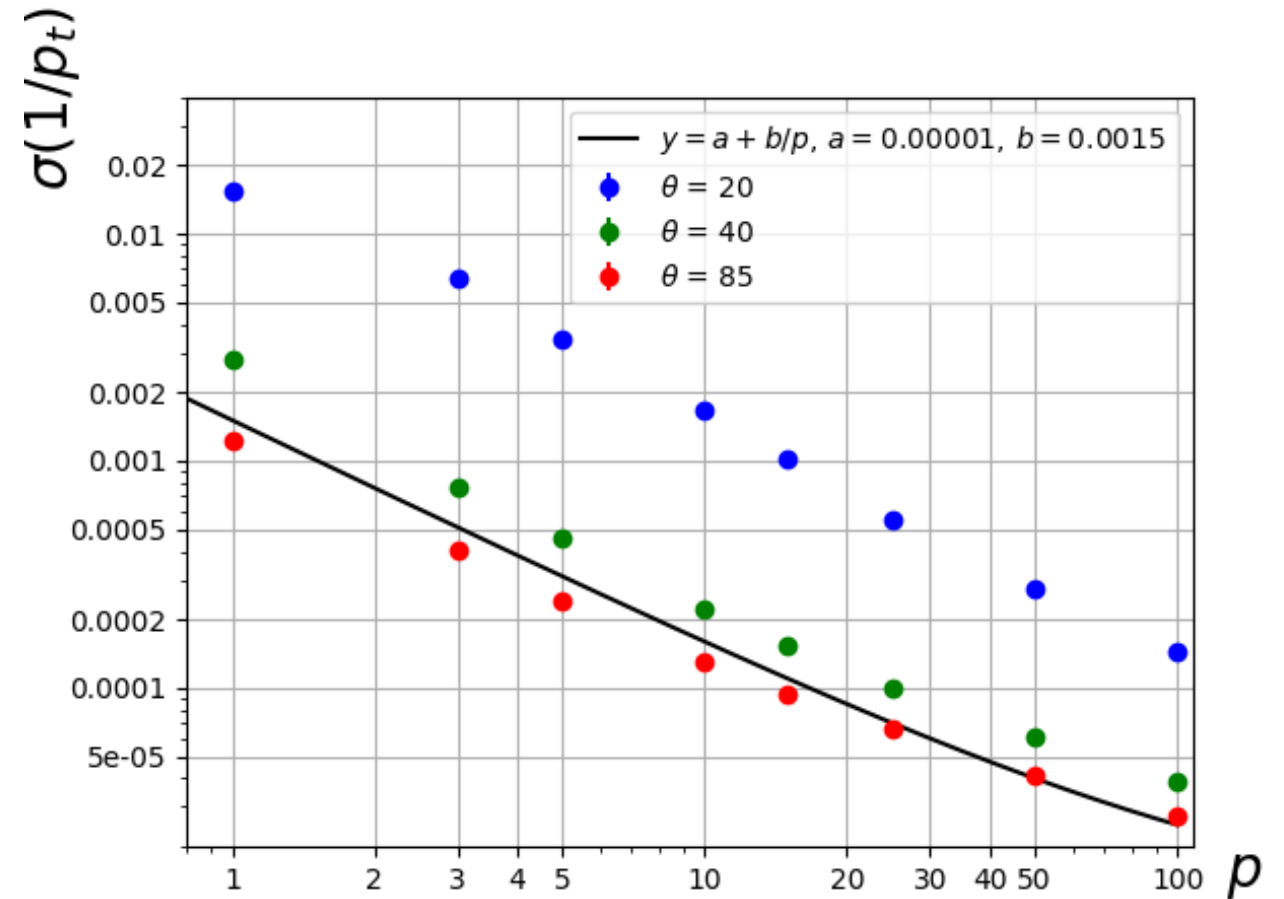# Tracking Resolution Performance

Hao Zhu/28Feb2025

Momentum Resolution Performance
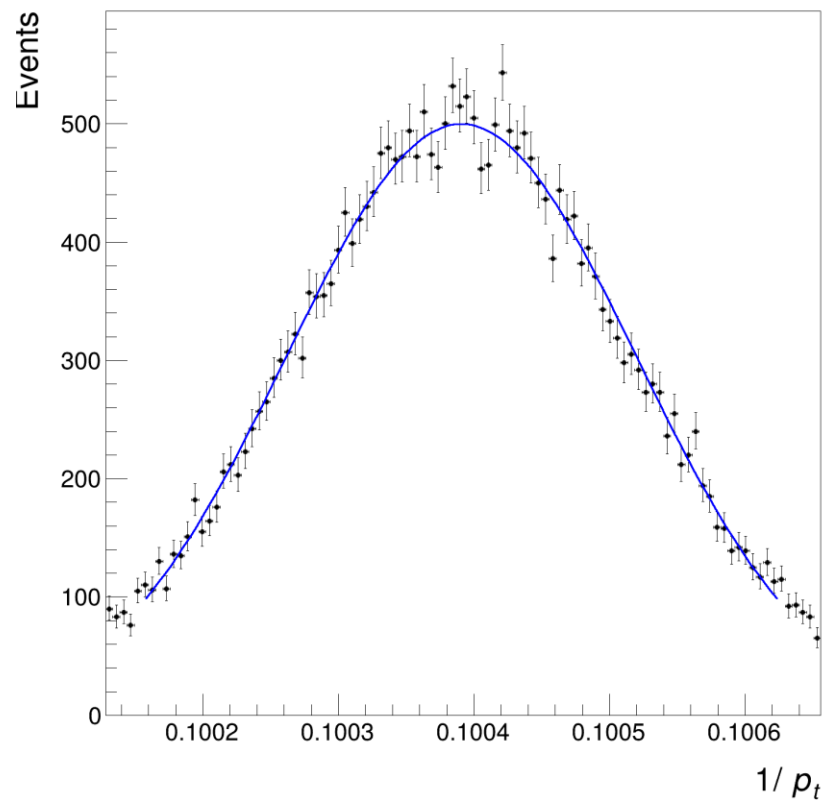
Sample:

- single muon particle gun

- eight momentum p value

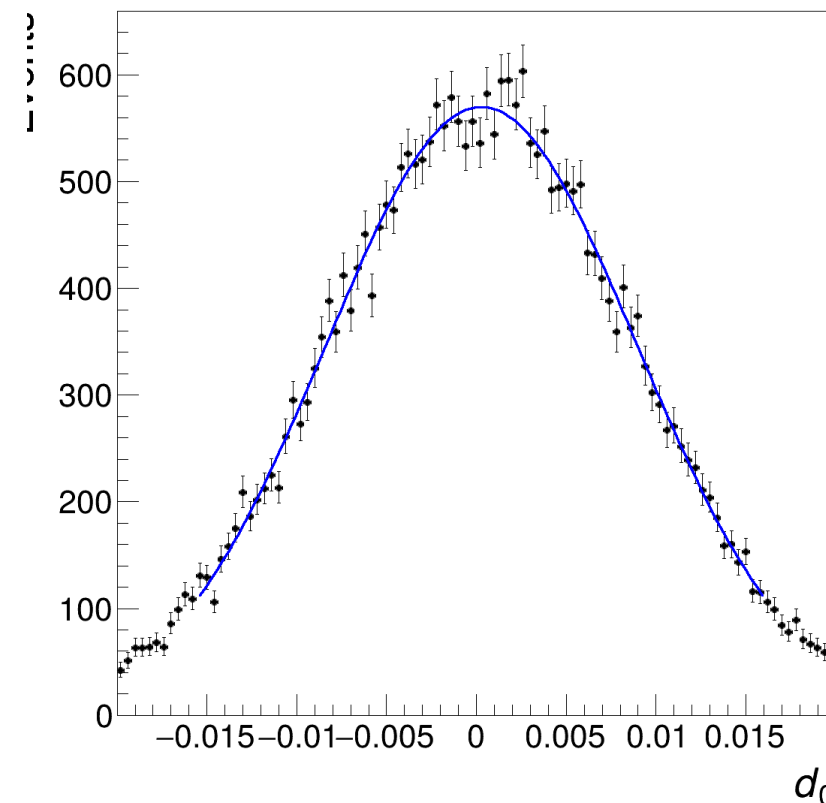- three angle θ value

- angle φ from 0 ° to 360°

Resolution Calculation with Fitting

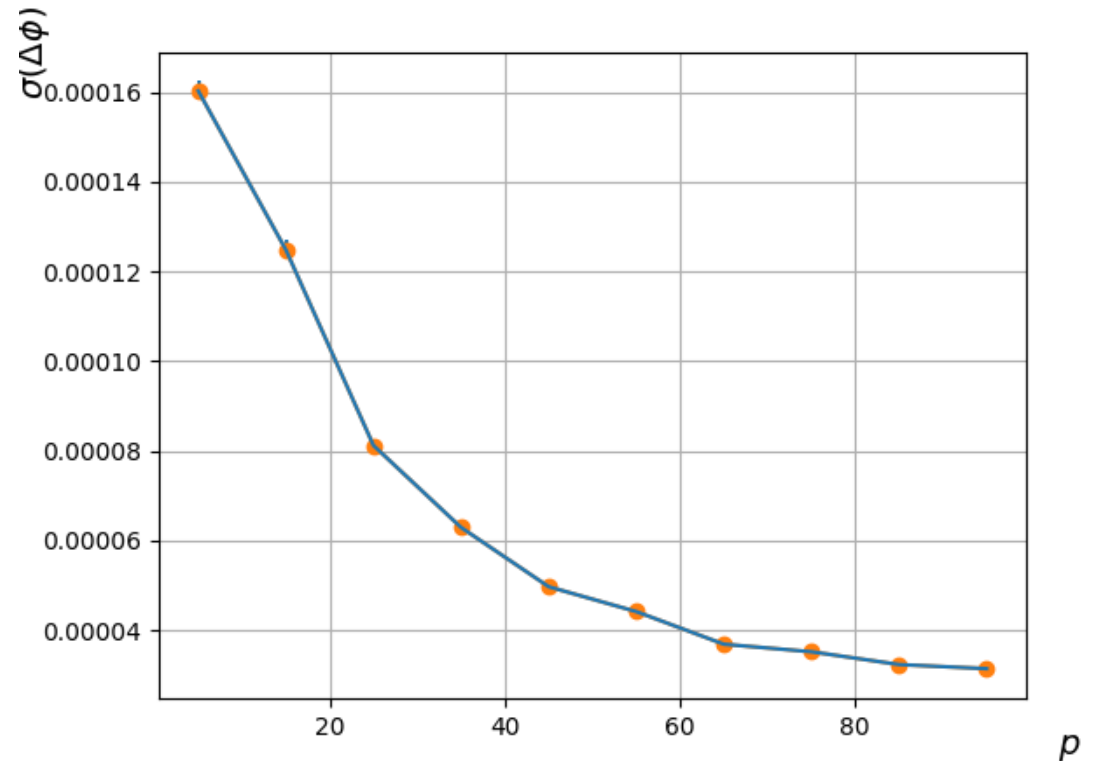histogram of $1/p_{\mathrm{t}}$
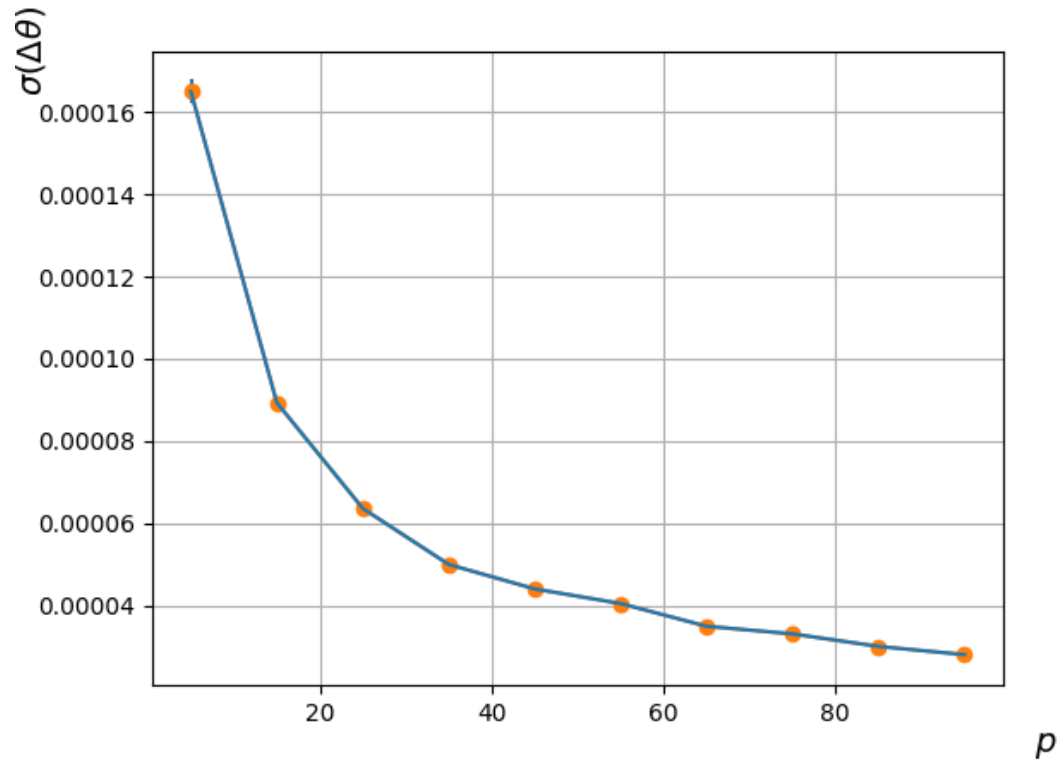

histogram of d_0

Position Resolution Performance
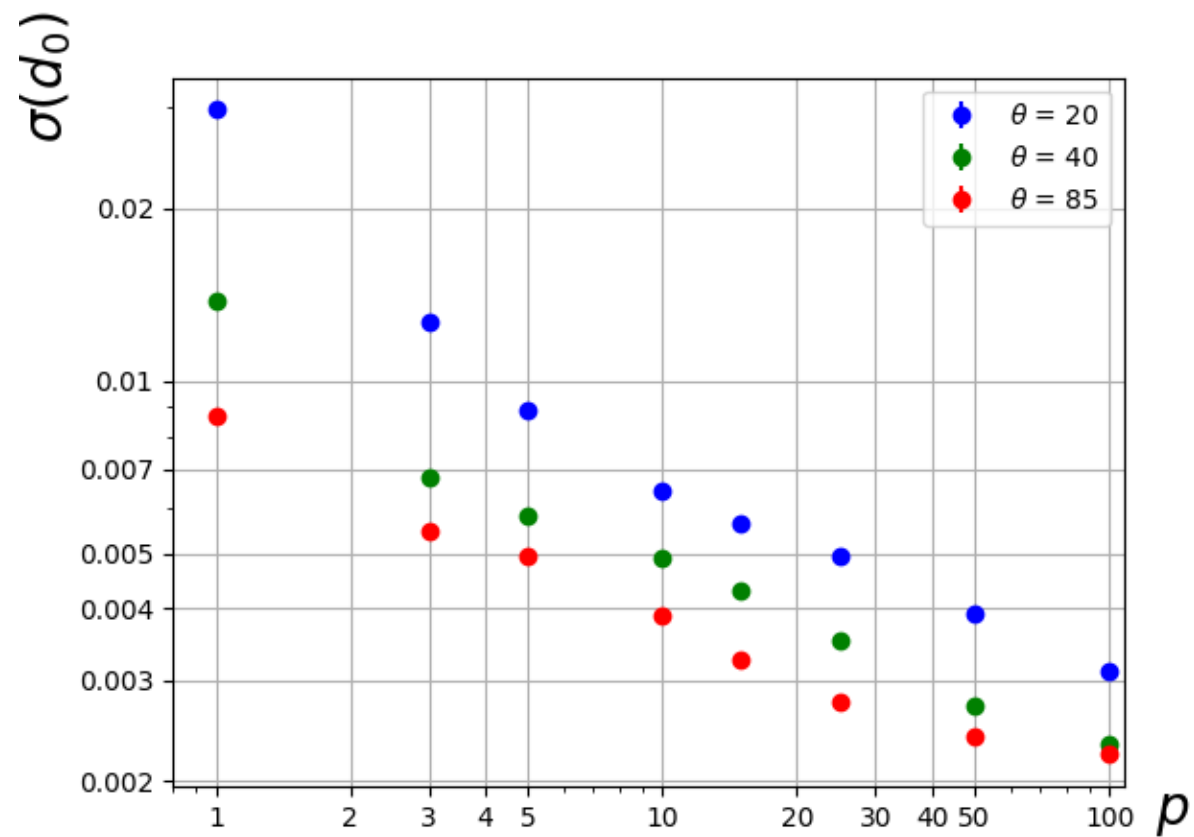
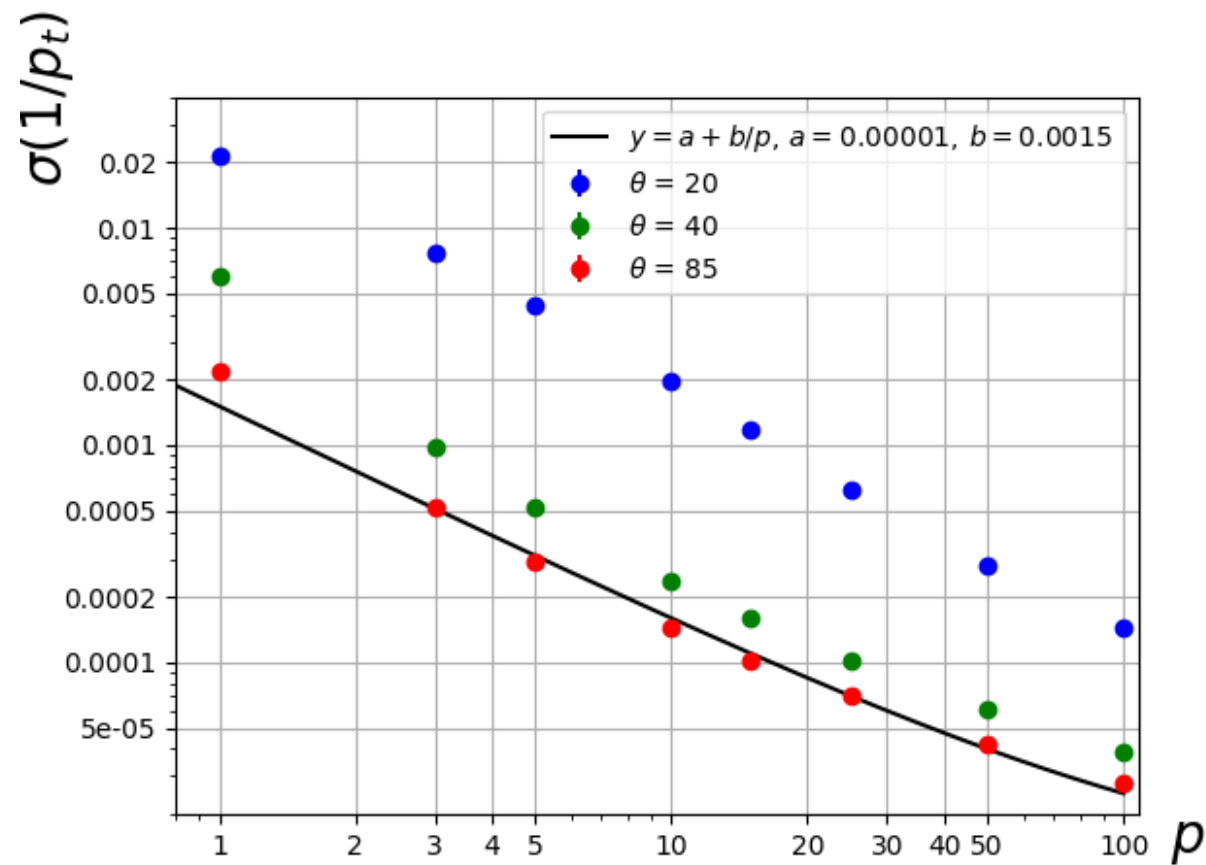# Angle Resolution Performance

Sample:

- momentum p from 0.01GeV to 100GeV

- angle θ from 10 ° to 170°

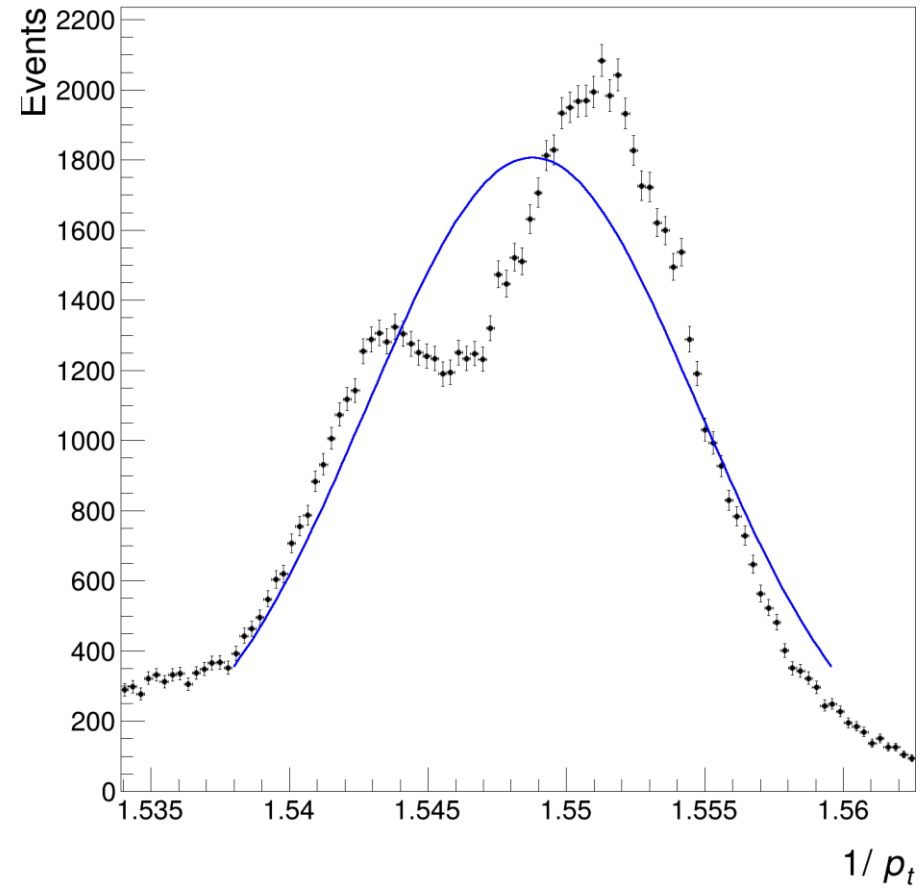- angle φ from 0 ° to 360°

BackUp

Old ver performance of momentum

Old ver performance of momentum

$1/p_t$ histogram for $p_t = 1 * \sin(40)$

CLIC result

$$\sigma(1/p_T) = a \oplus \frac{b}{p}$$

$\theta[°]$	$a[GeV^{-1}]$	b
10	8.19×10^{-4}	9.07×10^{-3}
20	9.86×10^{-5}	3.83×10^{-3}
30	3.87×10^{-5}	1.59×10^{-3}
80	1.97×10^{-5}	7.22×10^{-4}