

Detector performances: tracking system resolutions

Emilia

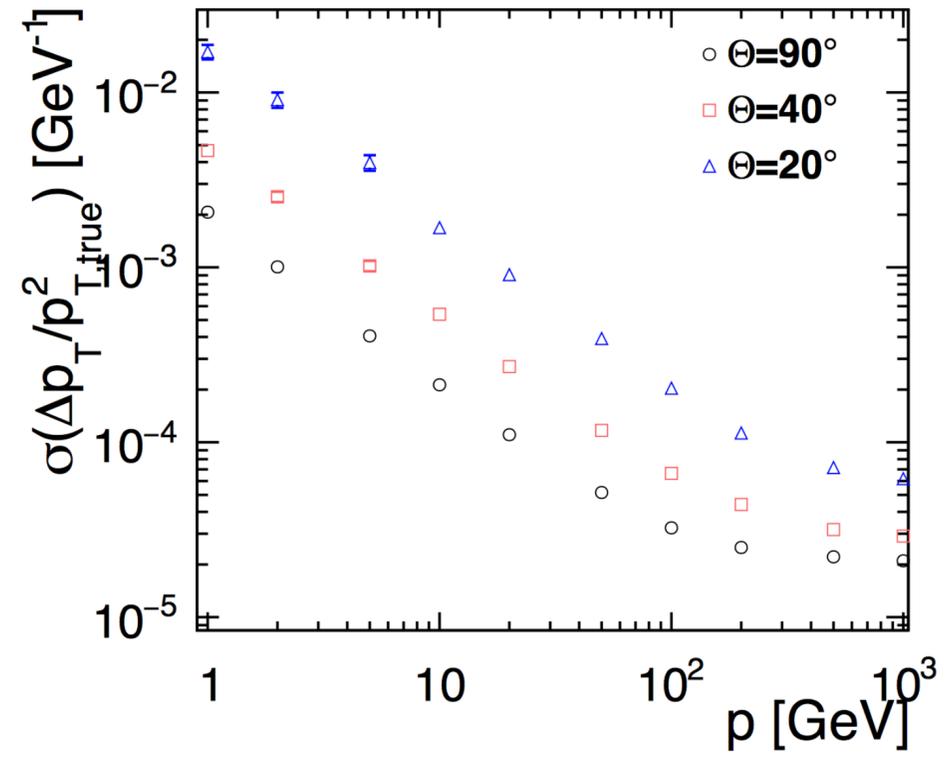
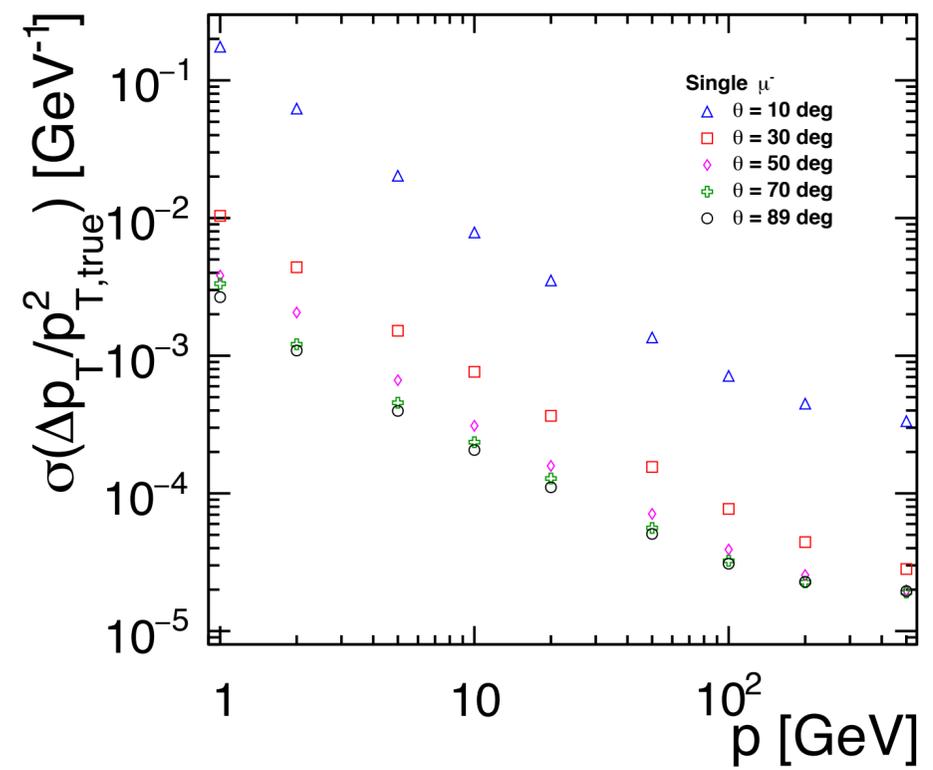
Software Meeting

19th Sep 2017

- ☆ CLIC_o3_v13
- ☆ iLCSoft_2017-08-23
 - ☆ + updated Track Checker (added PDG info in output tree)
- ☆ Truth Tracking
 - ☆ to study detector performances without bias from pattern recognition
 - ☆ [is this what we want in the note?](#)
- ☆ Single point resolution in vertex (barrel and endcap)
 - ☆ default = 3 μm
 - ☆ variation = {1 μm , 5 μm , 7 μm }

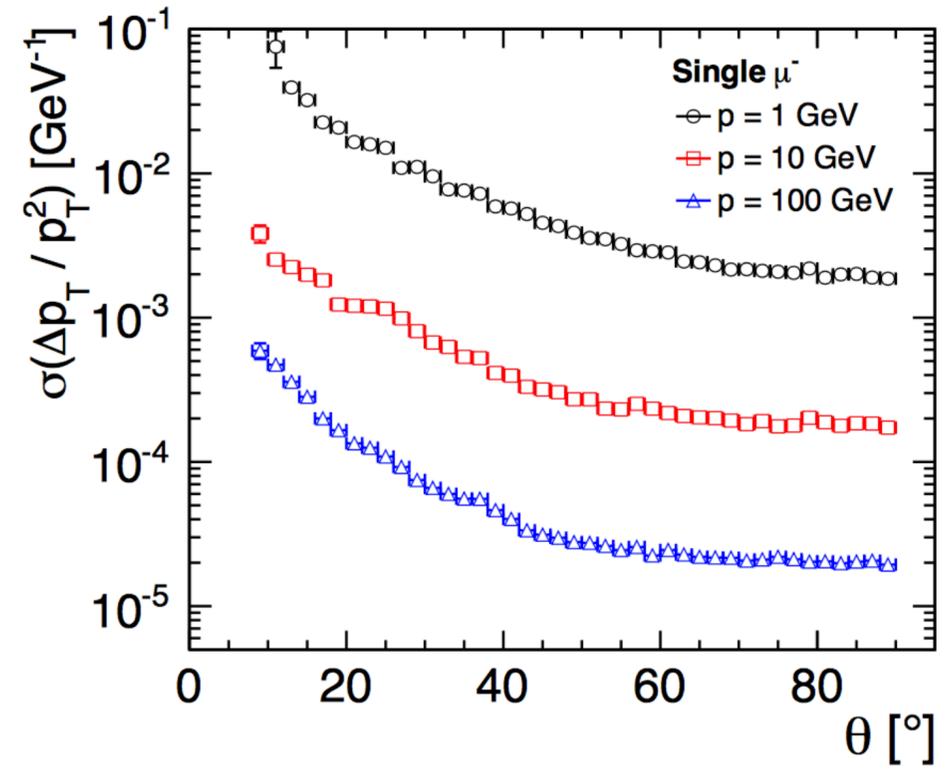
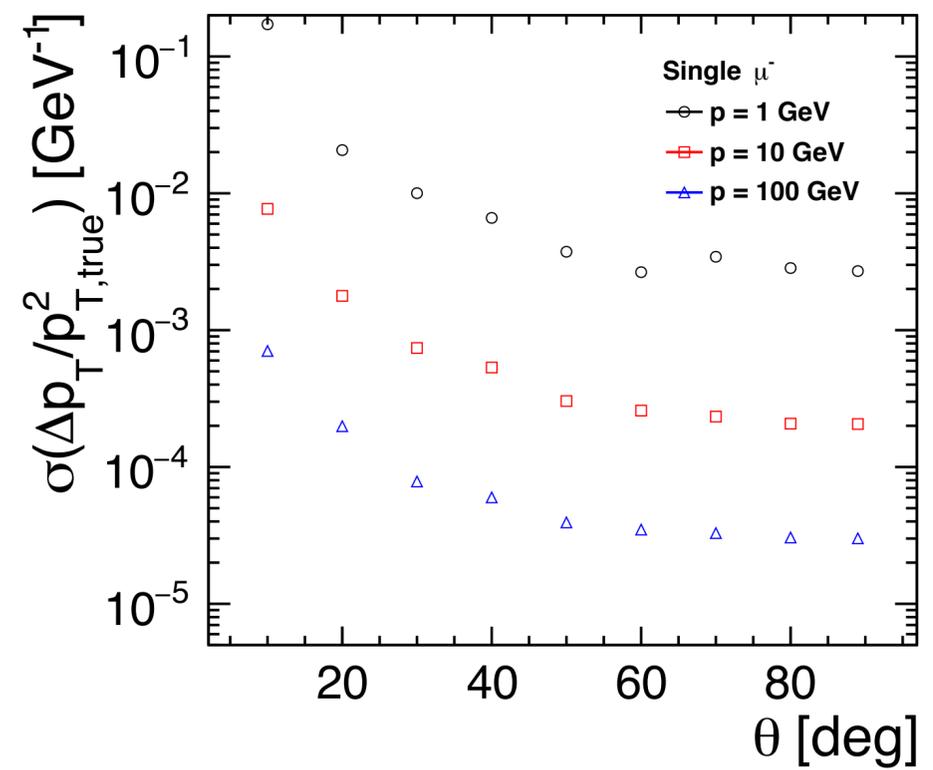
Transverse momentum resolution

vs p



CLICdet_
postCDR

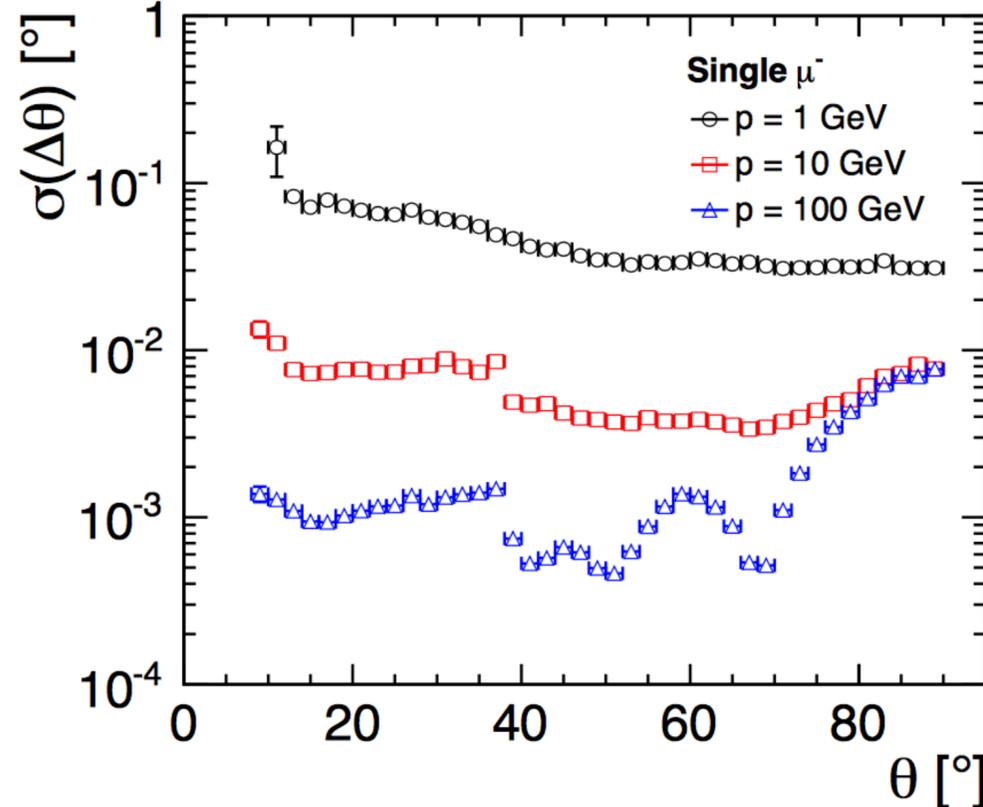
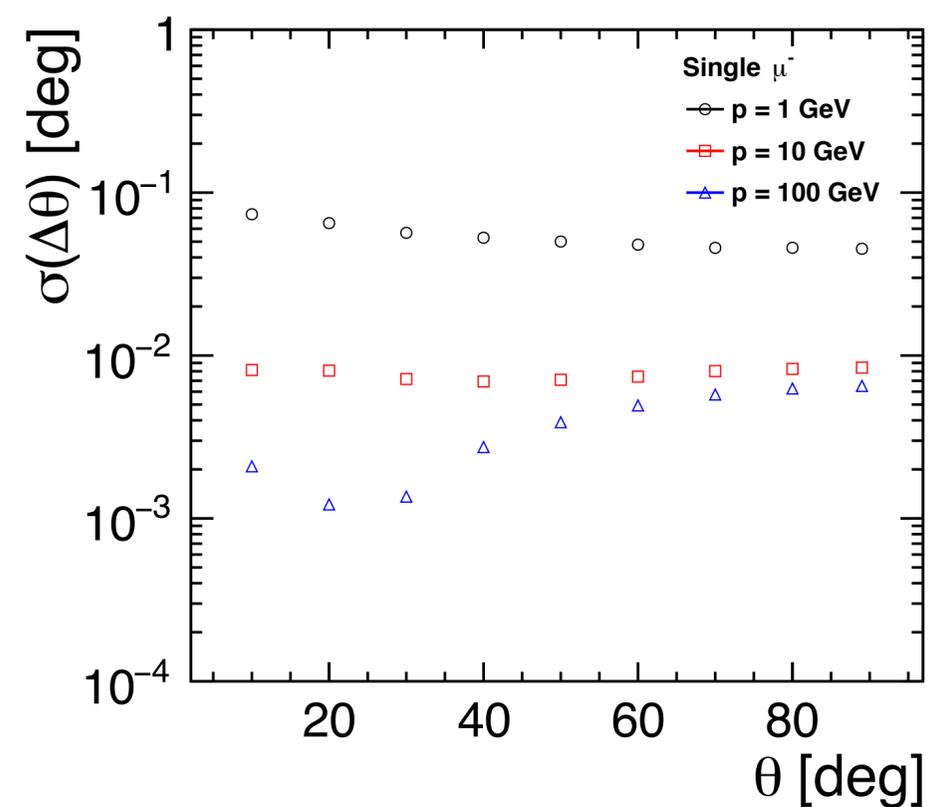
vs θ



CLIC_SiD
(C. Grefe's
PhD thesis)

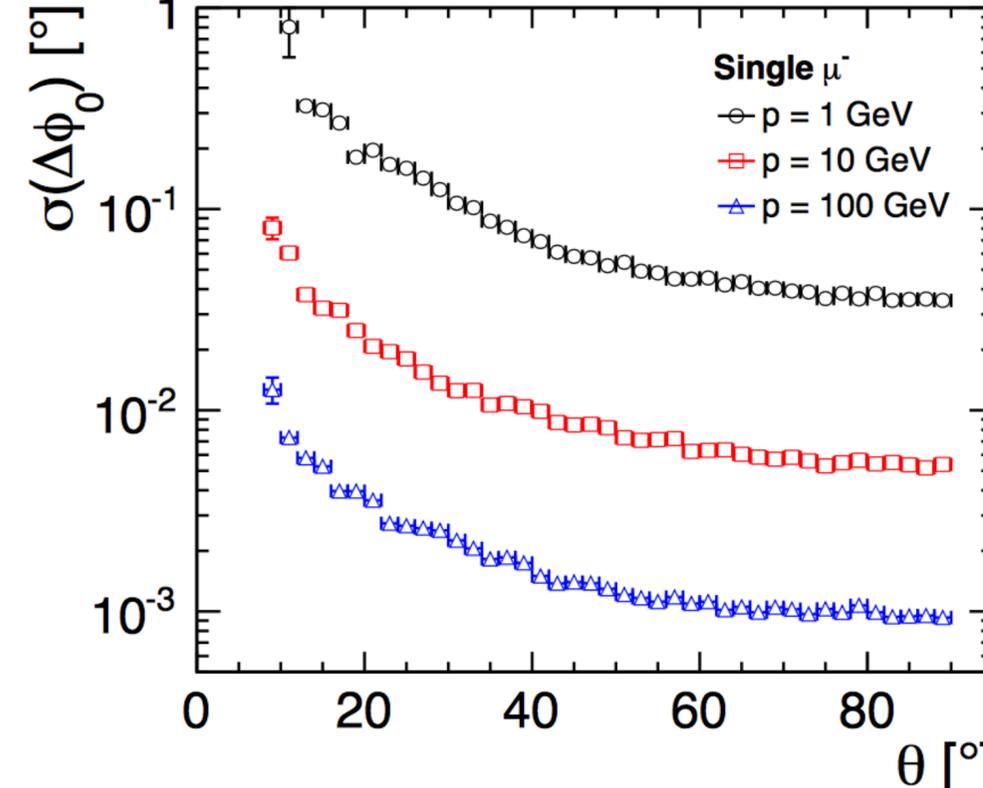
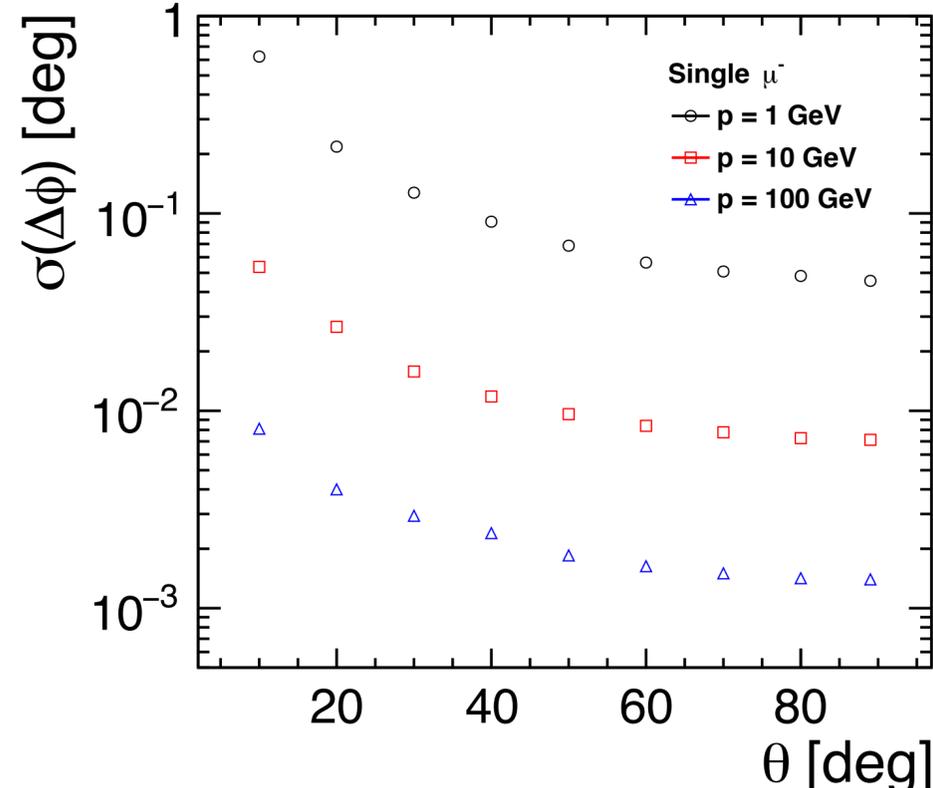
Angular resolution

θ



CLIC_SiD
(C. Grefe's
PhD thesis)

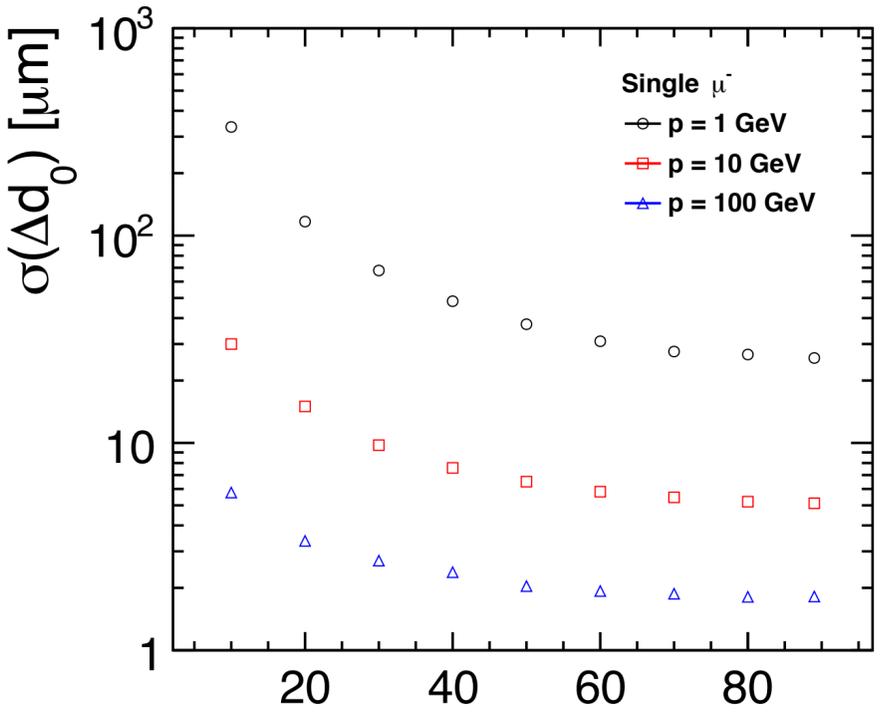
ϕ



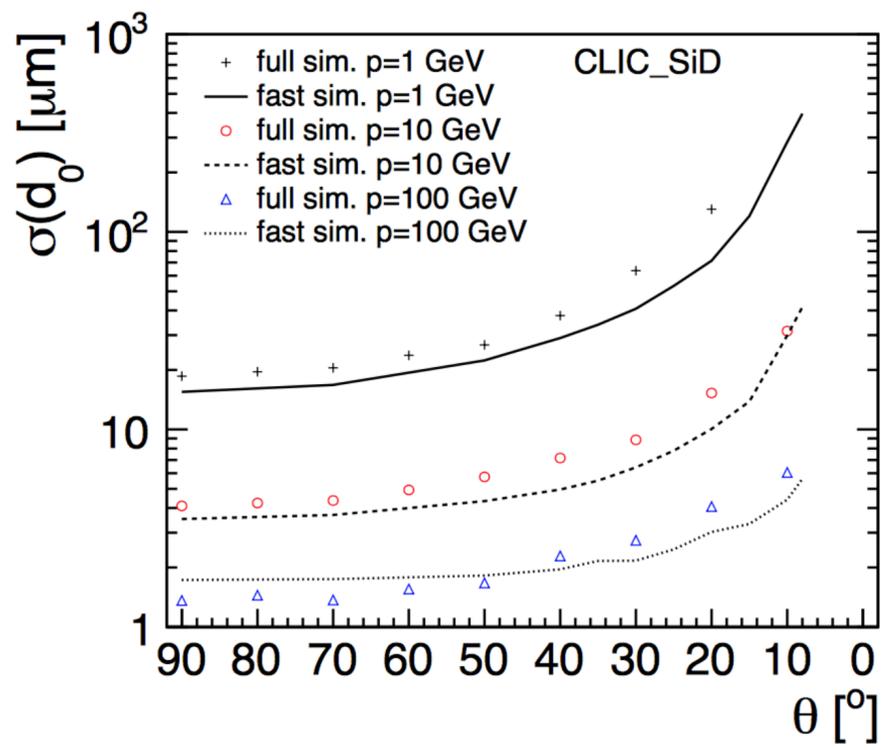
CLIC_SiD
(C. Grefe's
PhD thesis)

Impact parameter resolution

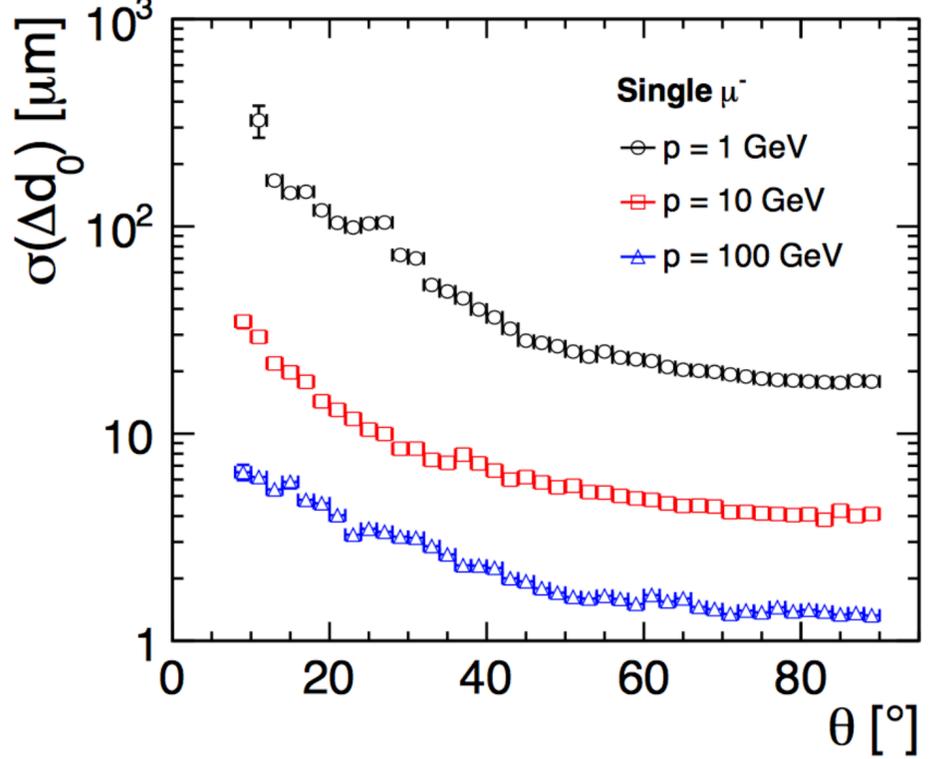
d0



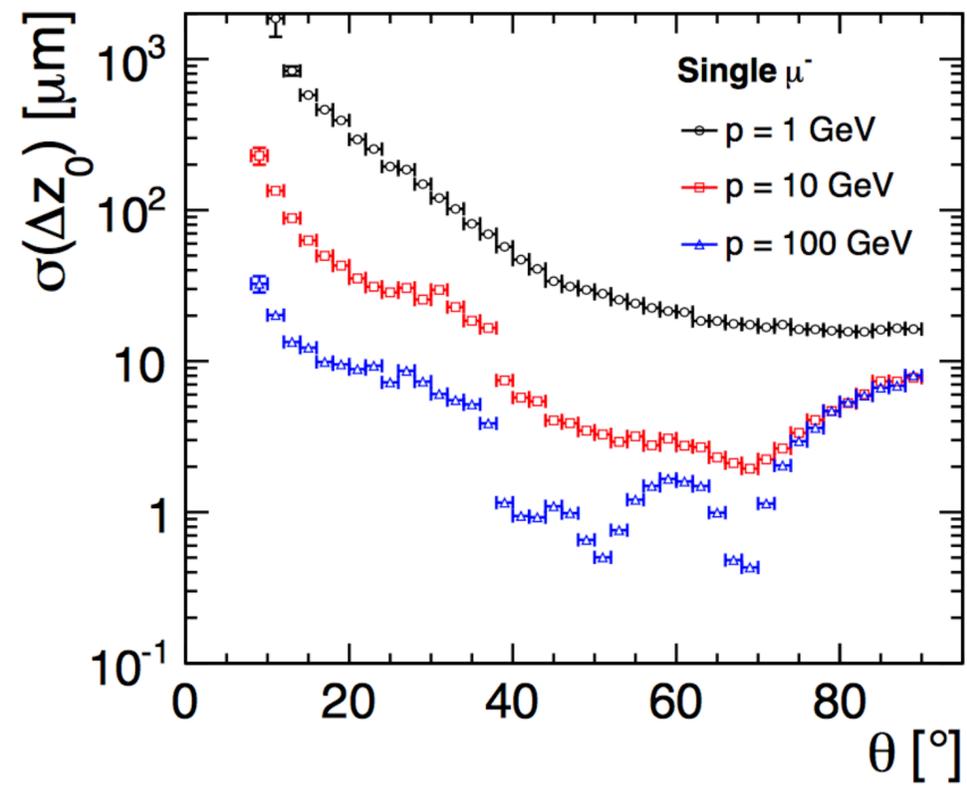
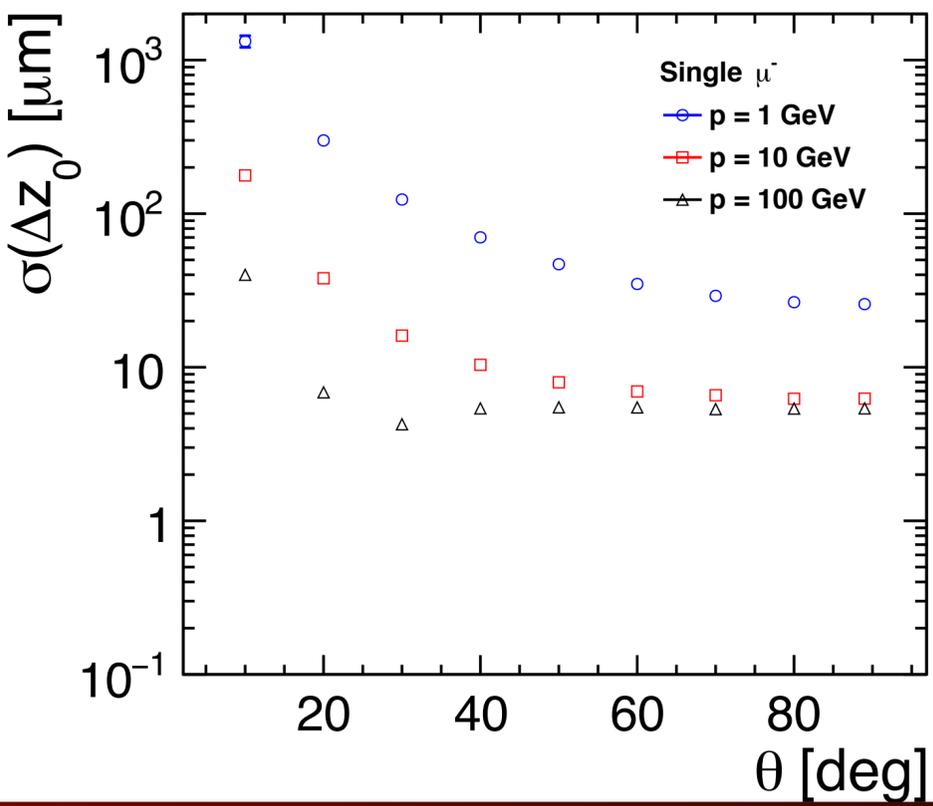
CLIC_SiD (CDR)



CLIC_SiD (C. Grefe's PhD thesis)



z0

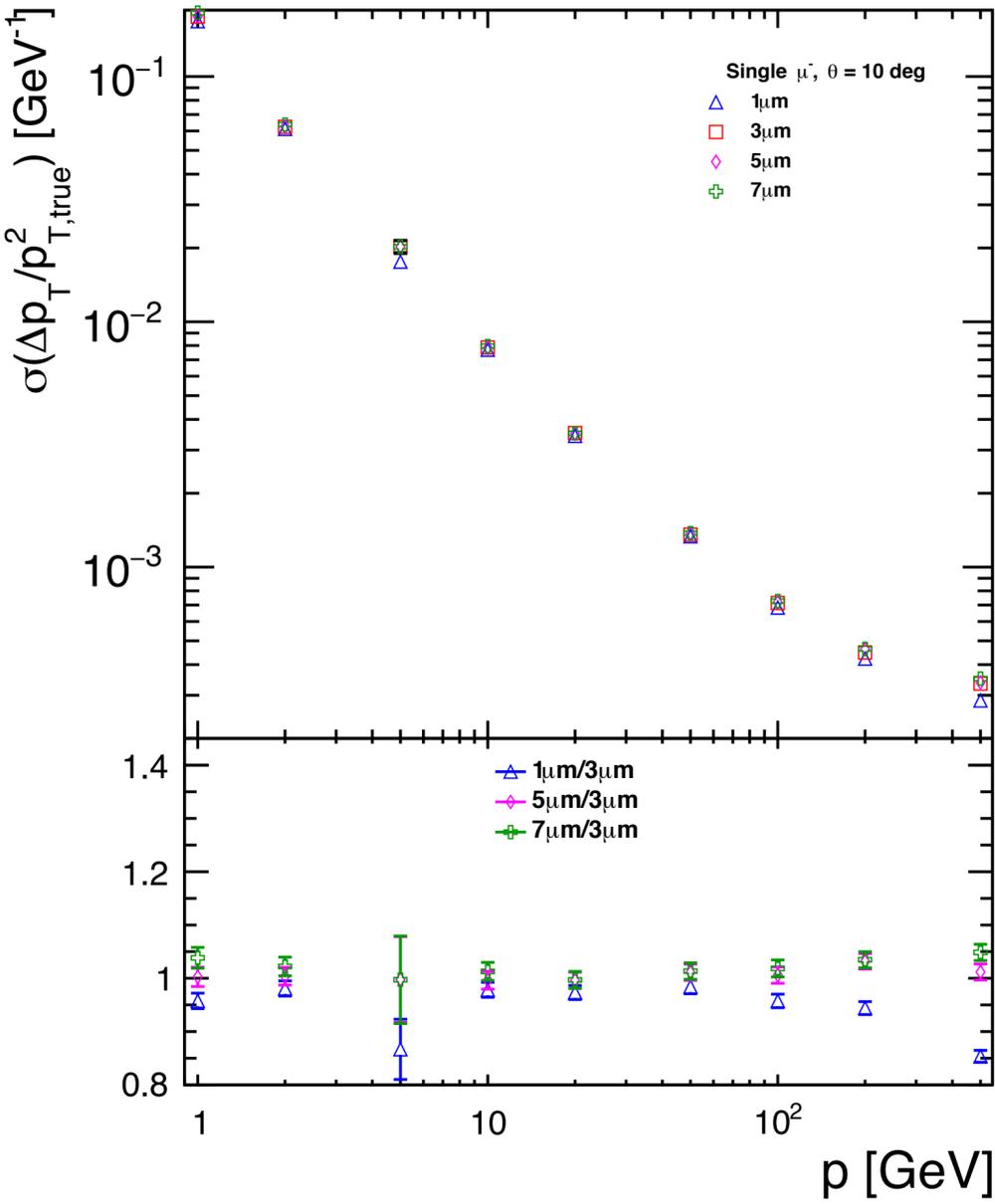


CLIC_SiD
(C. Grefe's
PhD thesis)

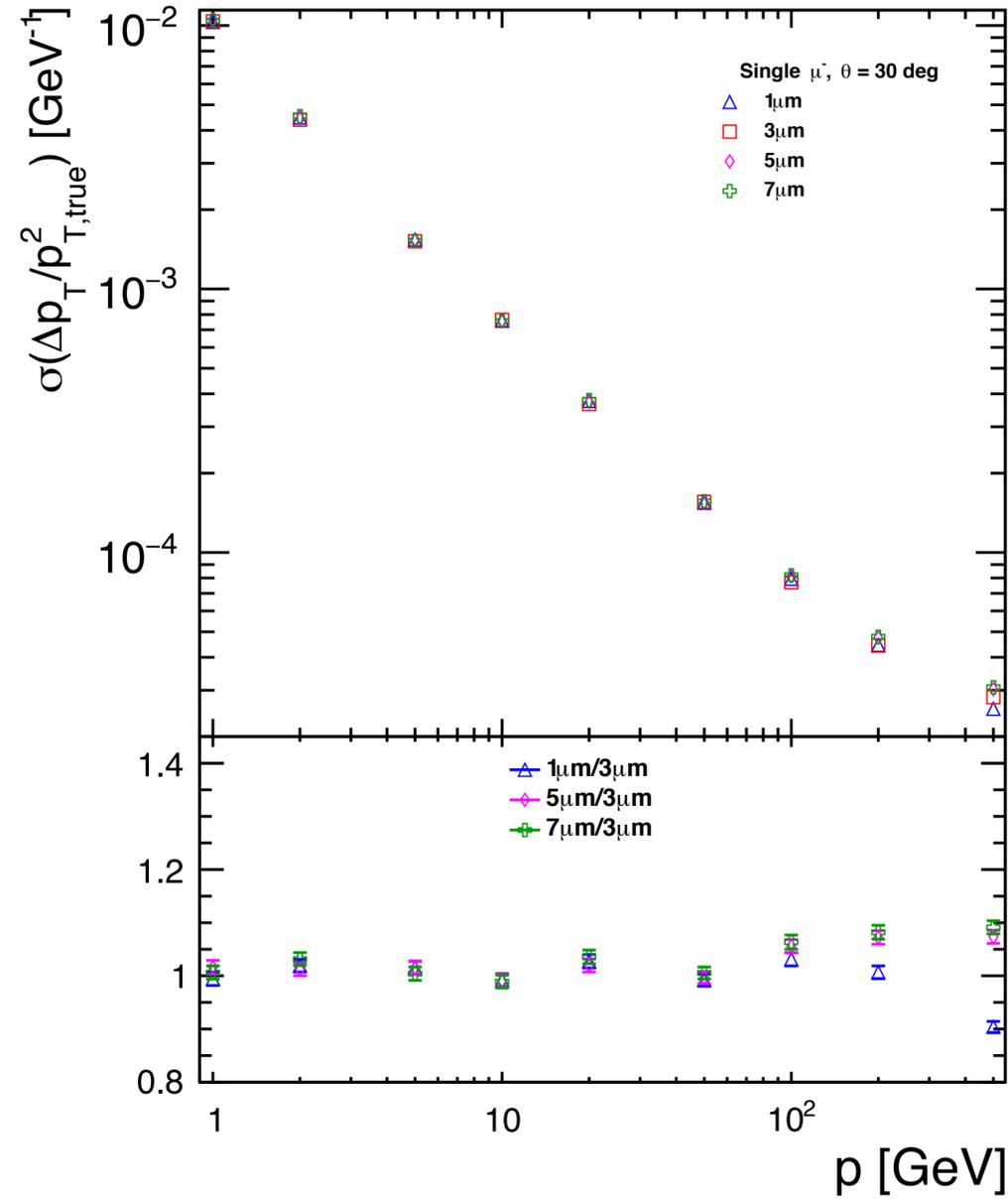
Variation with single point resolution (vertex)

1. Transverse momentum resolution vs p

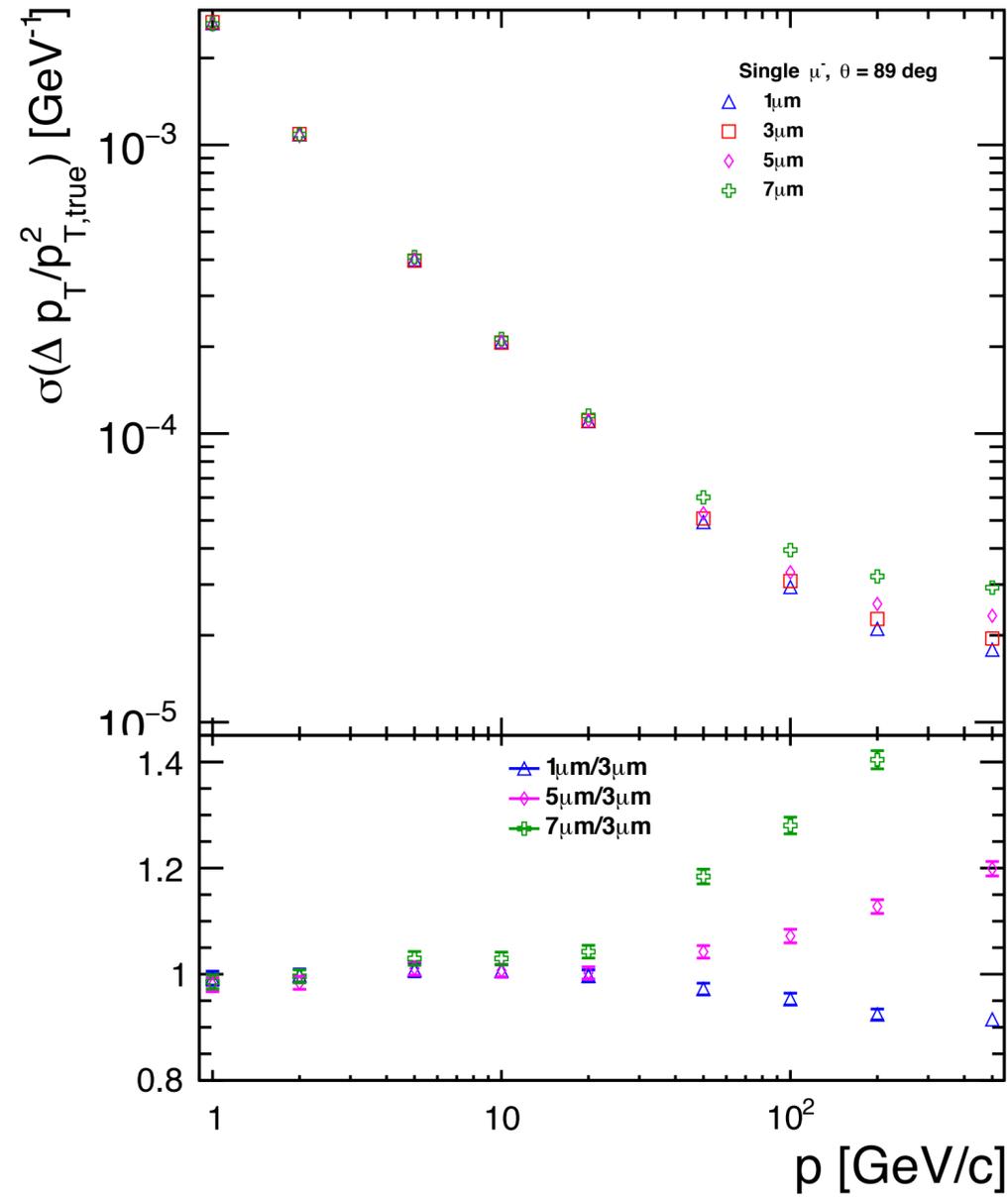
10deg



30deg



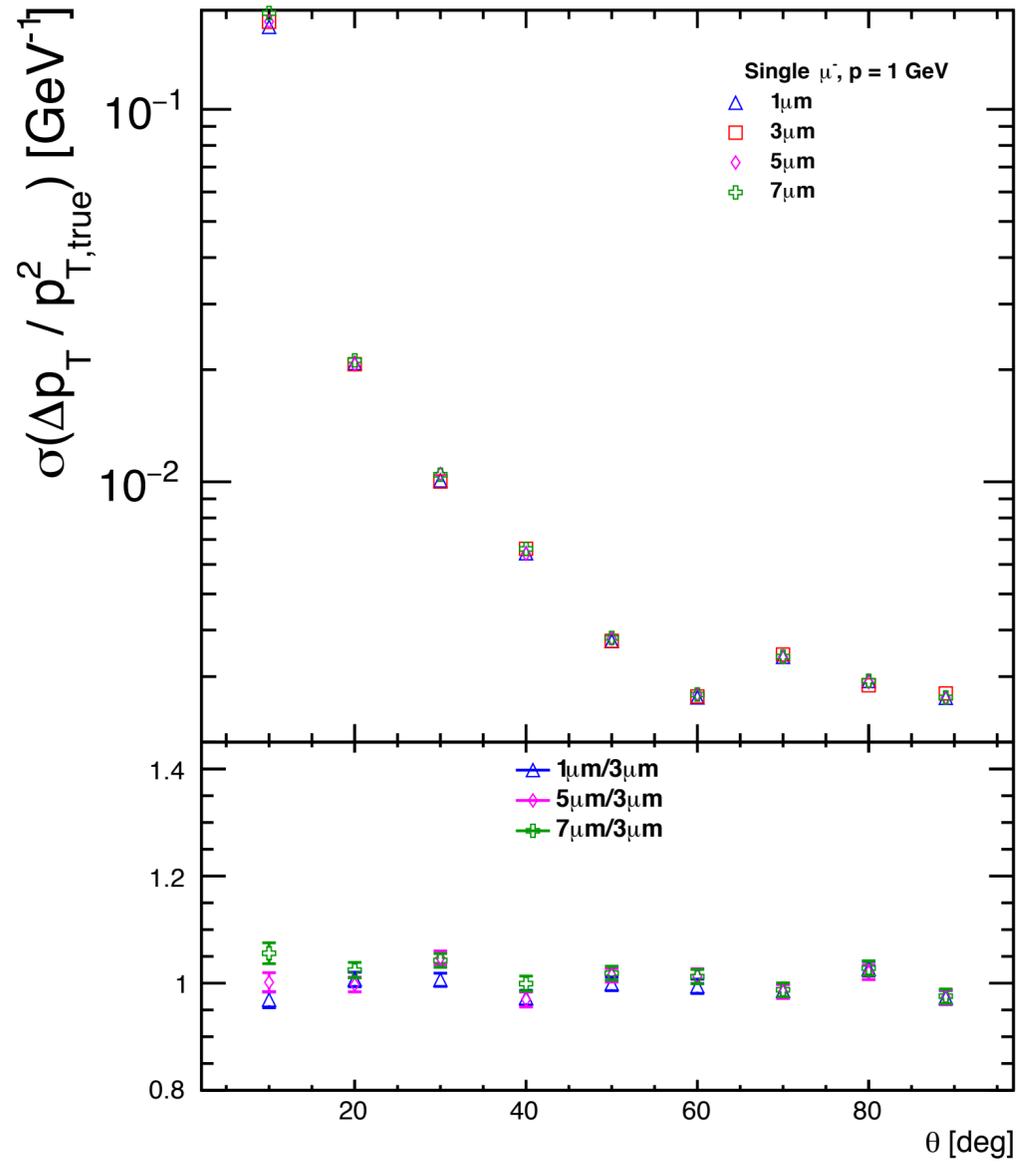
89deg



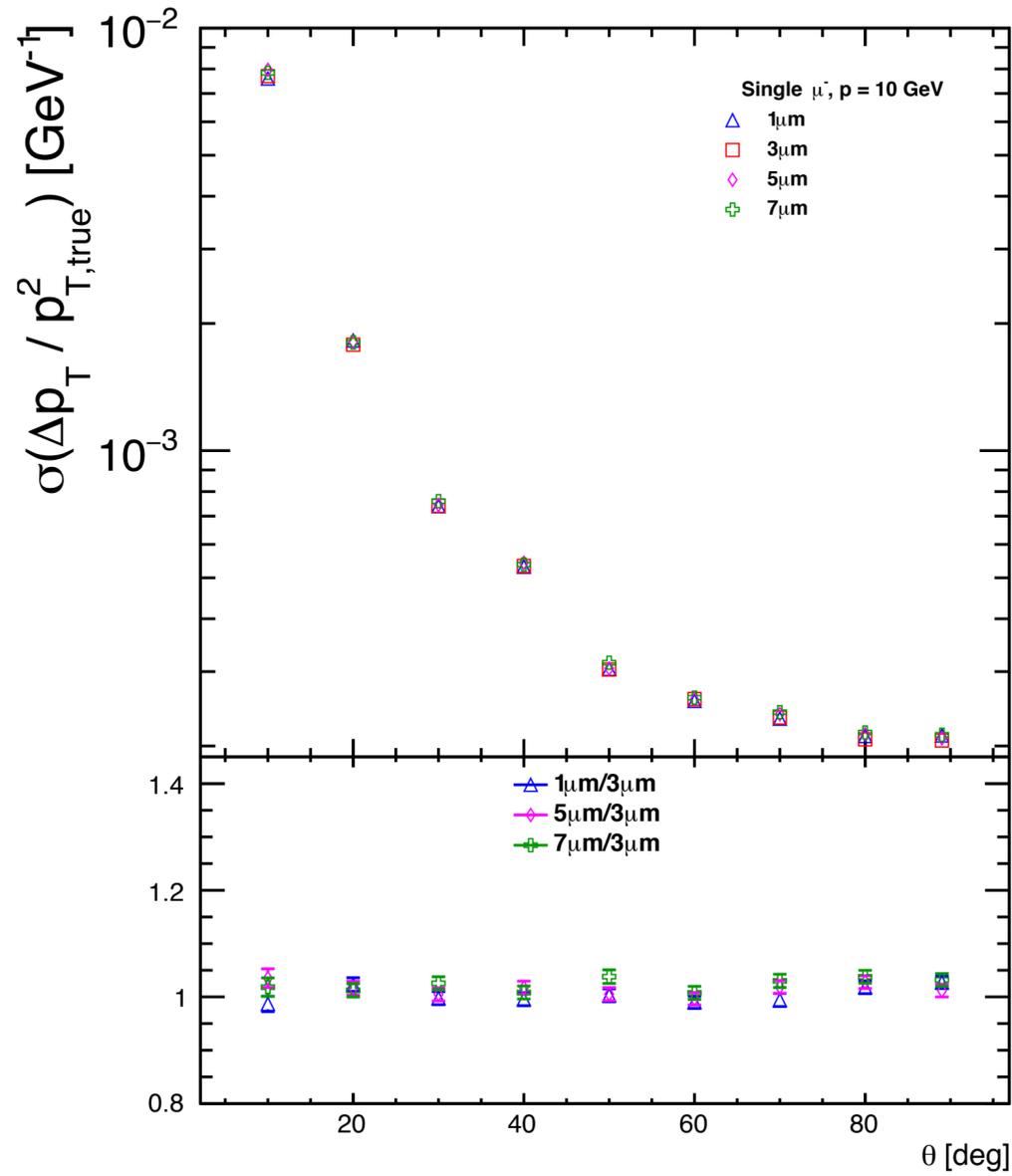
Variation with single point resolution (vertex)

2. Transverse momentum resolution vs θ

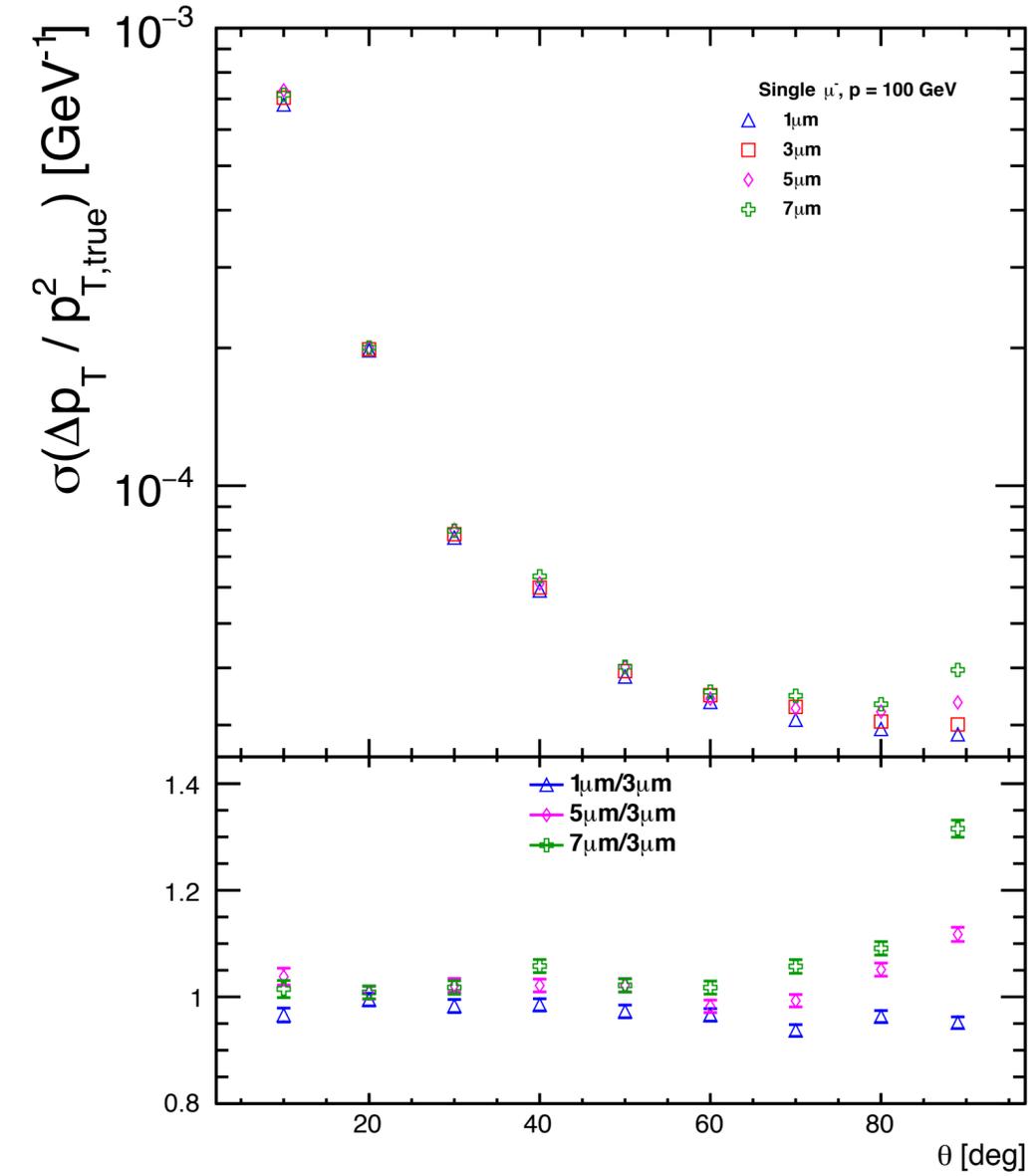
1 GeV



10 GeV



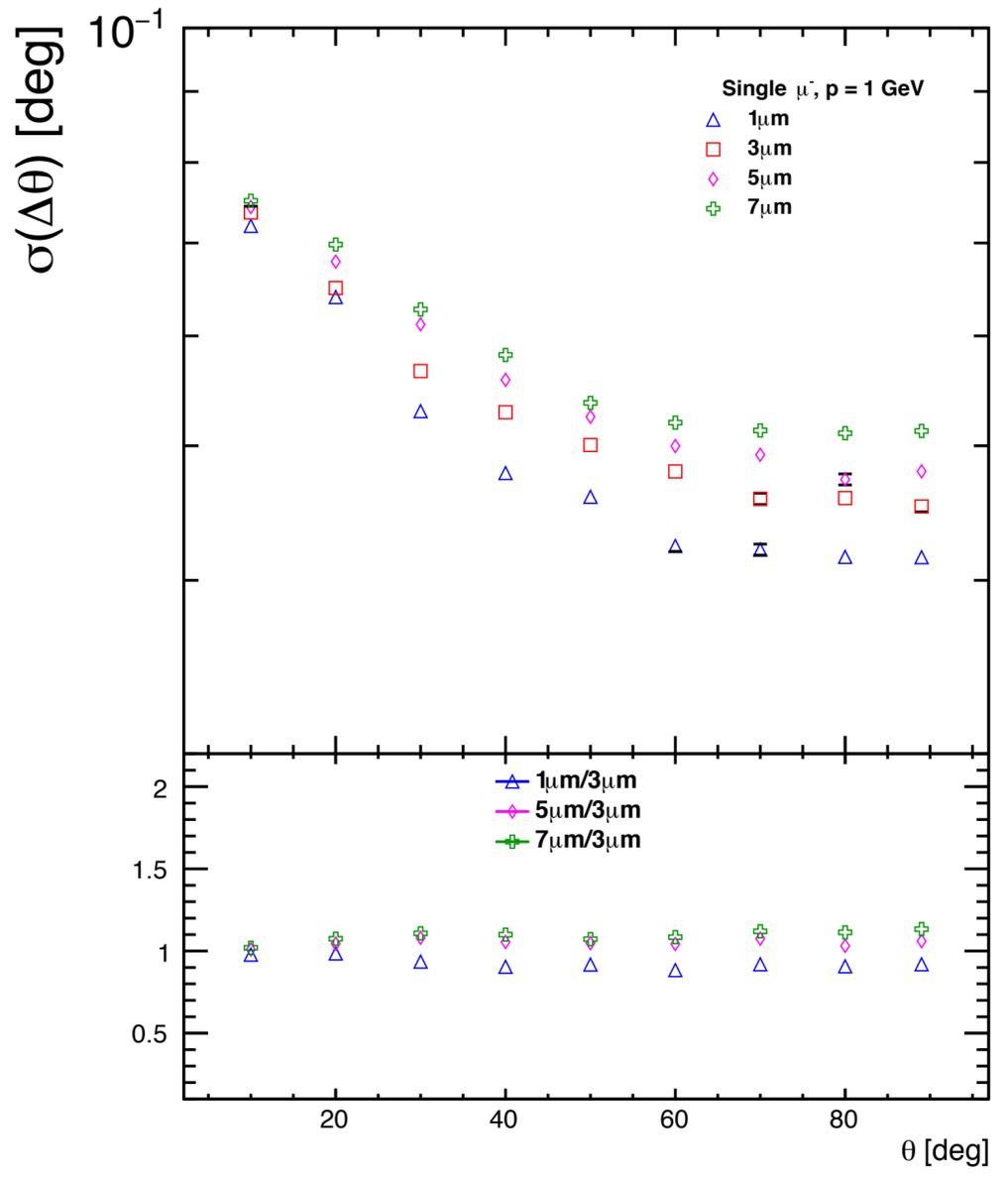
100 GeV



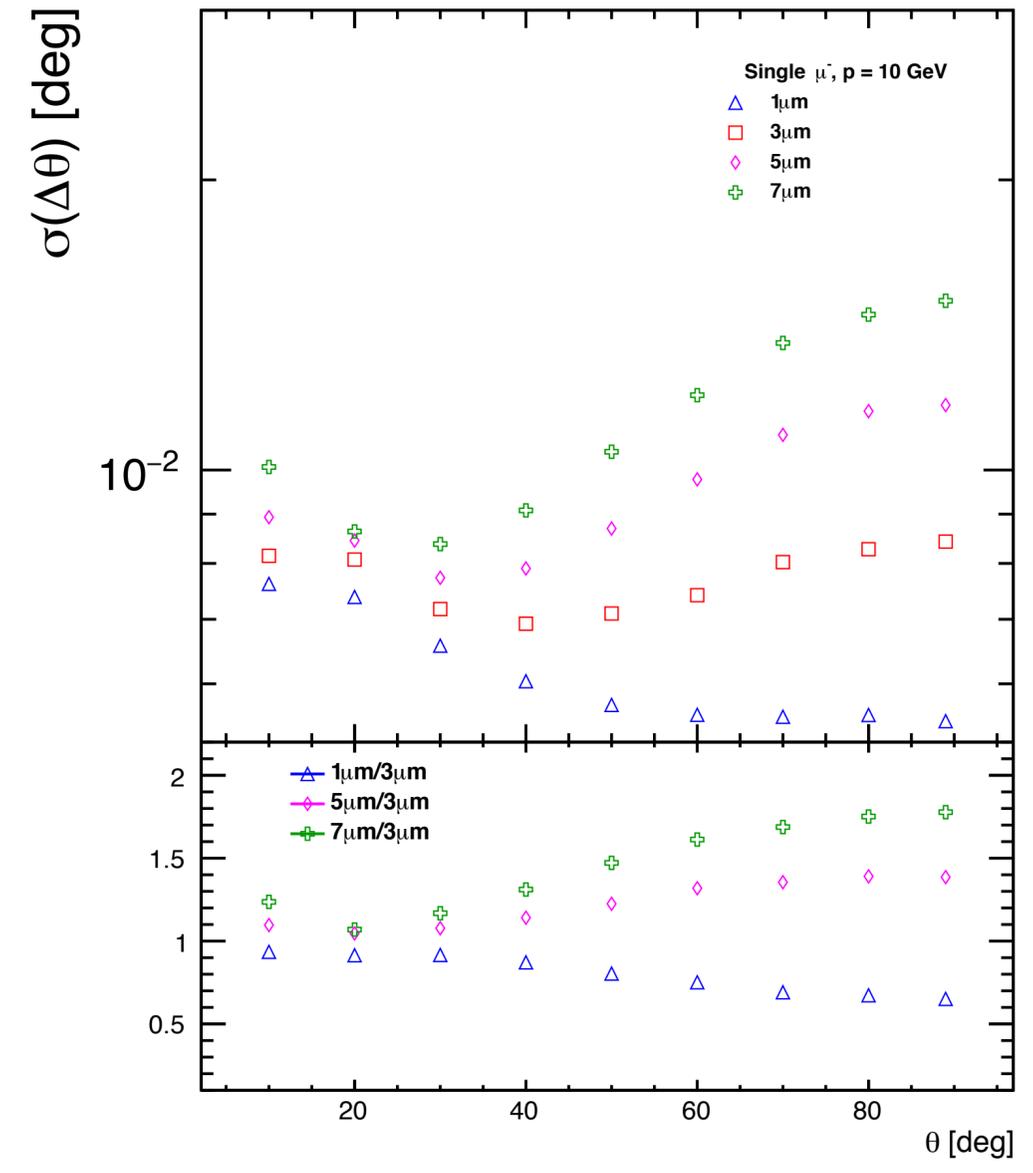
Variation with single point resolution (vertex)

3. θ resolution

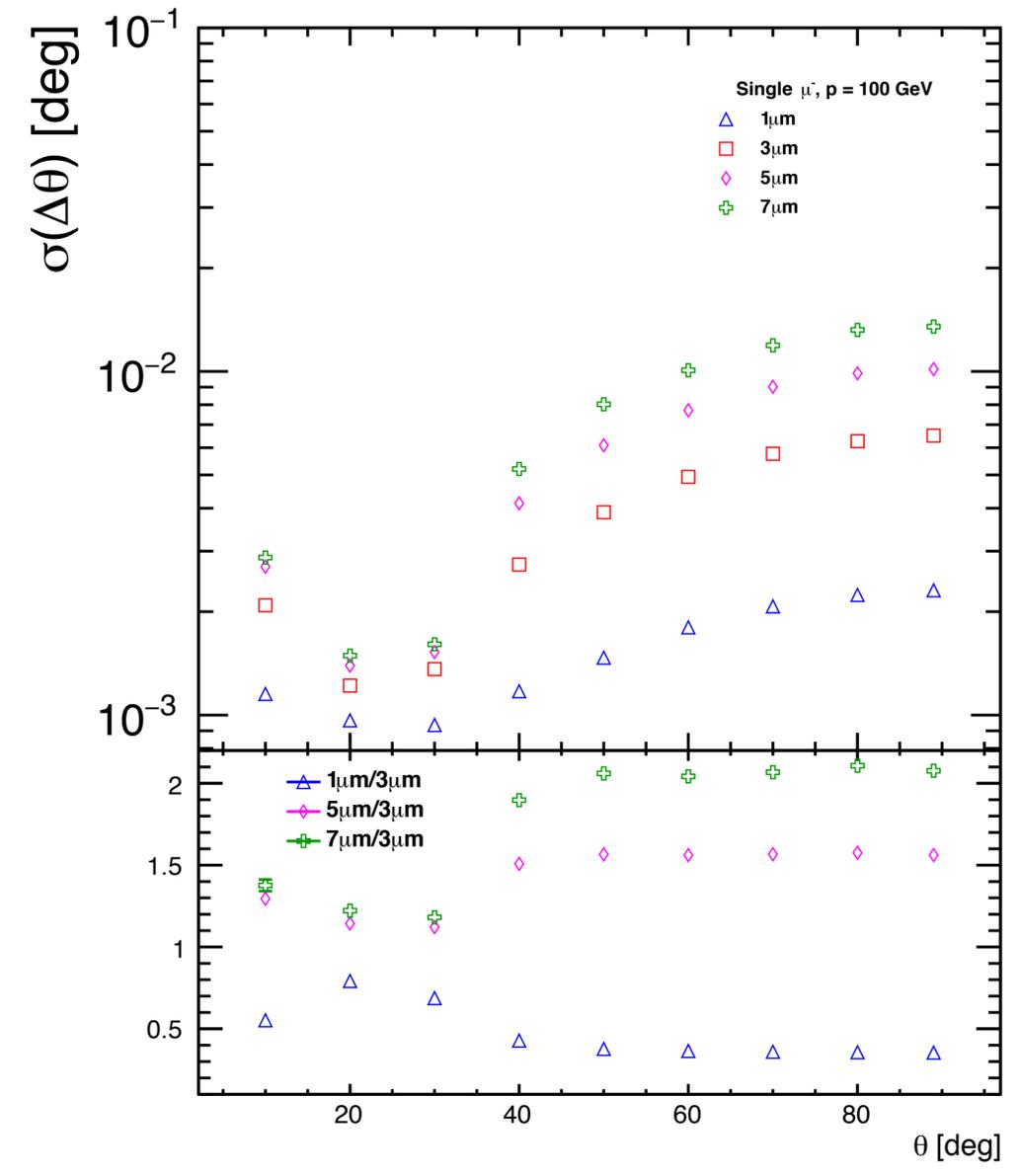
1 GeV



10 GeV



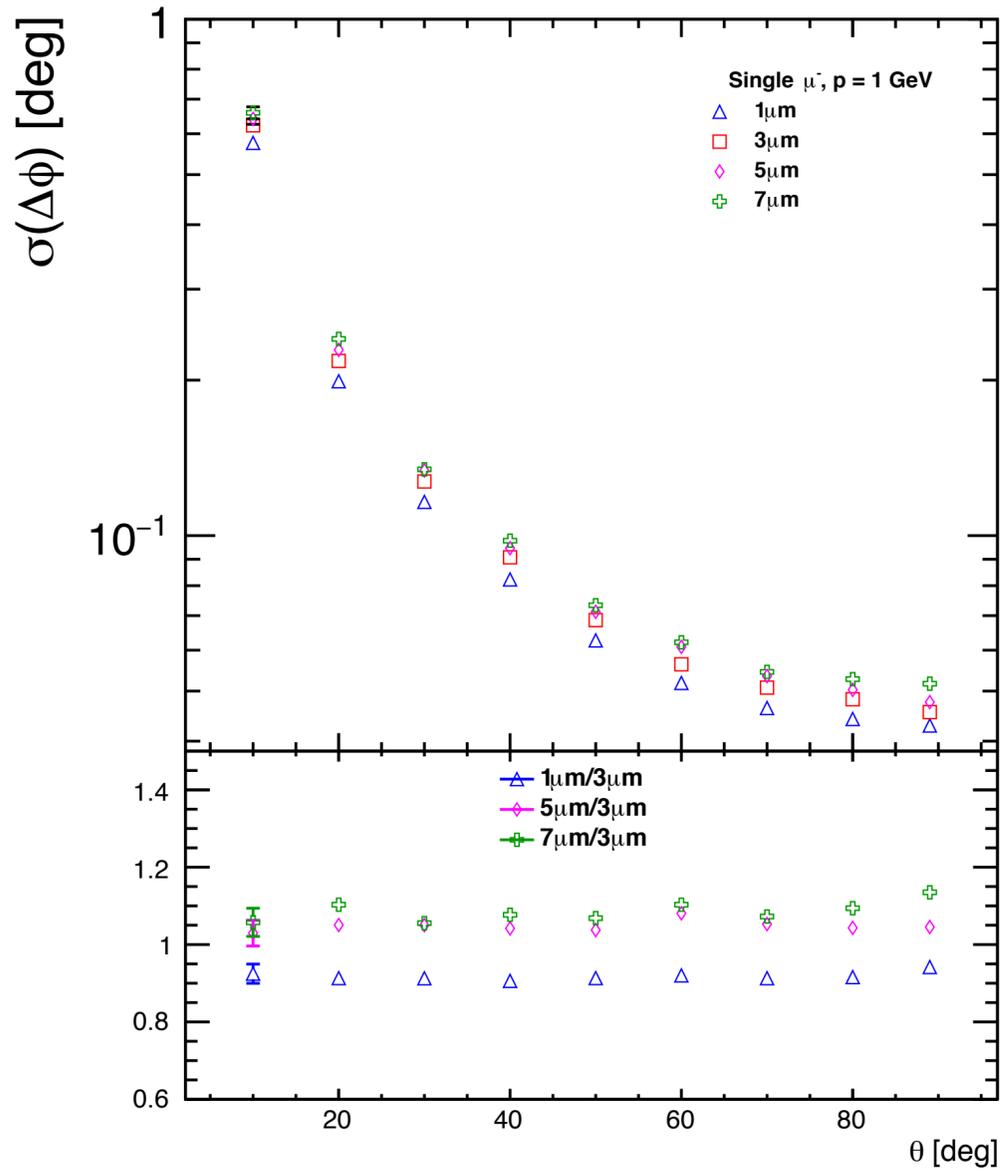
100 GeV



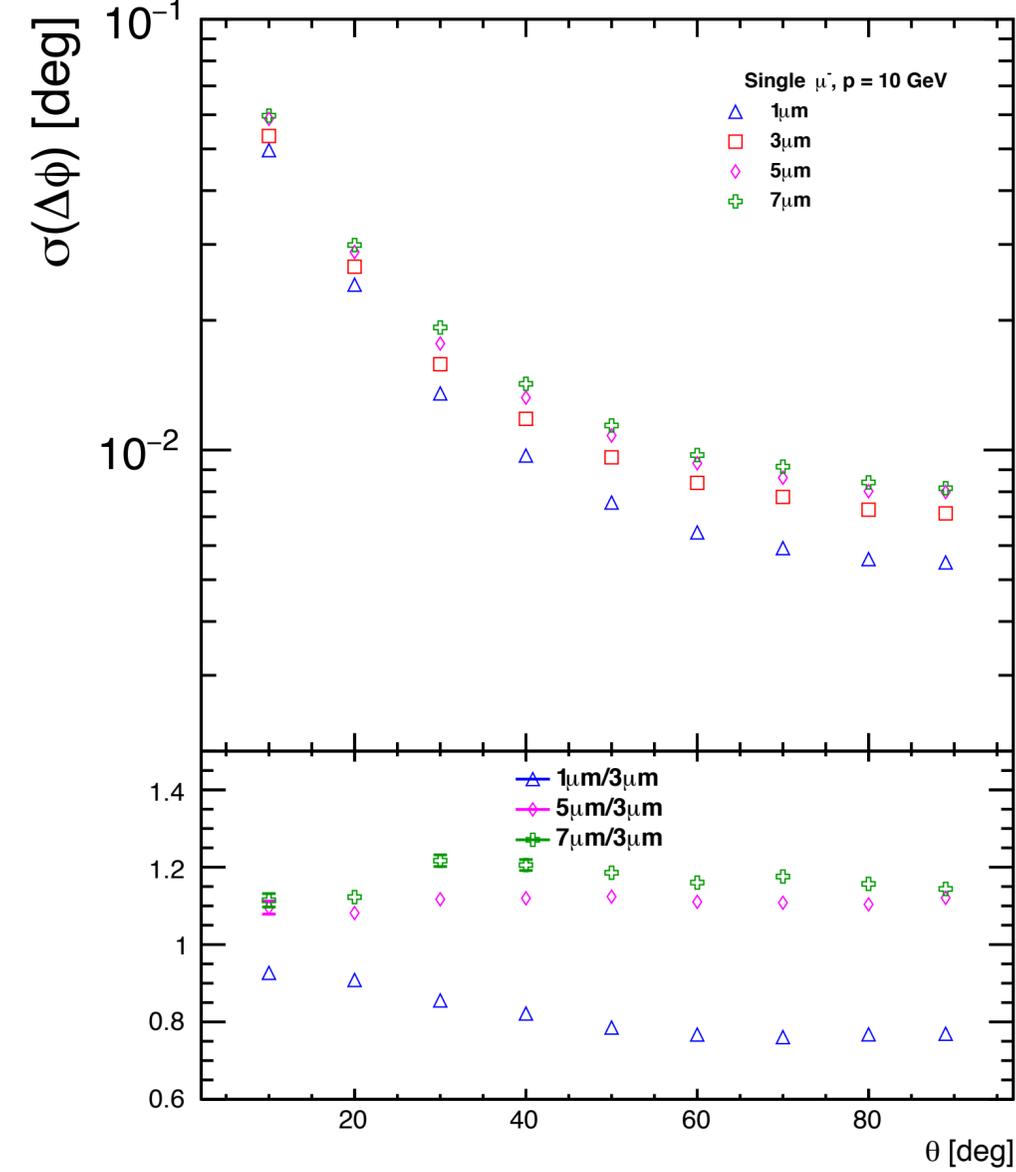
Variation with single point resolution (vertex)

3. ϕ resolution

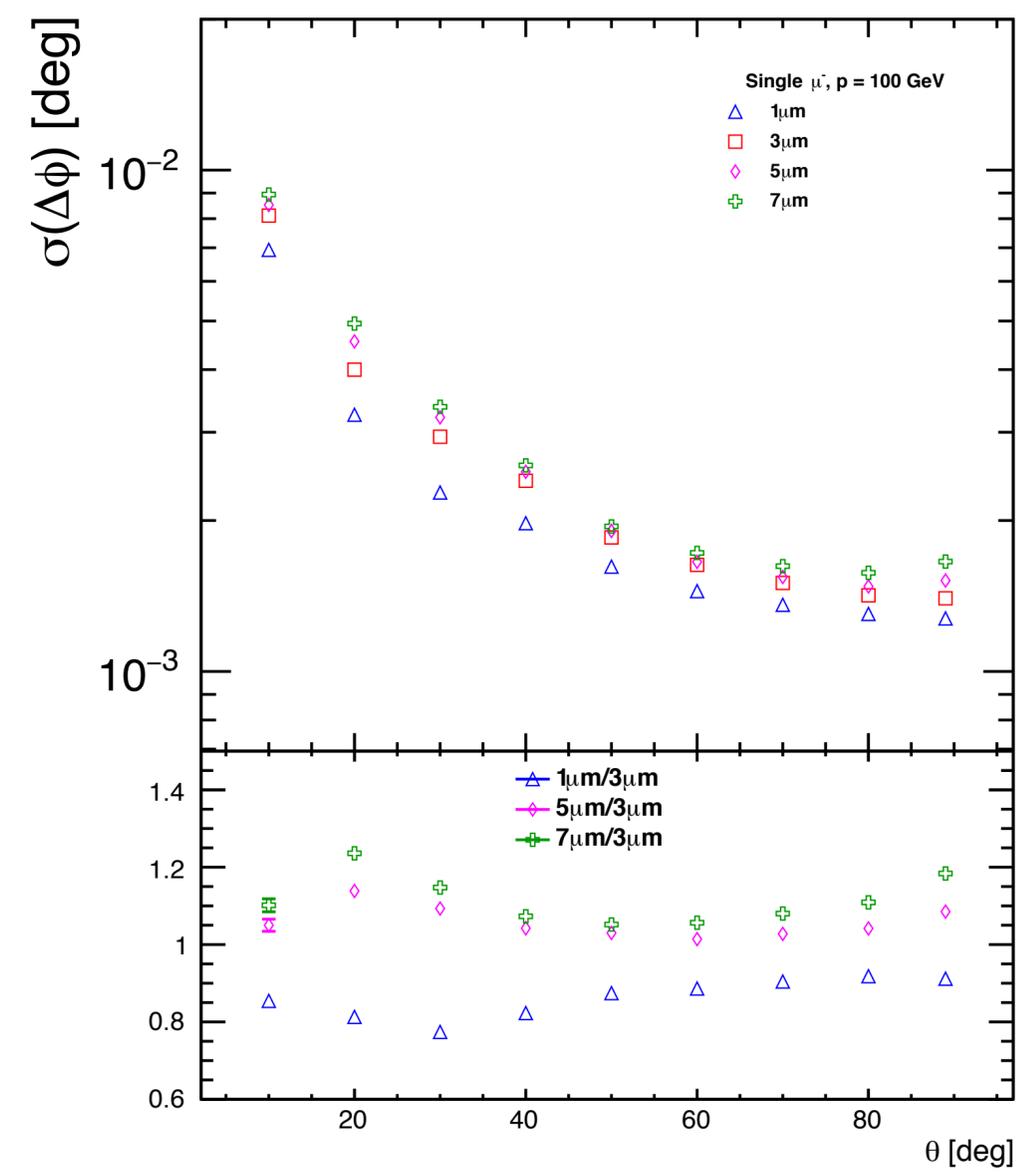
1 GeV



10 GeV



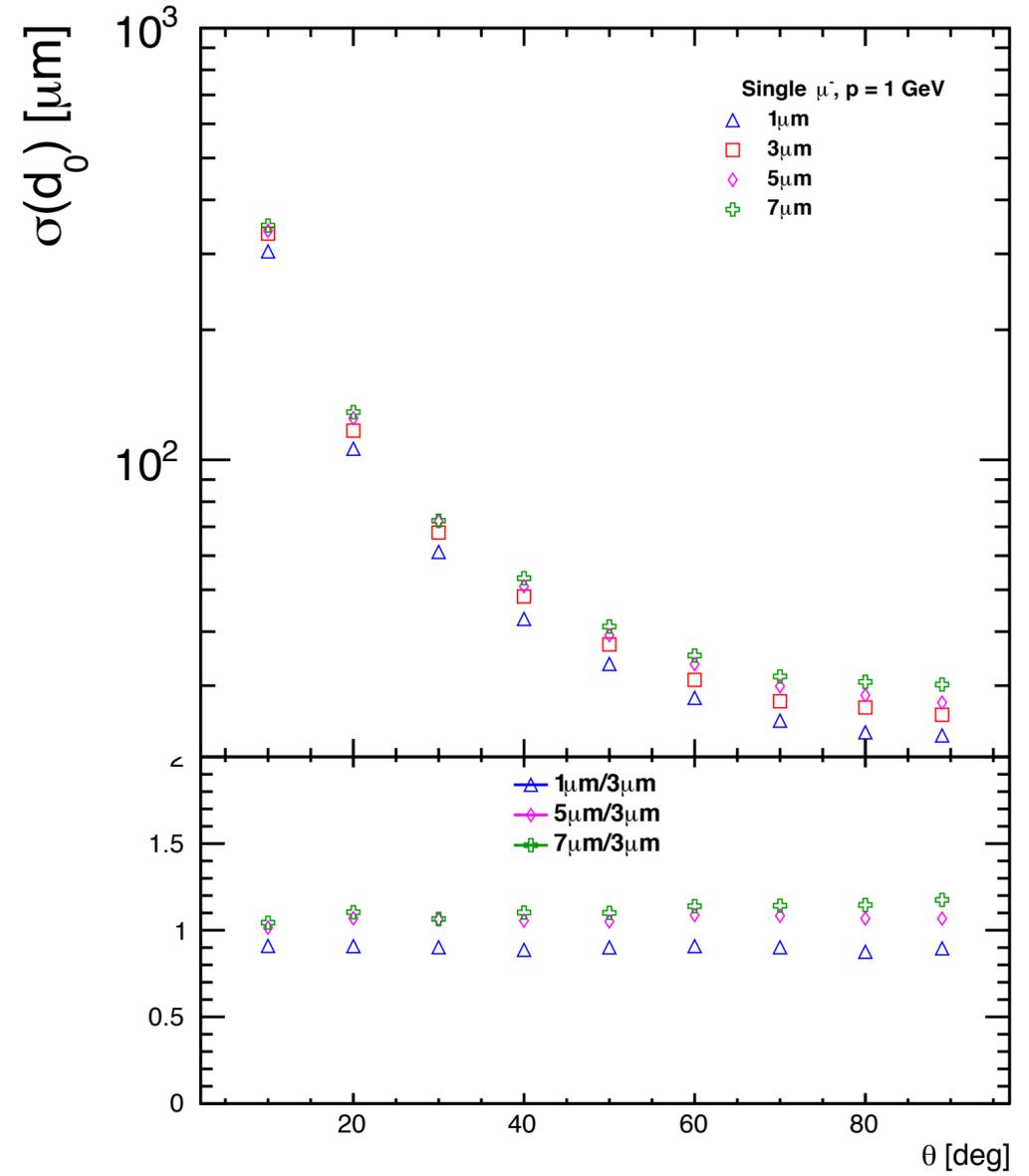
100 GeV



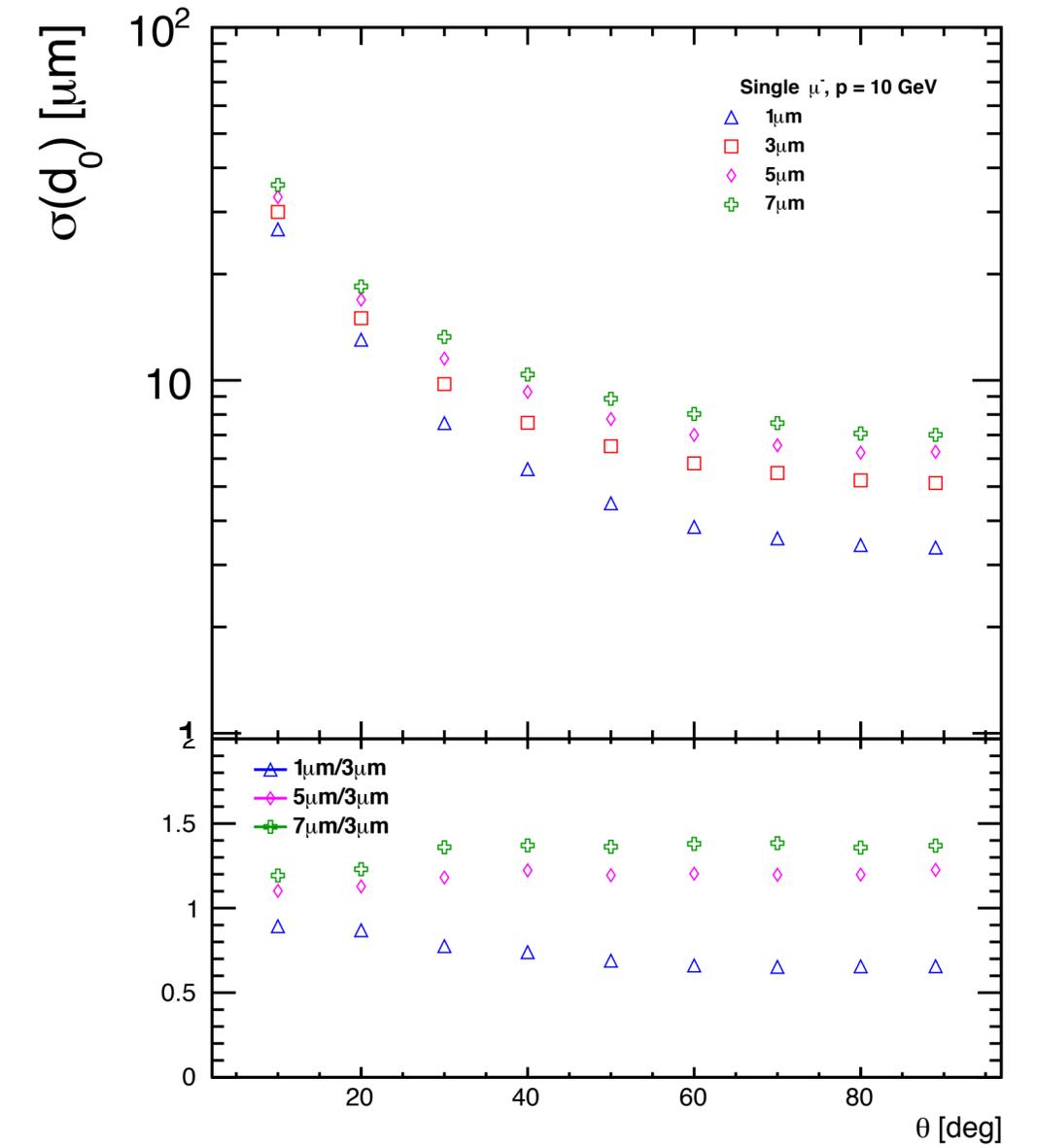
Variation with single point resolution (vertex)

4. d0 resolution

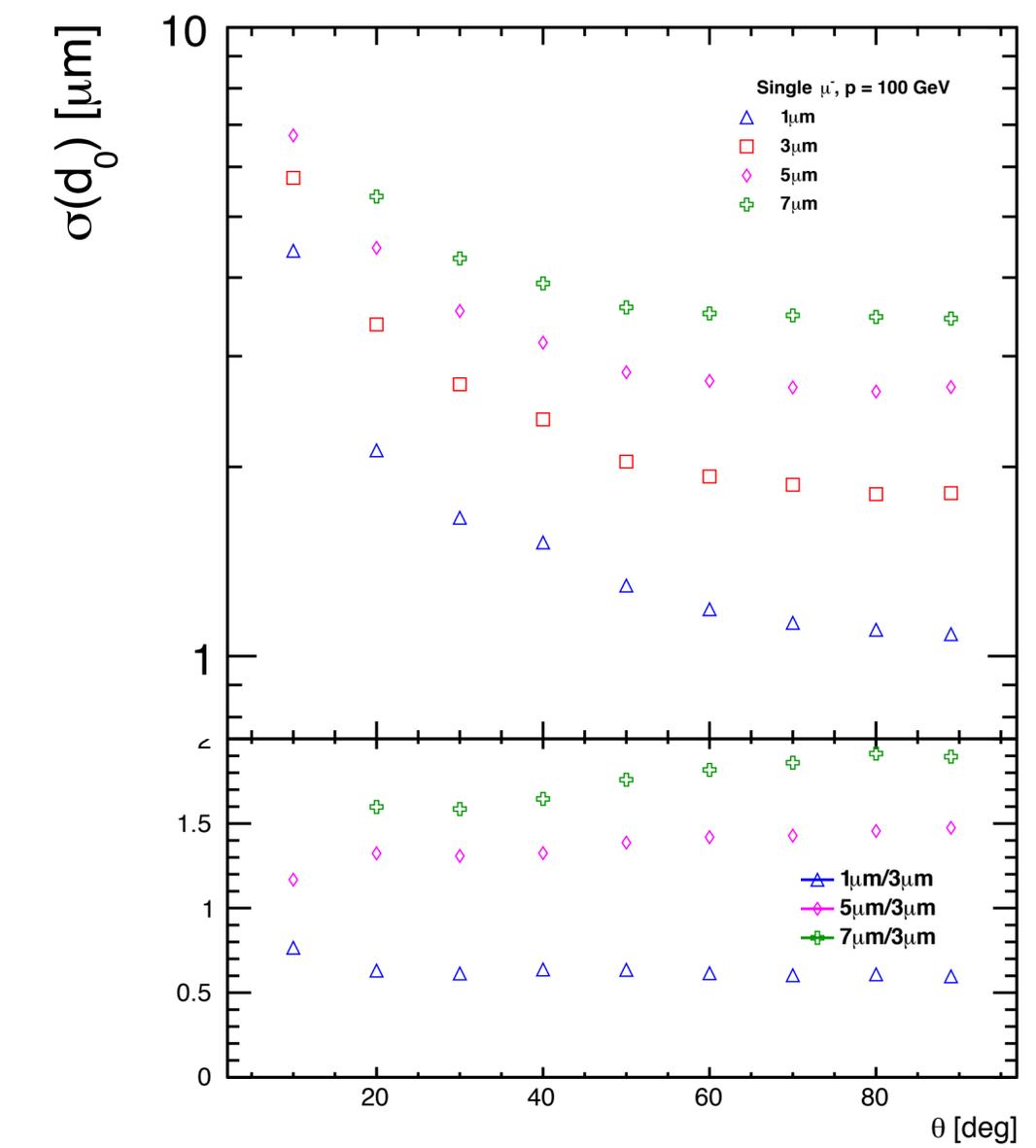
1 GeV



10 GeV



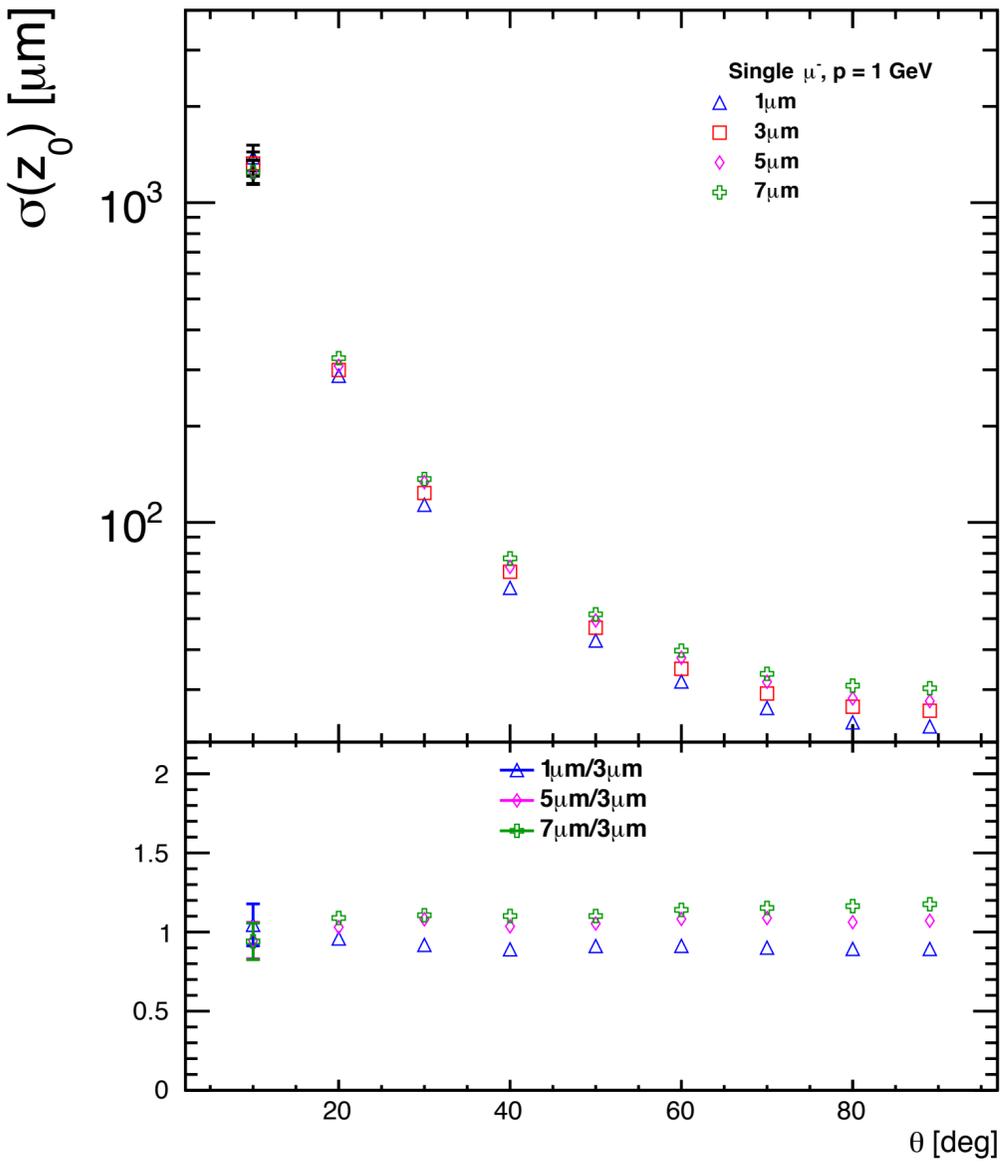
100 GeV



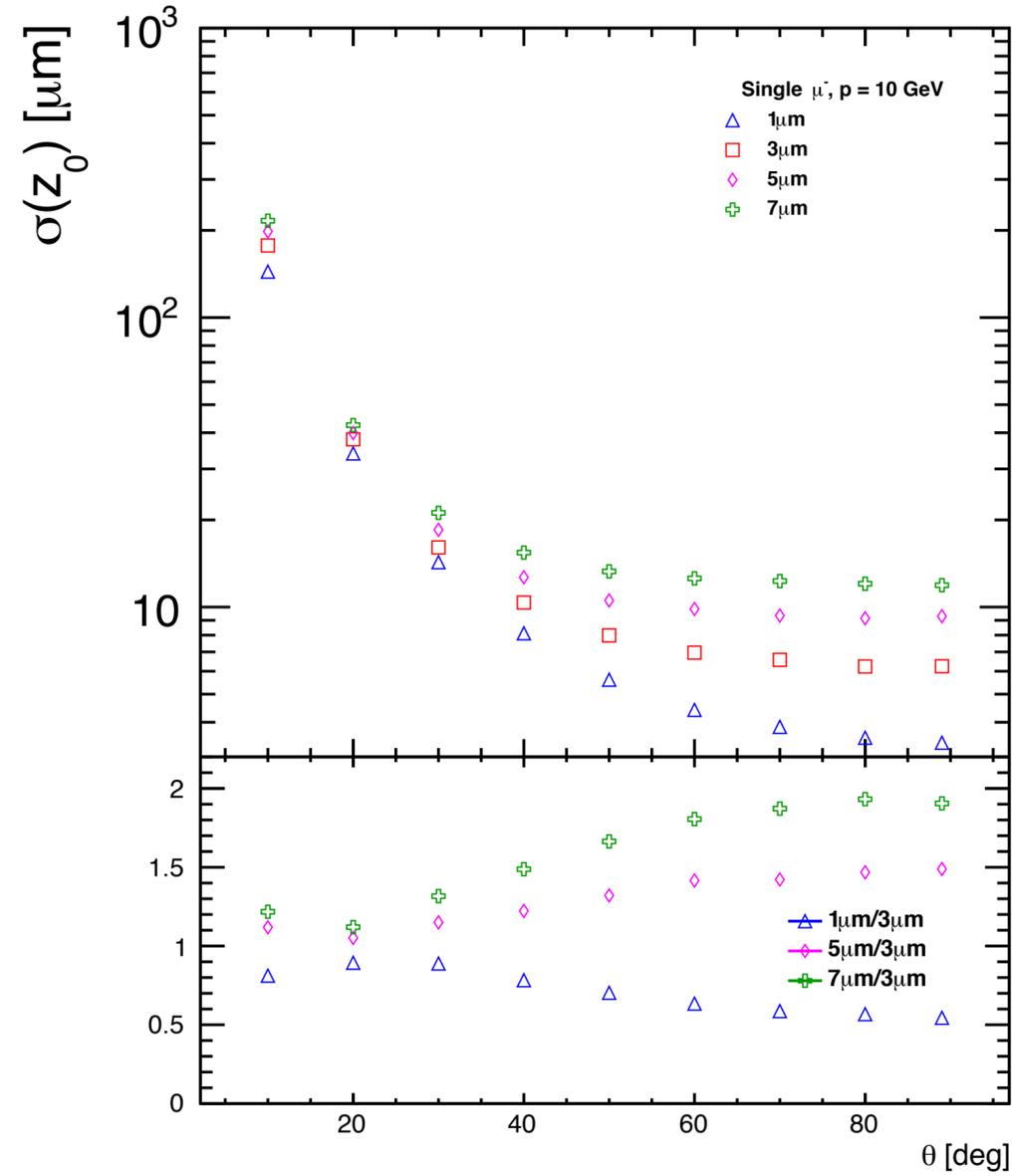
Variation with single point resolution (vertex)

4. z0 resolution

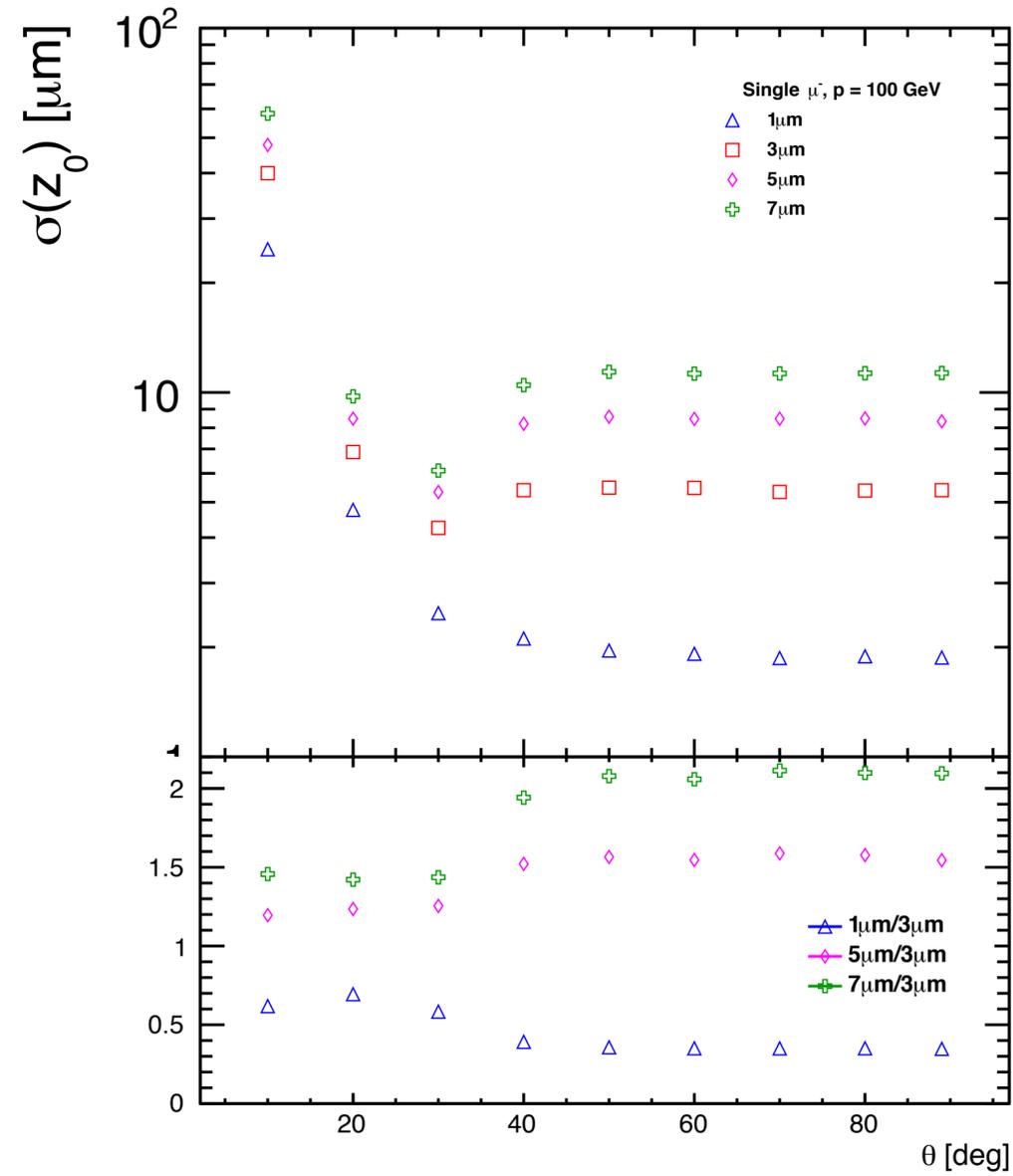
1 GeV



10 GeV



100 GeV



BACKUP