

Grid testing of Geant4: **10.1.ref07**

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CERN PH/SFT

Crashes & Warnings & Reproducibility

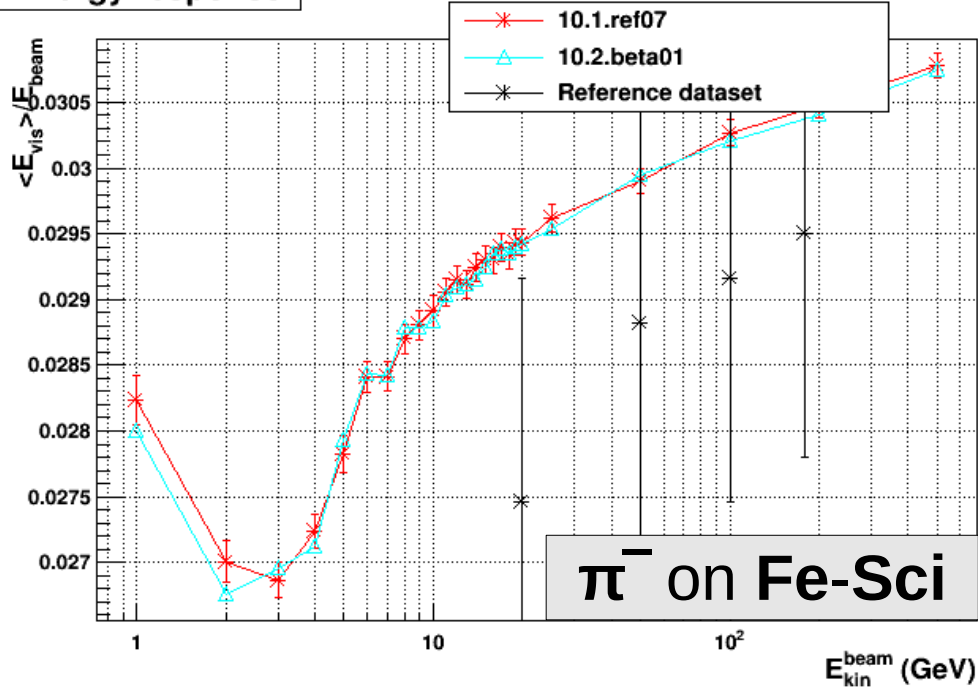
- Crashes & Warnings: not yet available
- Reproducibility OK
 - With the usual exception of RadioactiveDecay

Pion showers

G4 10.1.ref07 , 10.1.ref06 = 10.2.beta

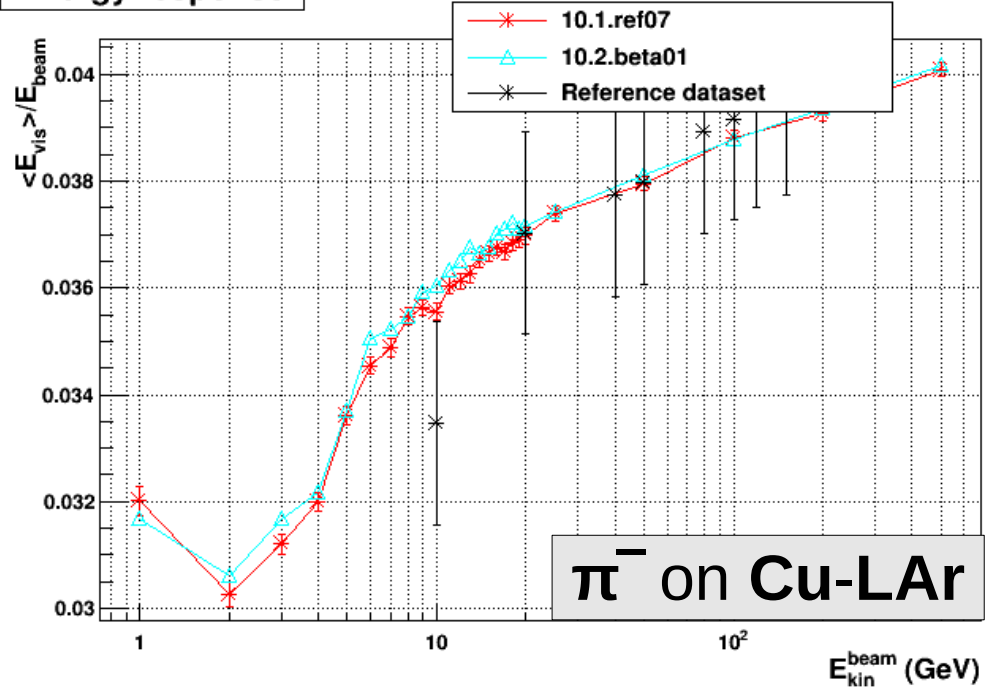
FTFP_BERT : Energy Response

Energy response



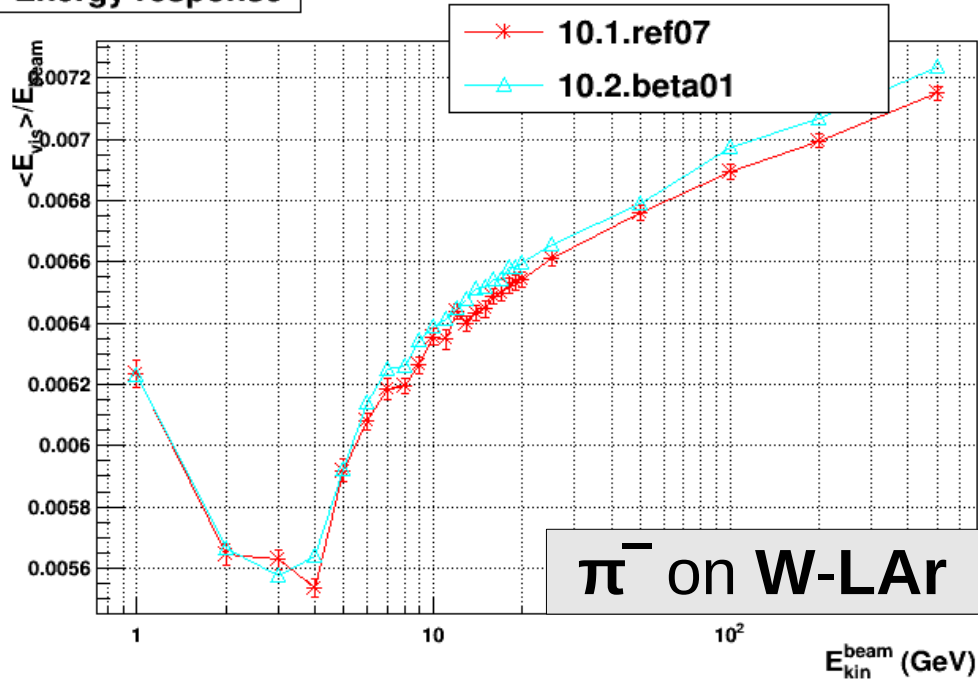
π^- on Fe-Sci

Energy response



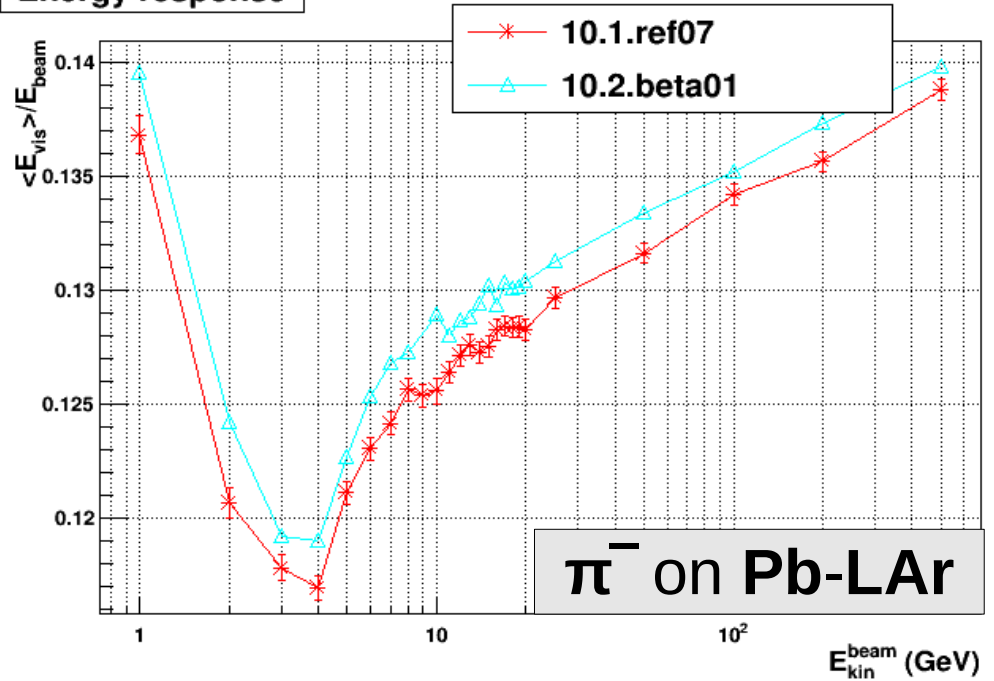
π^- on Cu-LAr

Energy response



π^- on W-LAr

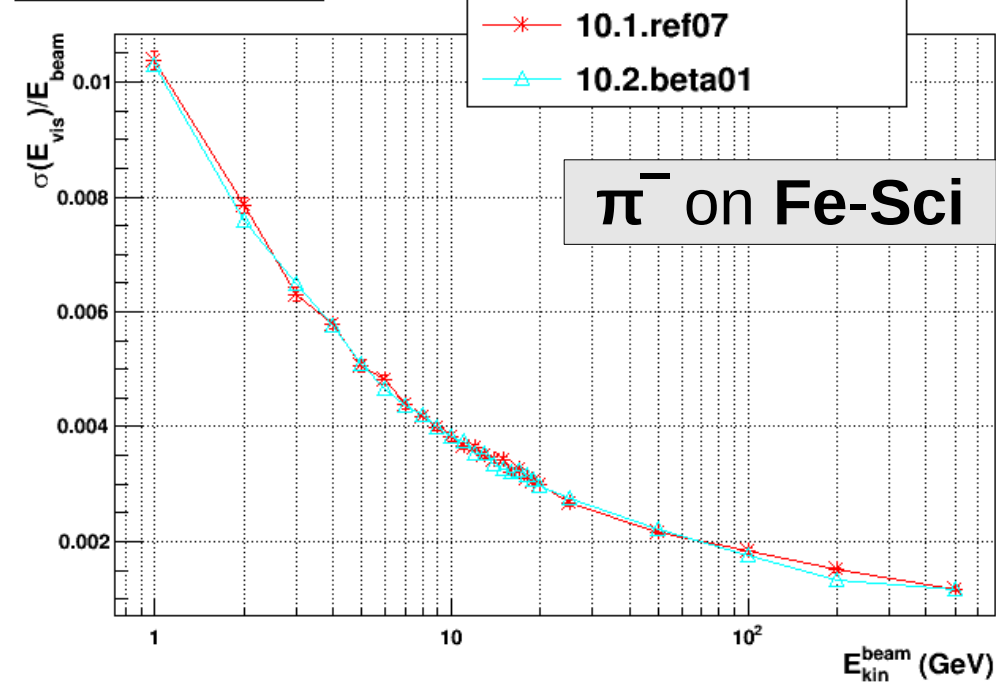
Energy response



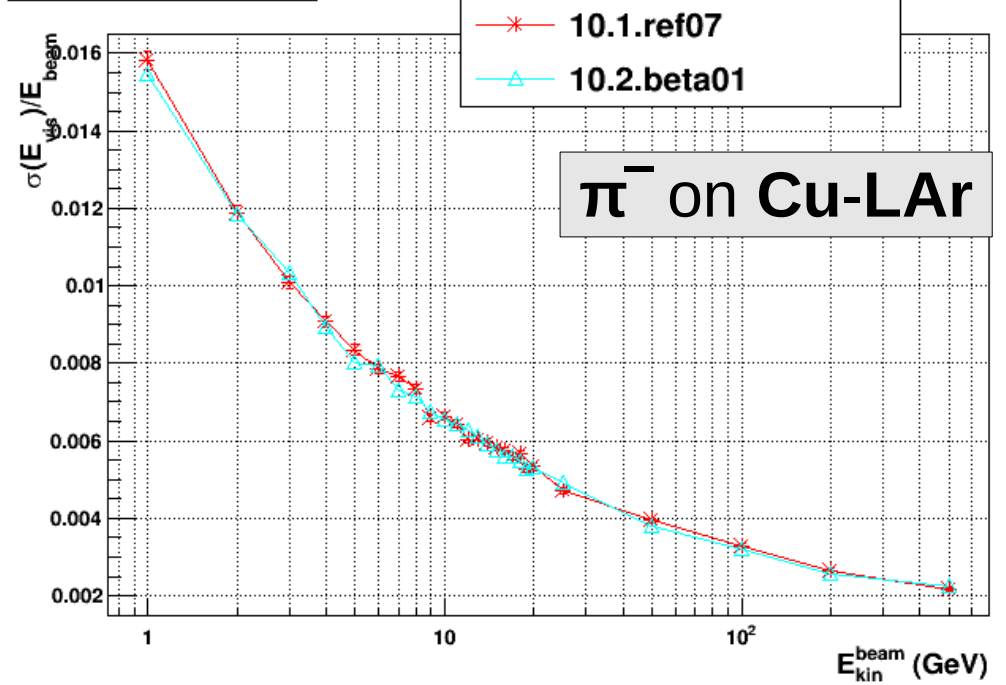
π^- on Pb-LAr

FTFP_BERT : Energy Width

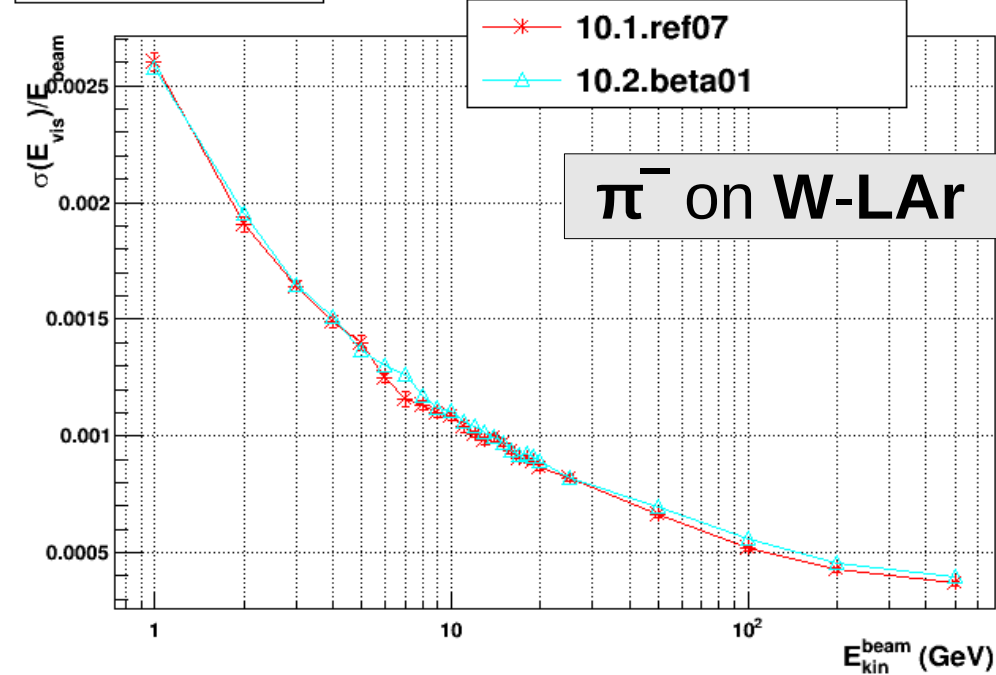
Normalized width



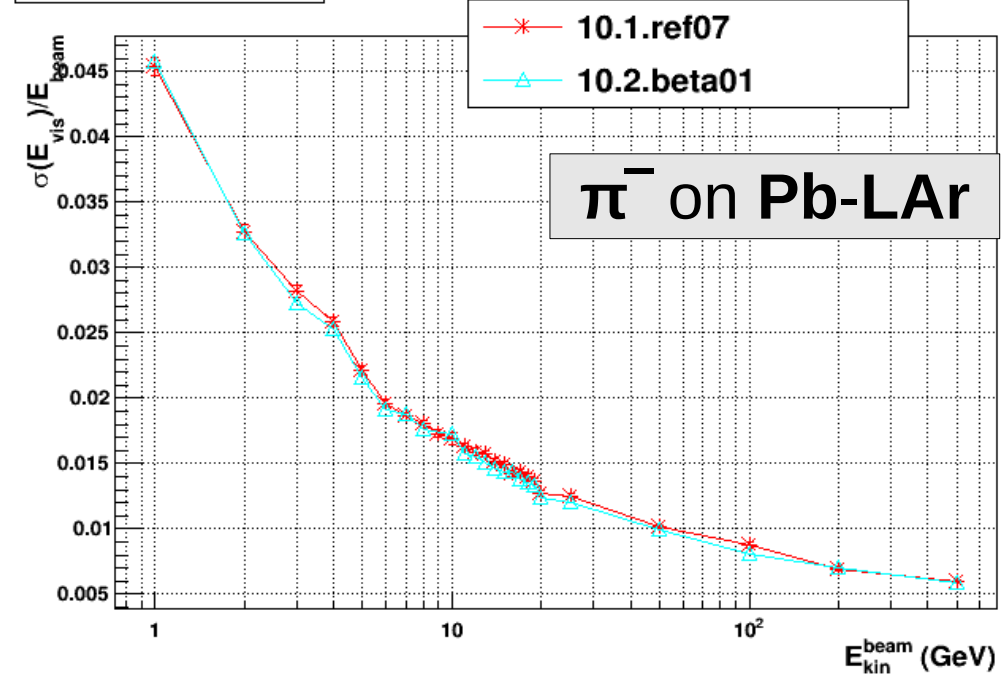
Normalized width



Normalized width

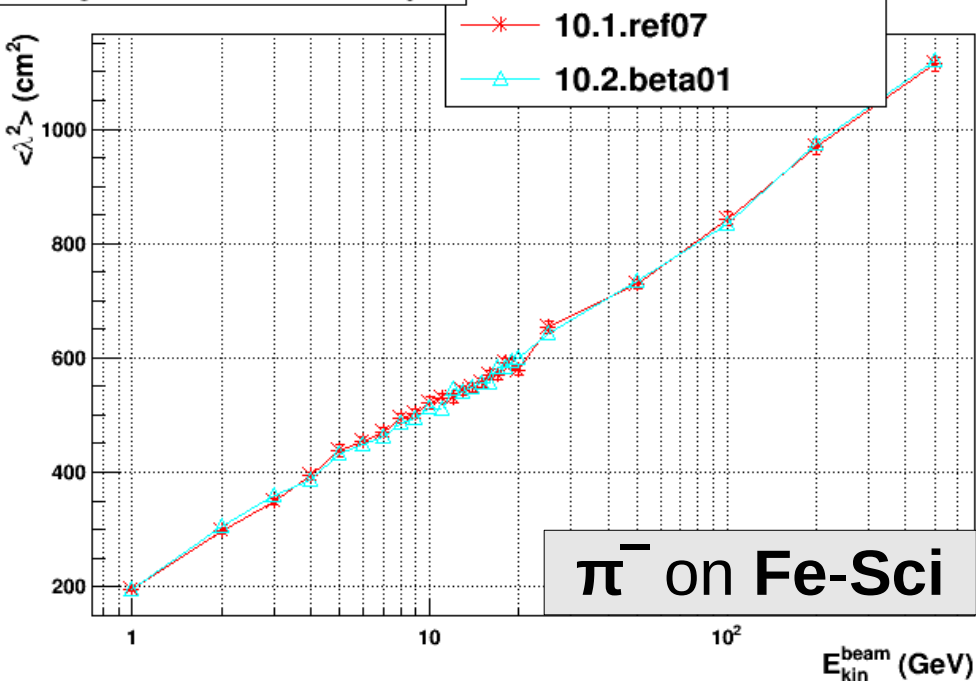


Normalized width

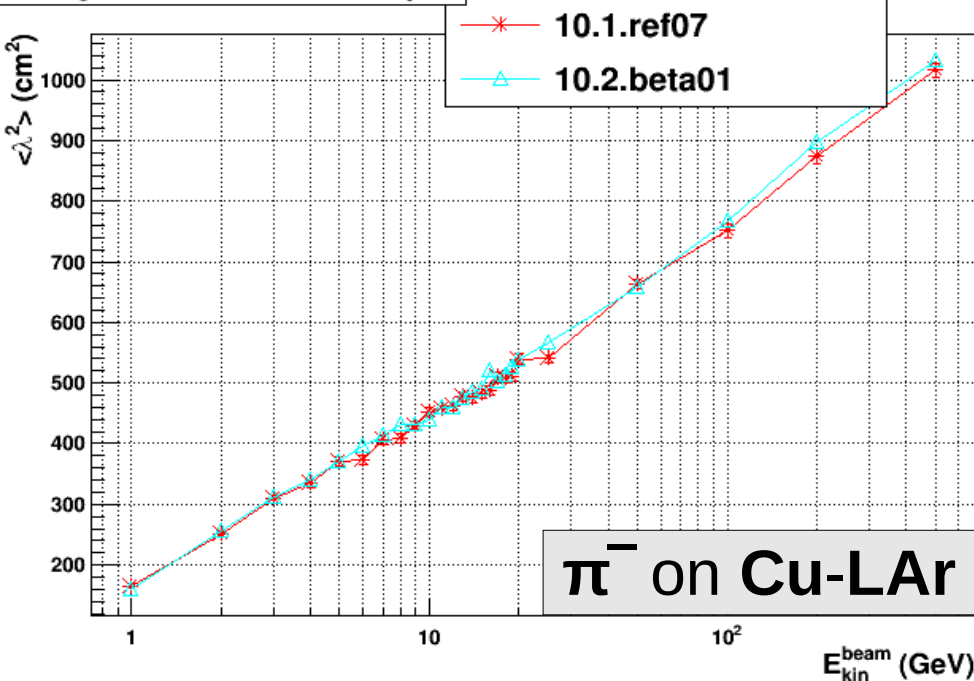


FTFP_BERT : Longitudinal Shape

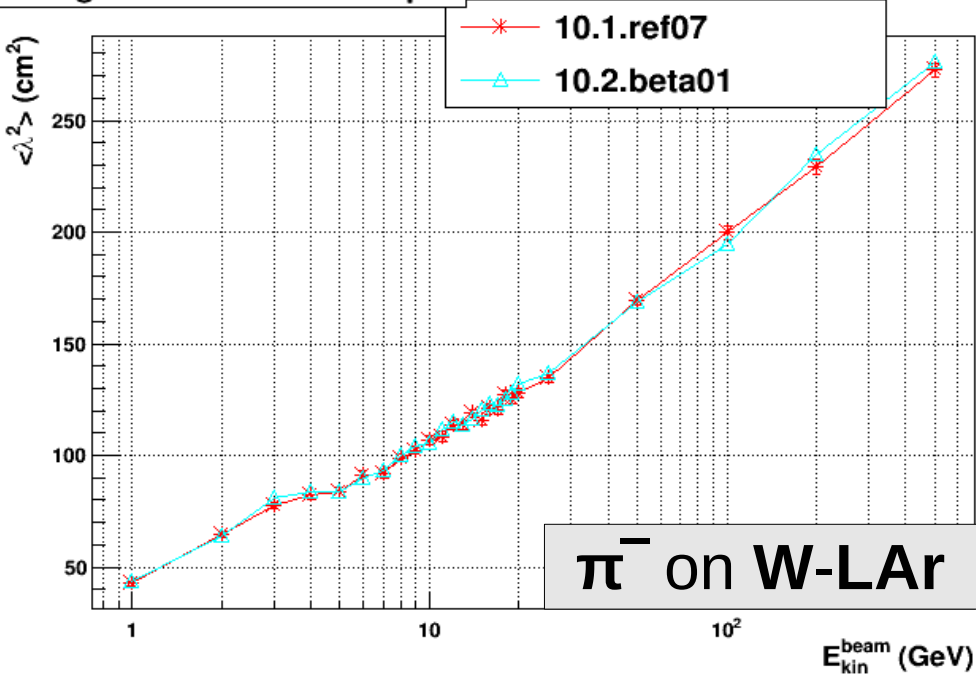
Longitudinal shower shape



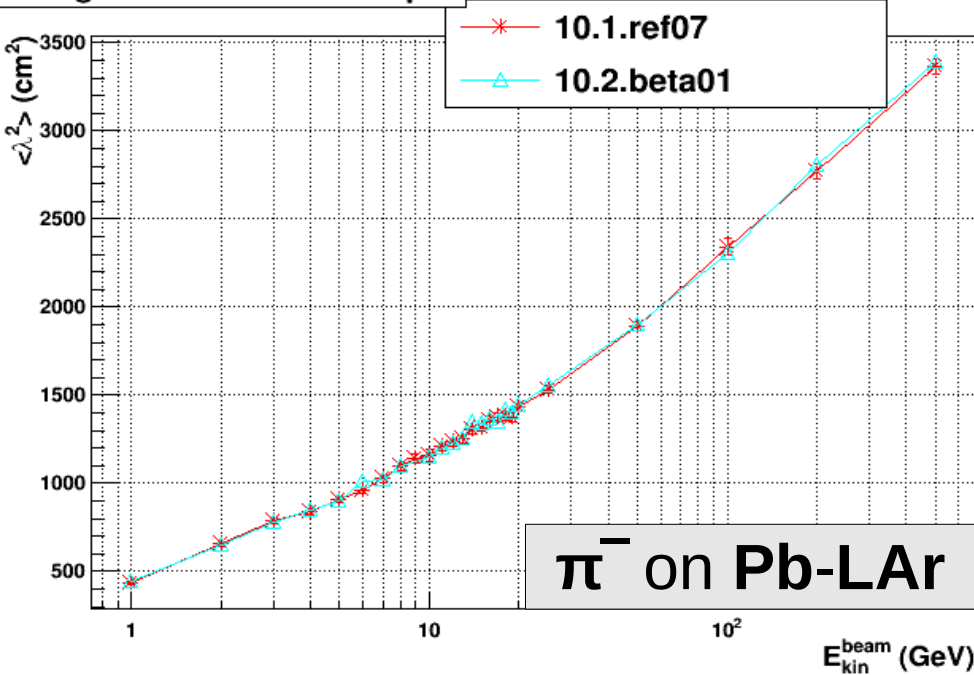
Longitudinal shower shape



Longitudinal shower shape

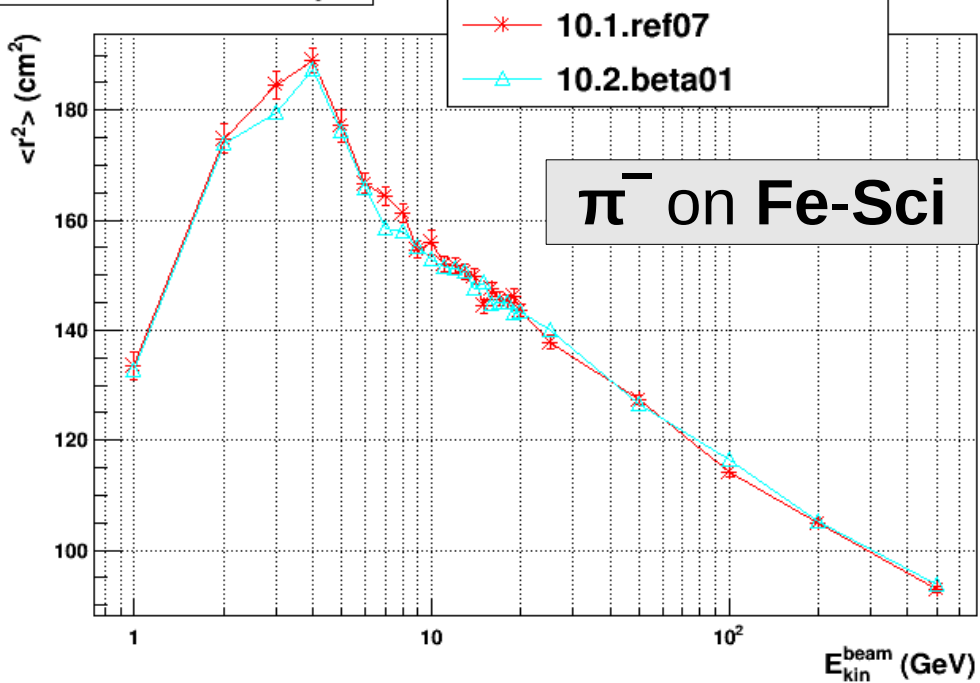


Longitudinal shower shape



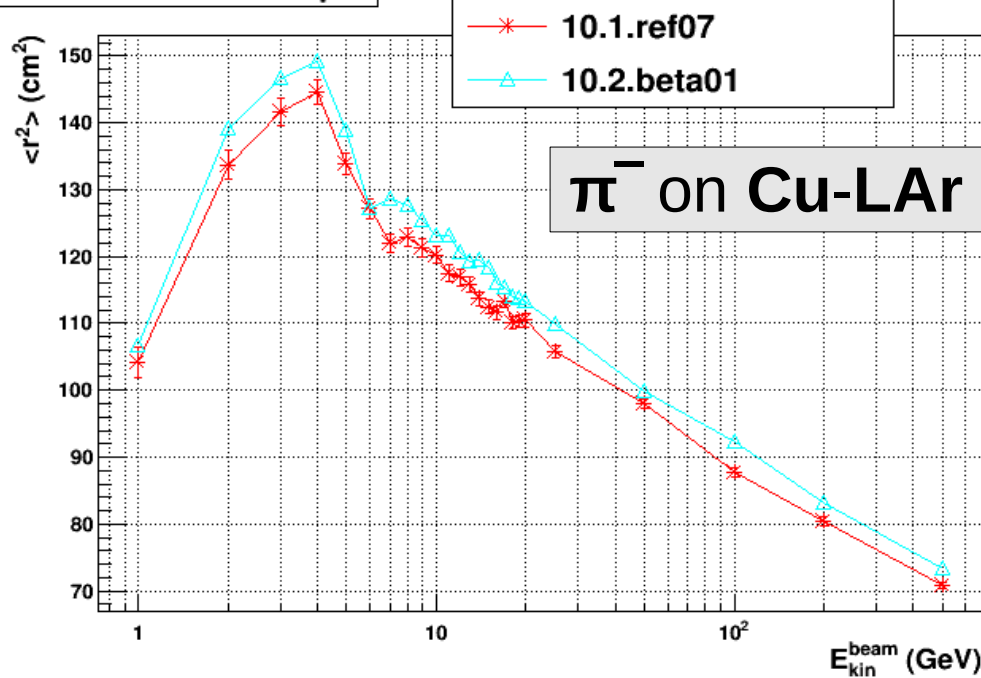
FTFP_BERT : Lateral Shape

Lateral shower shape



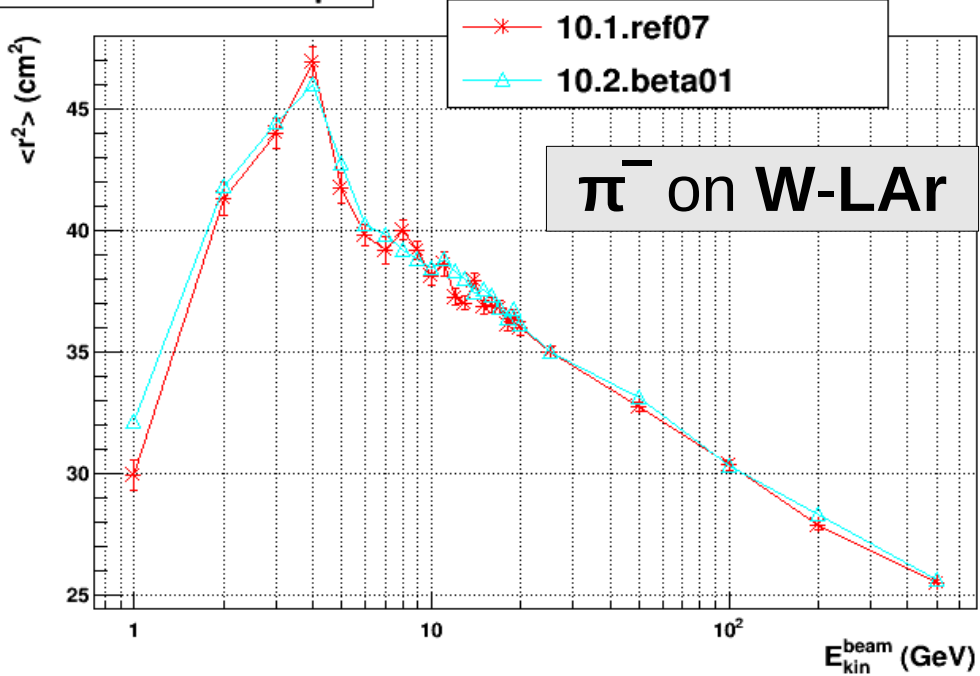
π^- on Fe-Sci

Lateral shower shape



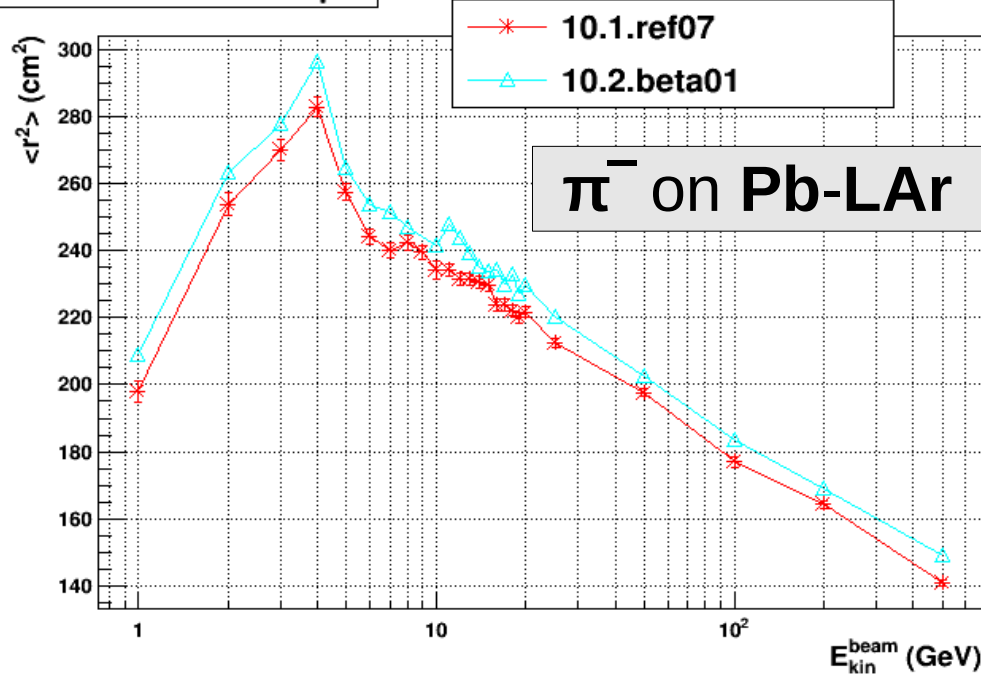
π^- on Cu-LAr

Lateral shower shape



π^- on W-LAr

Lateral shower shape



π^- on Pb-LAr

Conclusions

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- Some changes in pion shower **visible energy** and **lateral shape**
 - Especially in heav materials
 - Lower energy response and narrower showers
 - Is Urban multiple scattering the culprit?