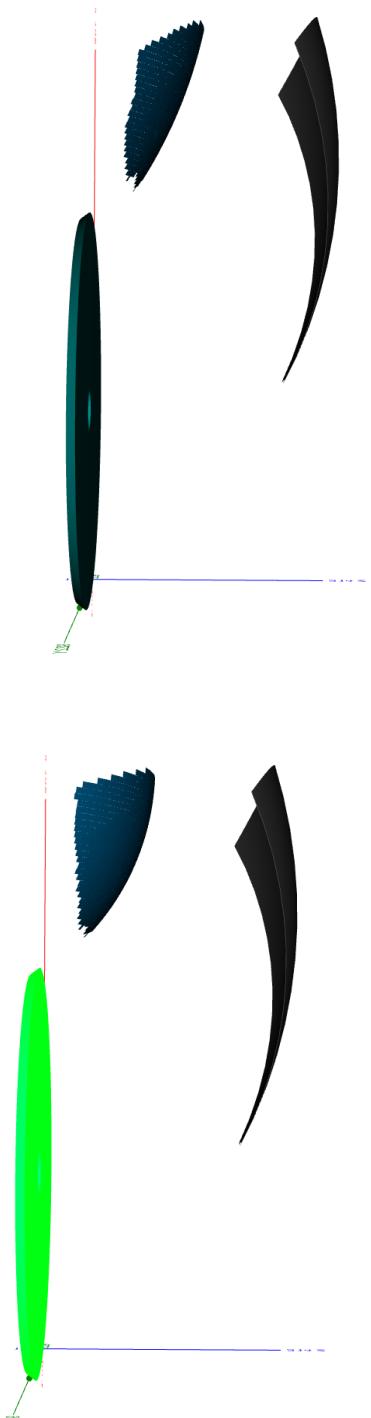
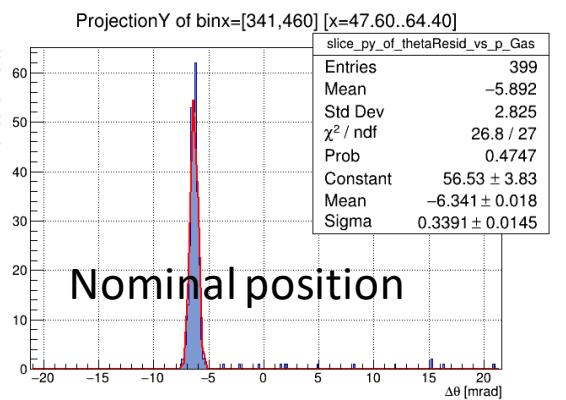


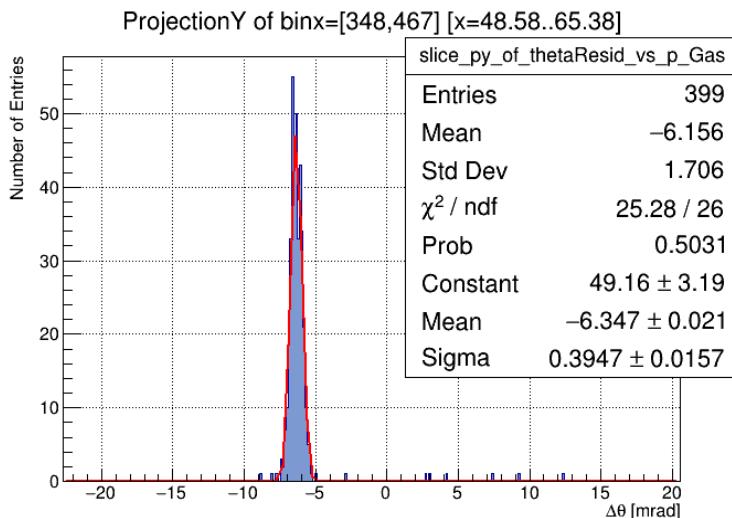
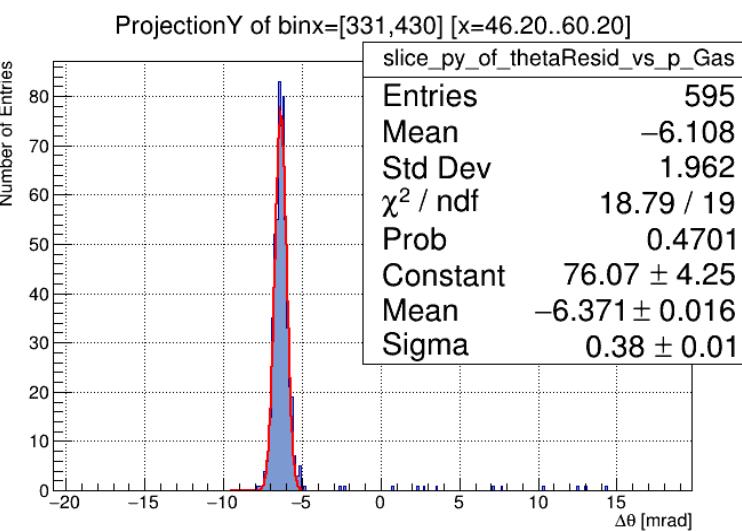
Effect on sensor
parameterization



DRICH_mirror_center_x_sec0 = 114.749 cm
 DRICH_mirror_center_y_sec0 = 0.000 cm
 DRICH_mirror_center_z_sec0 = 94.485 cm
 DRICH_mirror_radius = 219.415 cm
 DRICH_sensor_sph_center_x_sec0 = 224.600 cm
 DRICH_sensor_sph_center_y_sec0 = 0.000 cm
 DRICH_sensor_sph_center_z_sec0 = 36.410 cm
 DRICH_sensor_sph_radius = 220.000 cm



DRICH_mirror_center_x_sec0 = 114.582 cm
 DRICH_mirror_center_y_sec0 = 0.000 cm
 DRICH_mirror_center_z_sec0 = 93.894 cm
 DRICH_mirror_radius = 219.415 cm
 DRICH_sensor_sph_center_x_sec0 = 182.65 cm
 DRICH_sensor_sph_center_y_sec0 = 0.000 cm
 DRICH_sensor_sph_center_z_sec0 = 140.25 cm
 DRICH_sensor_sph_radius = 110.000 cm

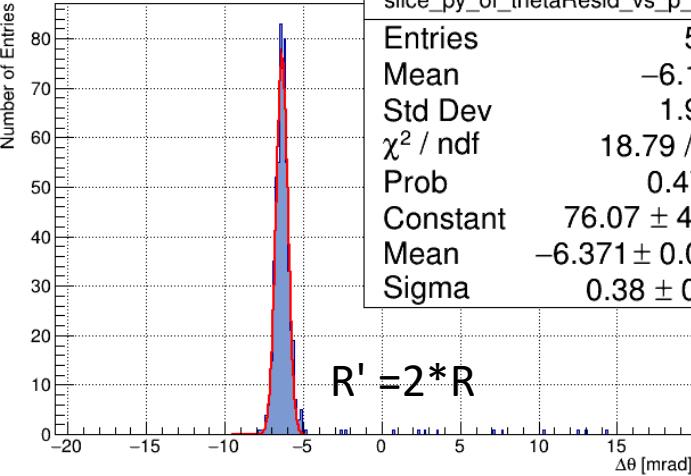


Sensitivity

ProjectionY of binx=[331,430] [x=46.20..60.20]

slice_py_of_thetaResid_vs_p_Gas	
Entries	595
Mean	-6.108
Std Dev	1.962
χ^2 / ndf	18.79 / 19
Prob	0.4701
Constant	76.07 ± 4.25
Mean	-6.371 ± 0.016
Sigma	0.38 ± 0.01

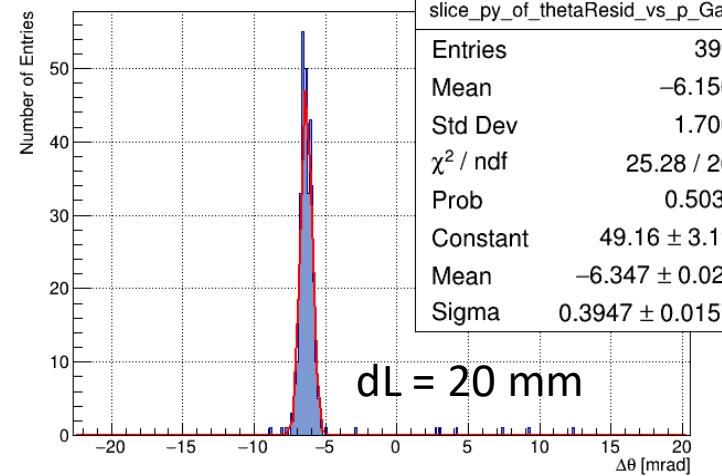
$$R' = 2 * R$$



ProjectionY of binx=[348,467] [x=48.58..65.38]

slice_py_of_thetaResid_vs_p_Gas	
Entries	399
Mean	-6.156
Std Dev	1.706
χ^2 / ndf	25.28 / 26
Prob	0.5031
Constant	49.16 ± 3.19
Mean	-6.347 ± 0.021
Sigma	0.3947 ± 0.0157

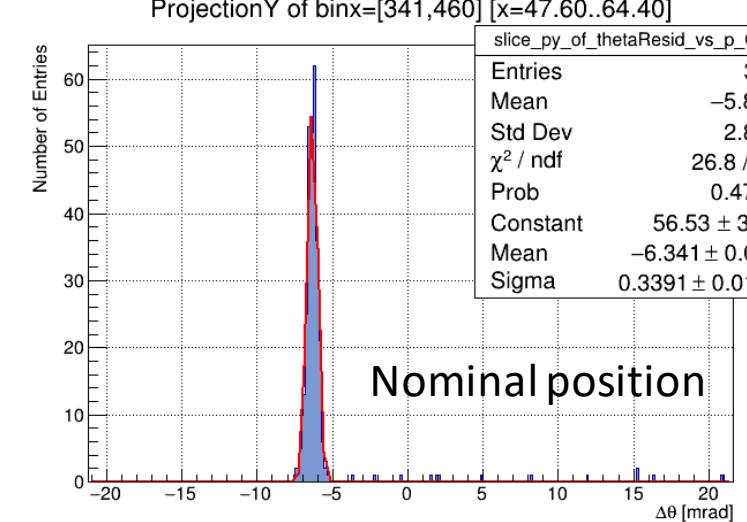
$$dL = 20 \text{ mm}$$



ProjectionY of binx=[341,460] [x=47.60..64.40]

slice_py_of_thetaResid_vs_p_Gas	
Entries	399
Mean	-5.892
Std Dev	2.825
χ^2 / ndf	26.8 / 27
Prob	0.4747
Constant	56.53 ± 3.83
Mean	-6.341 ± 0.018
Sigma	0.3391 ± 0.0145

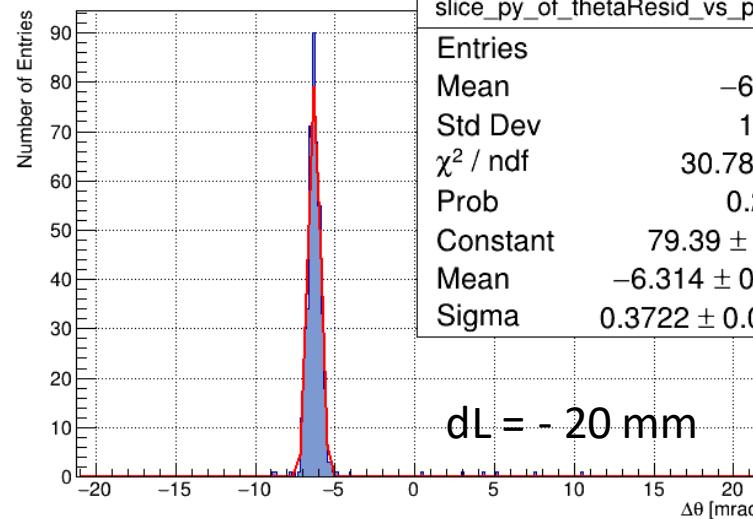
Nominal position



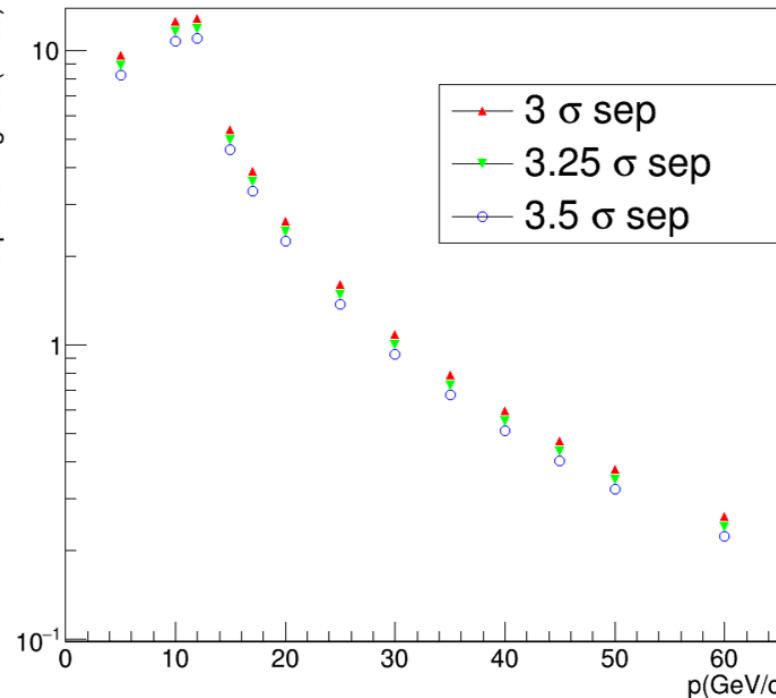
ProjectionY of binx=[320,439] [x=44.66..61.46]

slice_py_of_thetaResid_vs_p_Gas	
Entries	599
Mean	-6.208
Std Dev	1.275
χ^2 / ndf	30.78 / 27
Prob	0.2801
Constant	79.39 ± 4.12
Mean	-6.314 ± 0.016
Sigma	0.3722 ± 0.0112

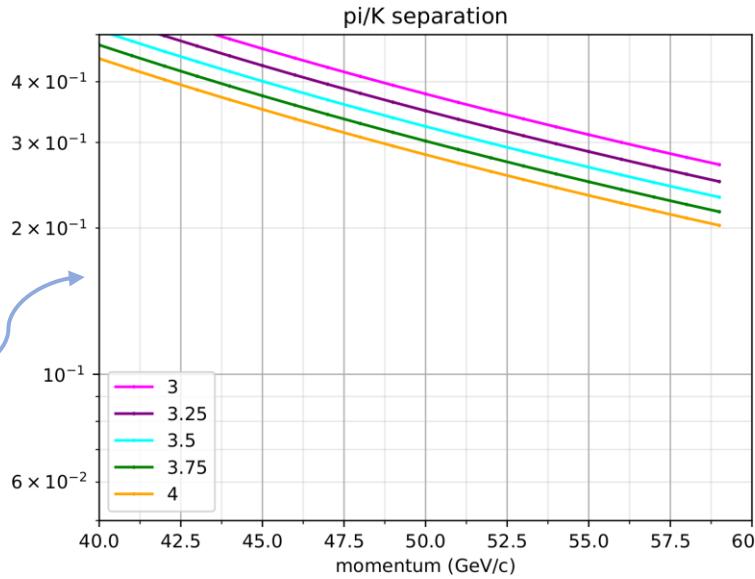
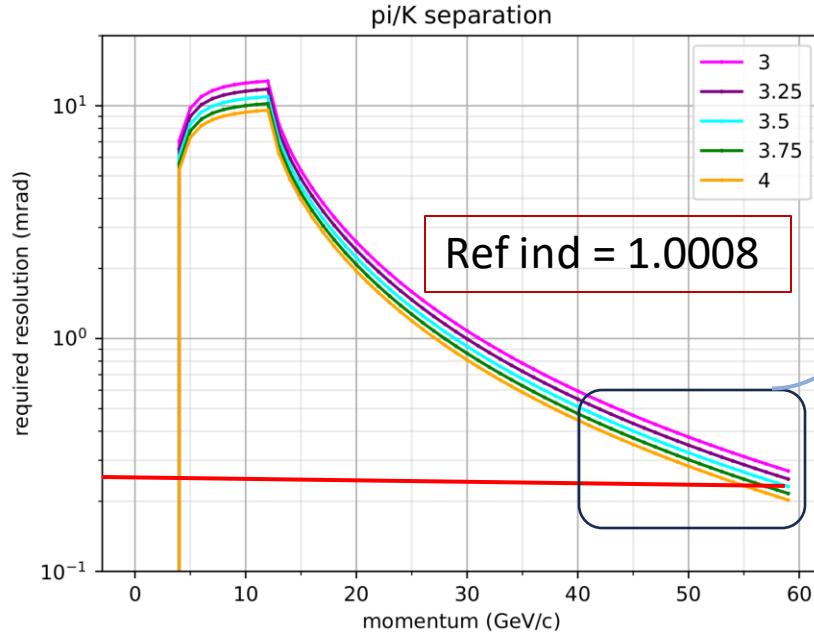
$$dL = -20 \text{ mm}$$



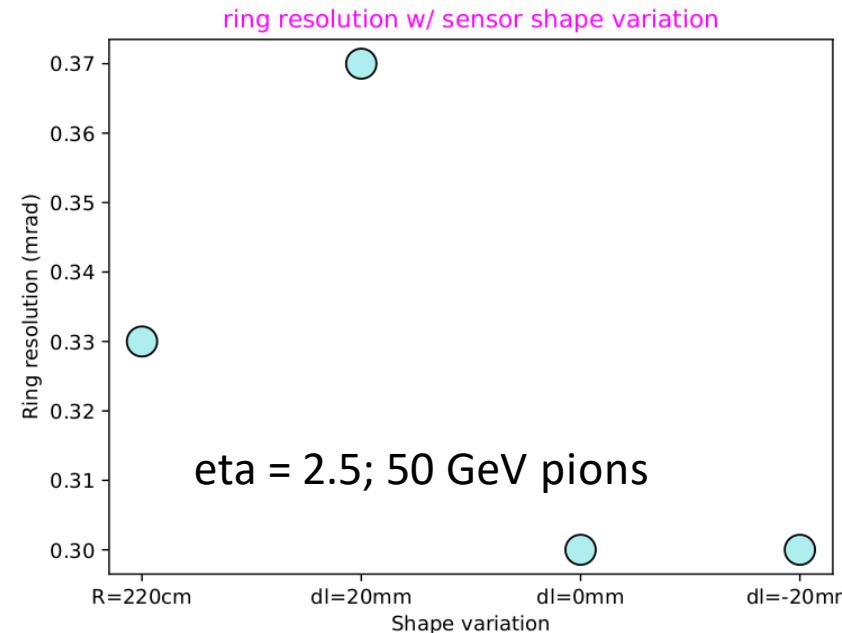
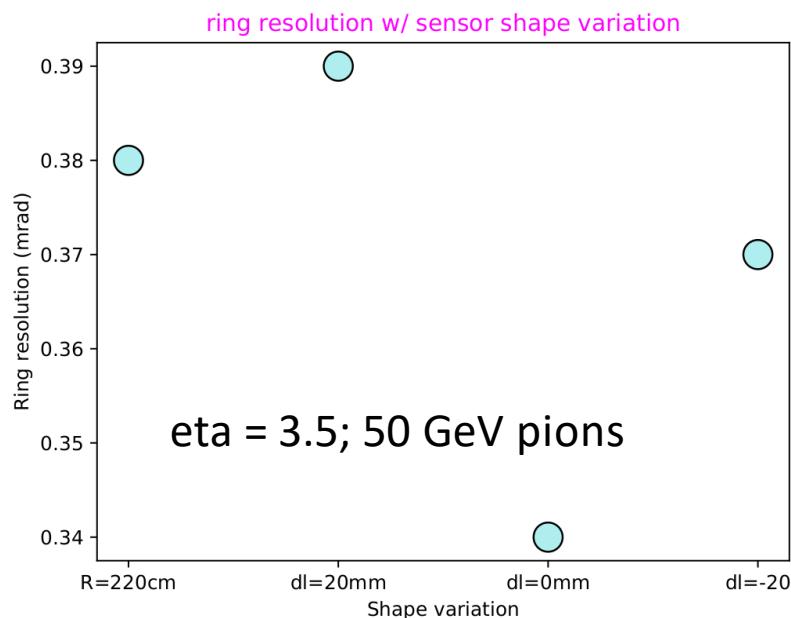
required ring res (mrad)



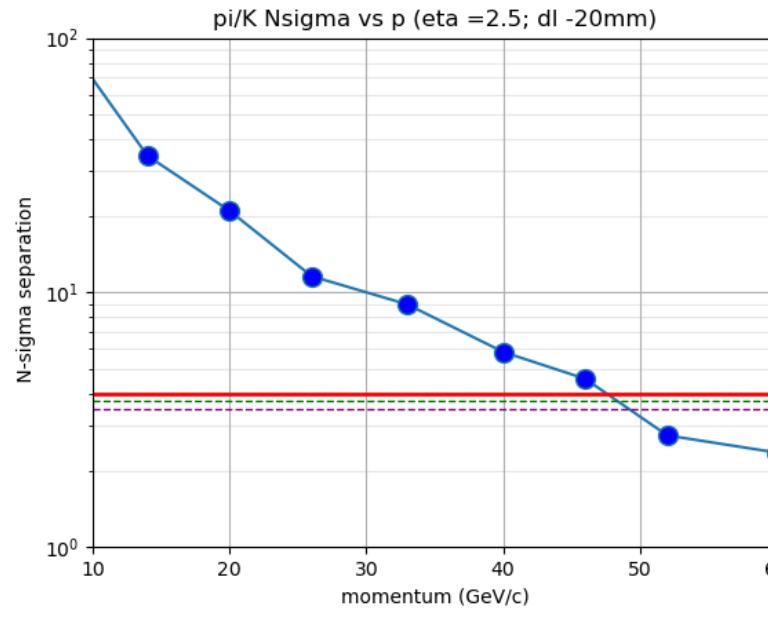
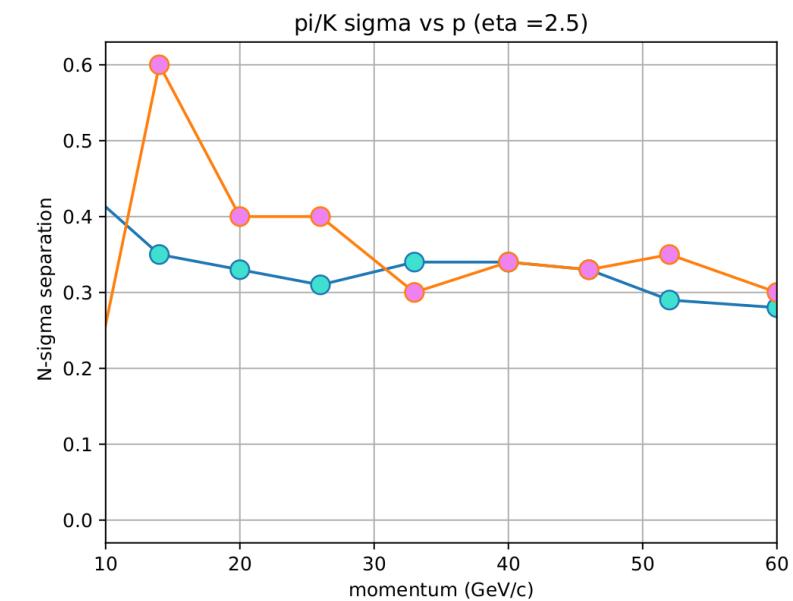
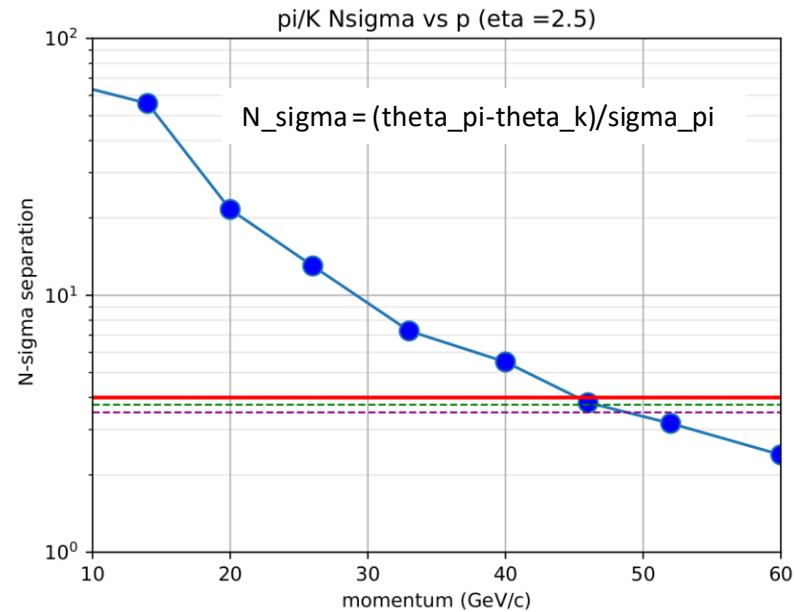
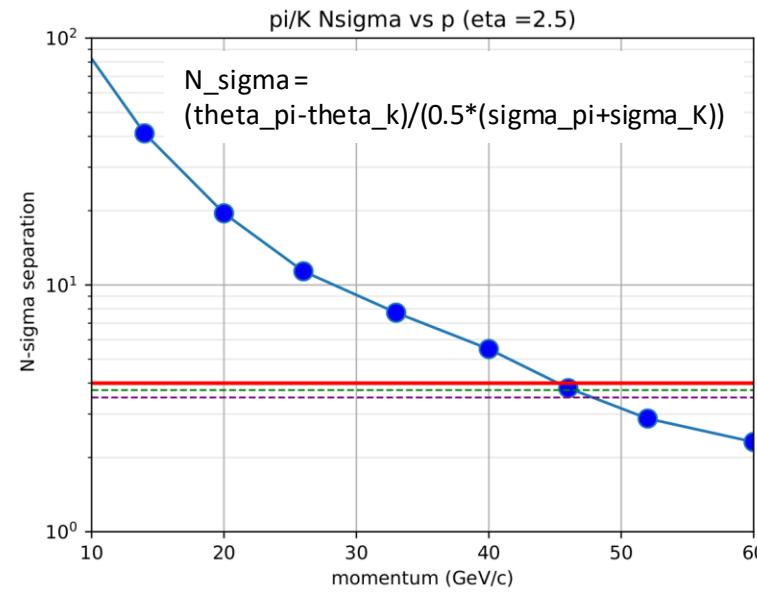
50 GeV req. 0.3-0.4 mrad
in ideal situation. Maybe in
tension in real life. These
movements are compatible
for 40 GeV/c limit.



4 sigma sep. above 50 GeV/c requires **better** than 0.3 mrad effective ring resolution!!
--> At 55 GeV/c it is 0.25 mrad!!
4-sigma corresponds to alpha $\rightarrow 3.15 \cdot 10^{-5}$
3-sigma 1.5/1000
3.5-sigma < 1/1000



Our configuration is not compatible to 4-sigma ($n \sim 1.0008$). Although for eta 2.5 it is compatible for 3.75 sigma separation and for eta 3.5 it is capable of 3.5 sigma sep.
SINGLE PARTICLE SHOT AT SINGLE PHI!! --> pion res.



Our current geometry is not providing effective ring resolution of 3.5 sigma separation!

Possible cause of fluctuations :

- > Low statistics!
- > Unstable reconstruction
- > Some physical effects!

