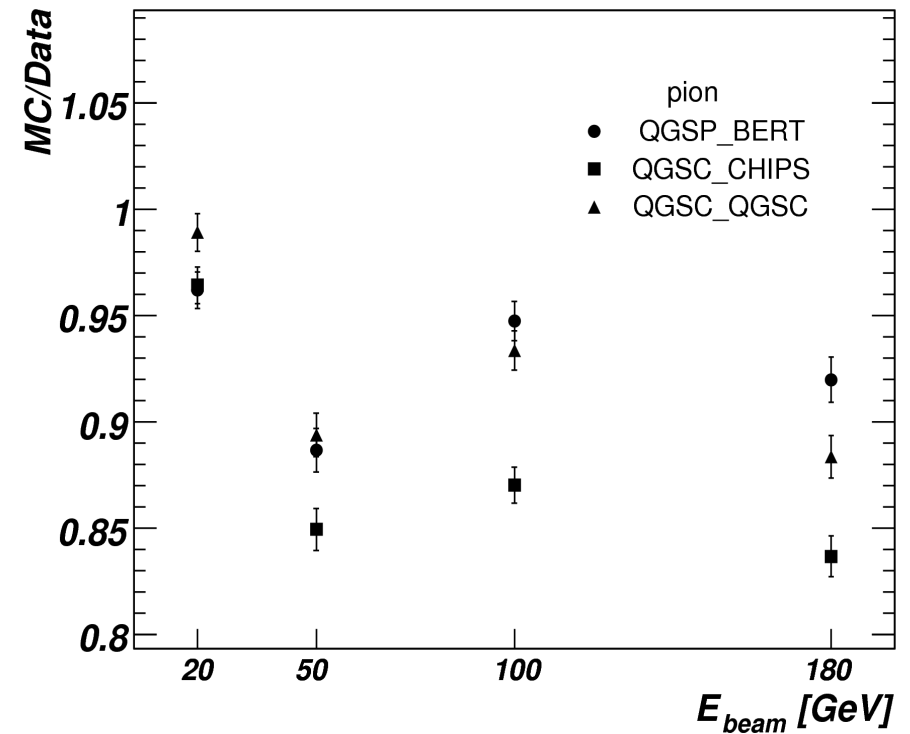
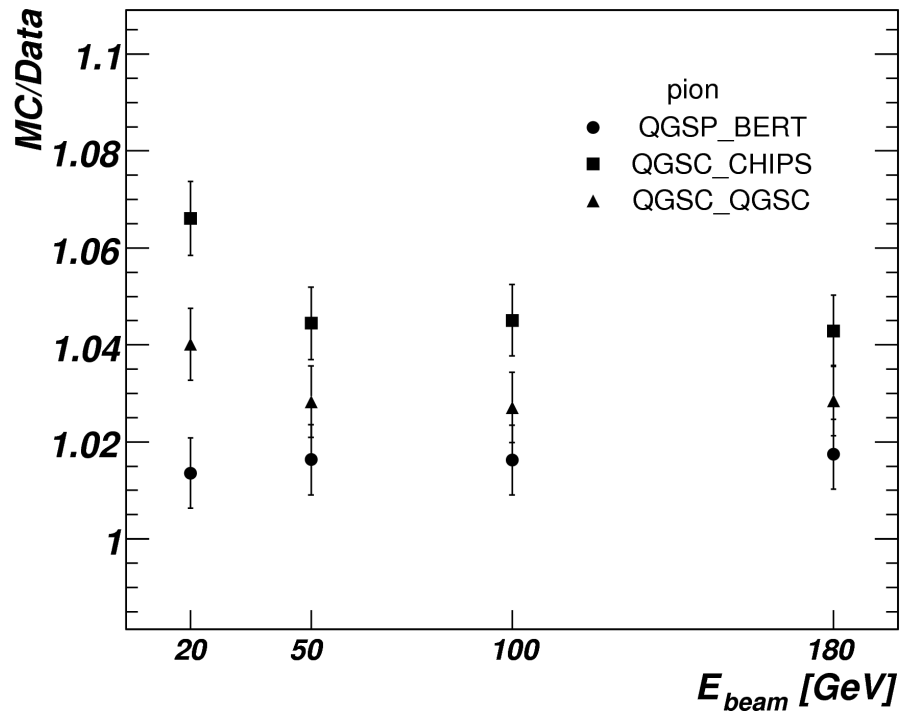
New GEANT4 Physics Lists

Geant4-9.3.beta

Tancredi Carli
(*CERN*)

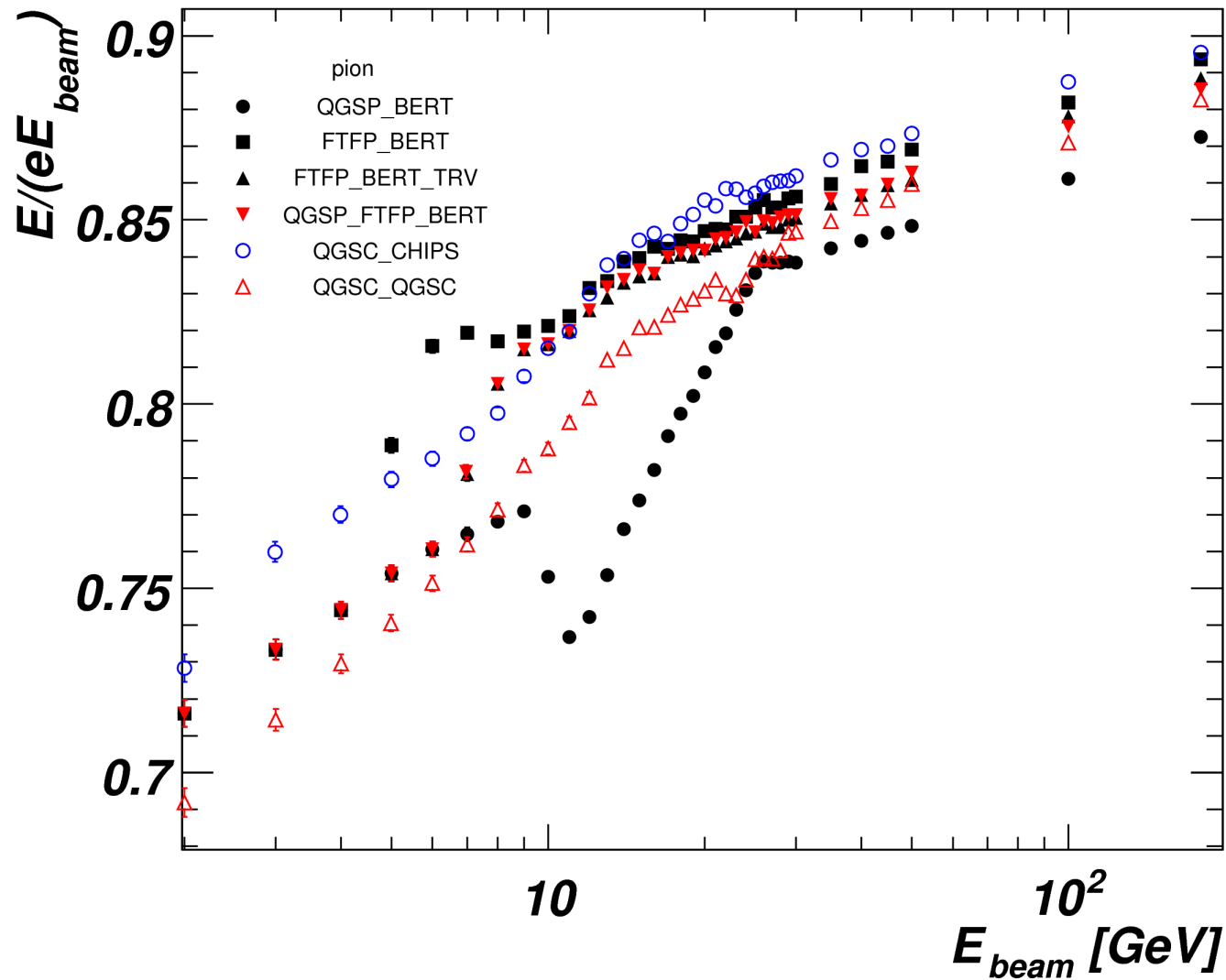
Margar Simonyan
(*LAPP*)

Response and Resolution



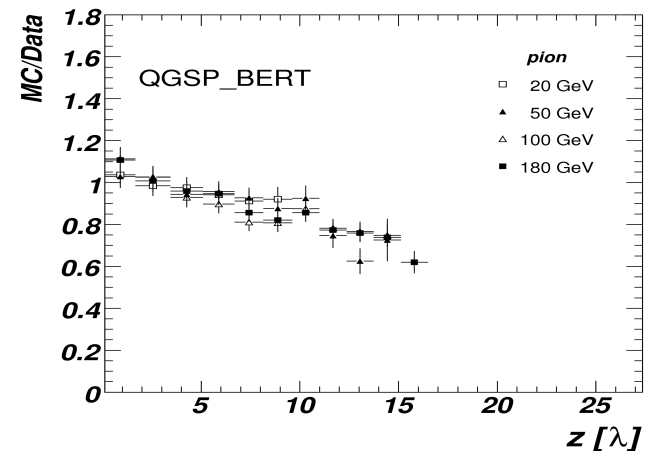
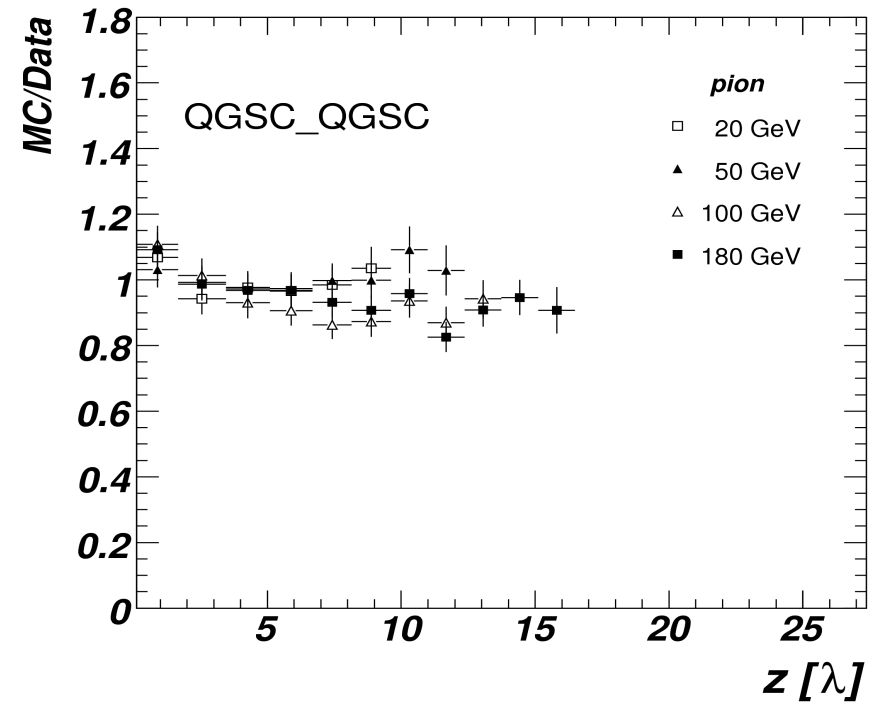
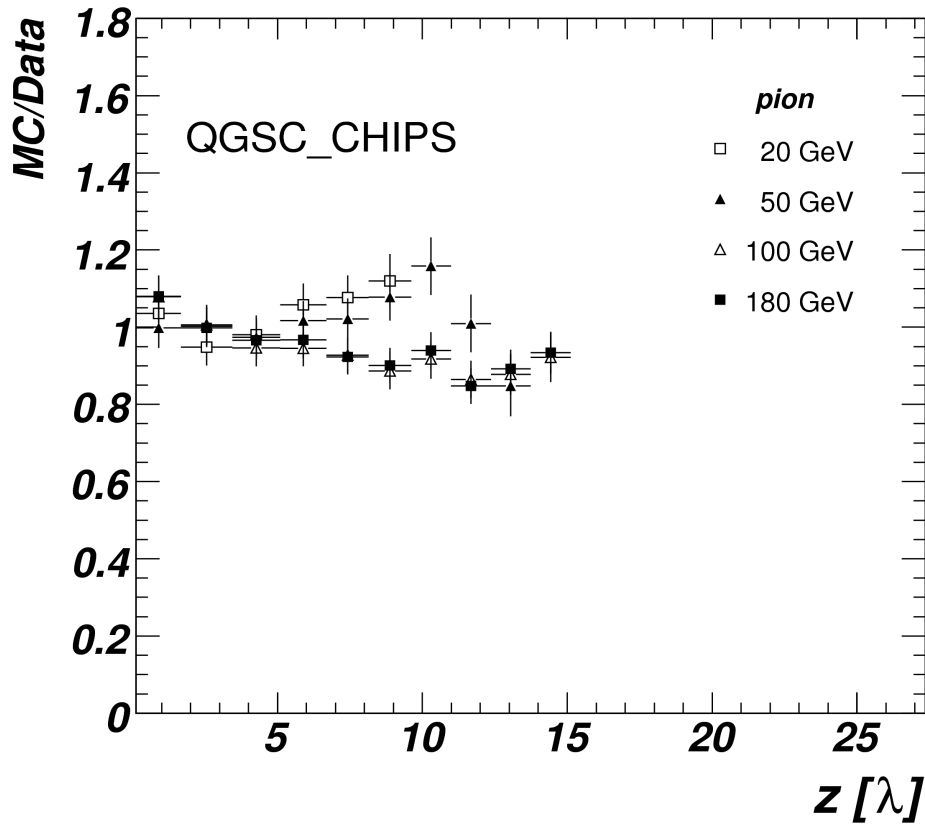
Response is too high with QGSC_CHIPS and QGSC_QGSC

Fine Energy Scan



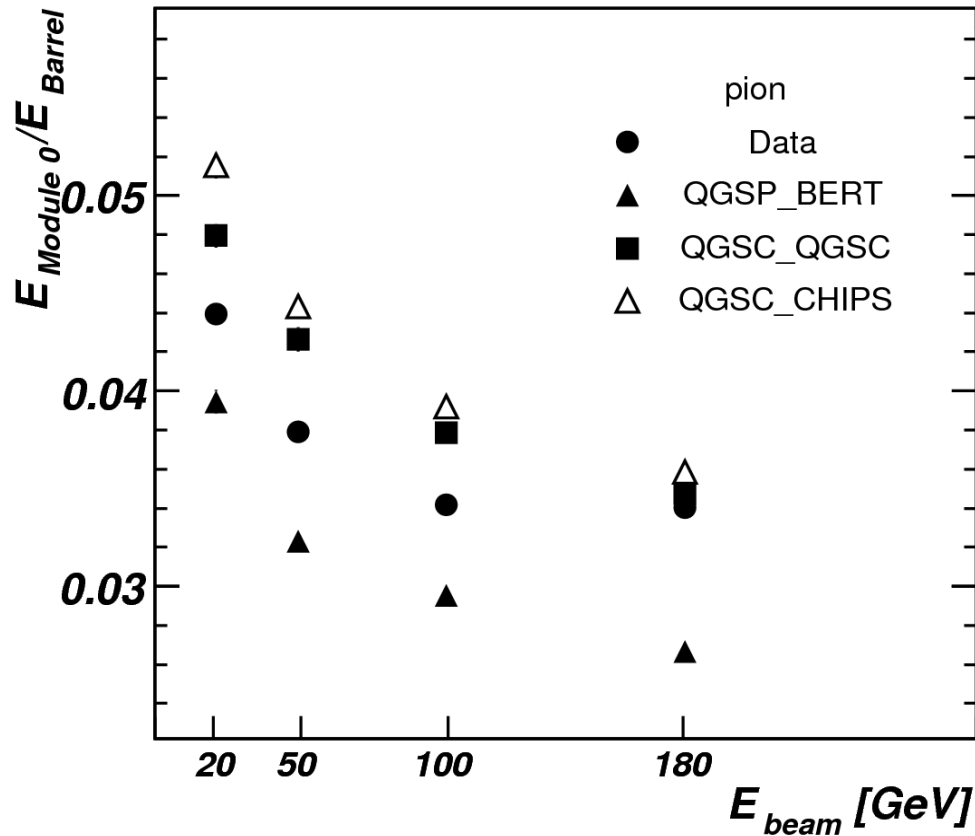
QGSC_CHIPS and QGSC_QGSC predict smoother response

Shower profiles



Longitudinal profile is well described with new physics lists

Lateral Spread



New physics lists
predict wider showers

Conclusions

- The calorimeter response is too high with QGSC_CHIPS and QGSC_QGSC physics list.
- The response as function of beam energy is smoother with both physics list compared to QGSP_BERT.
- Pion induced shower longitudinal development is well described.
- MC showers are wider than in the data.