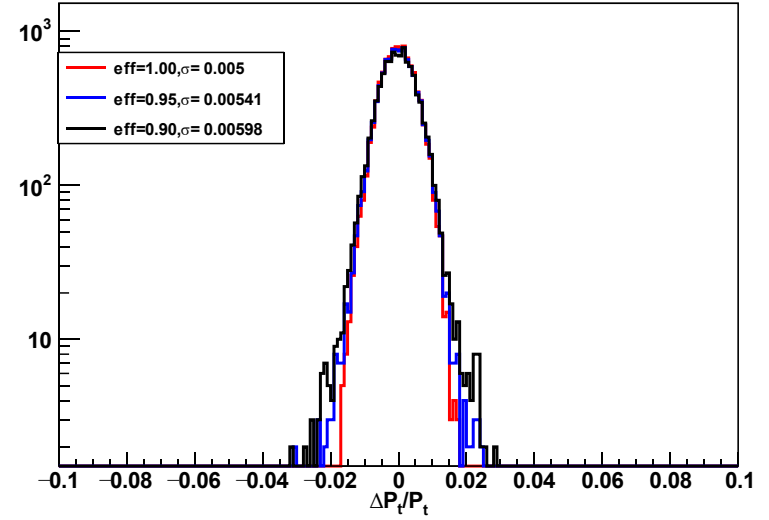


Residual distribution of σ_{pt} at different Pt with fast simulation

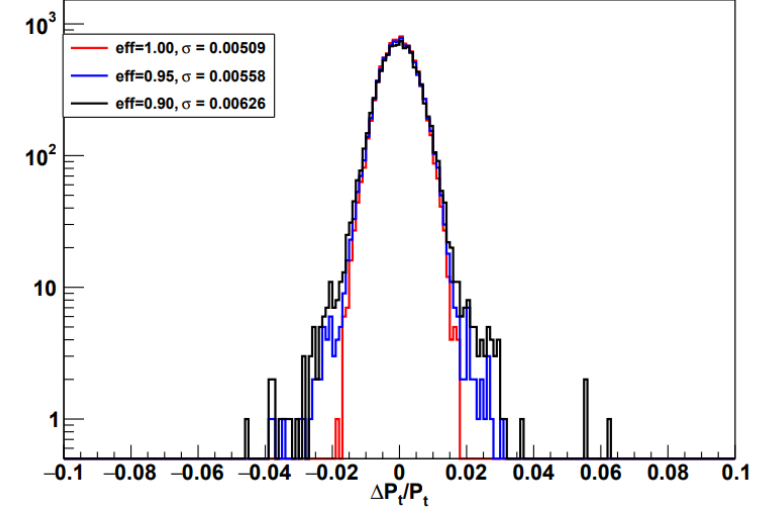
9.06 耿青林

residual distribution of σ_{Pt}

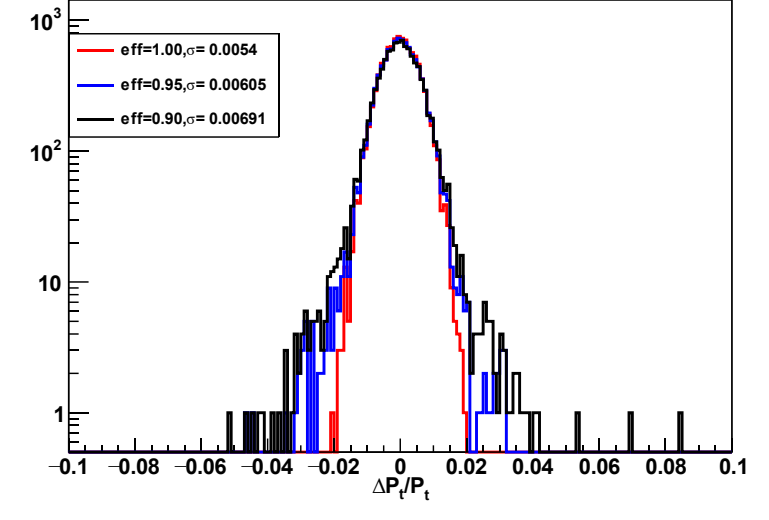
$\Delta(P_t)/P_t @ P_t=2\text{GeV}, \theta=10^\circ$



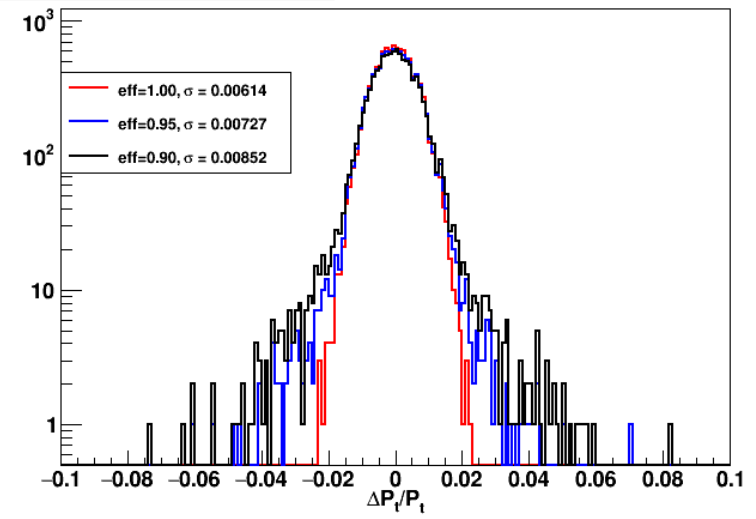
$\Delta(P_t)/P_t @ P_t=5\text{GeV}, \theta=10^\circ$



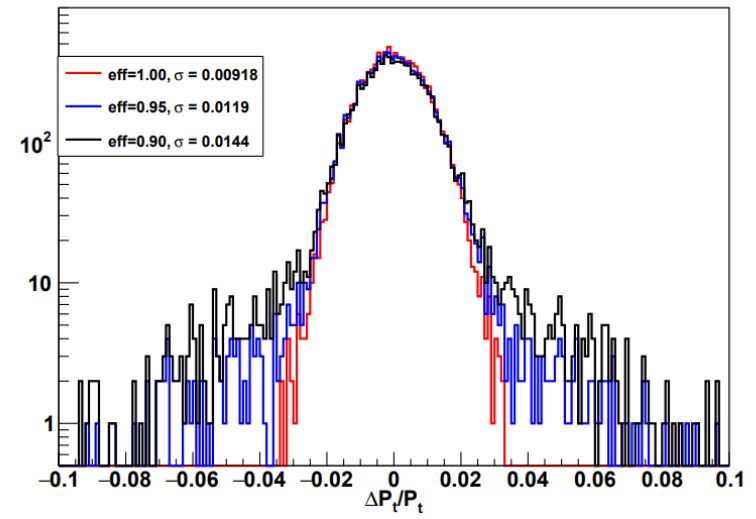
$\Delta(P_t)/P_t @ P_t=10\text{GeV}, \theta=10^\circ$



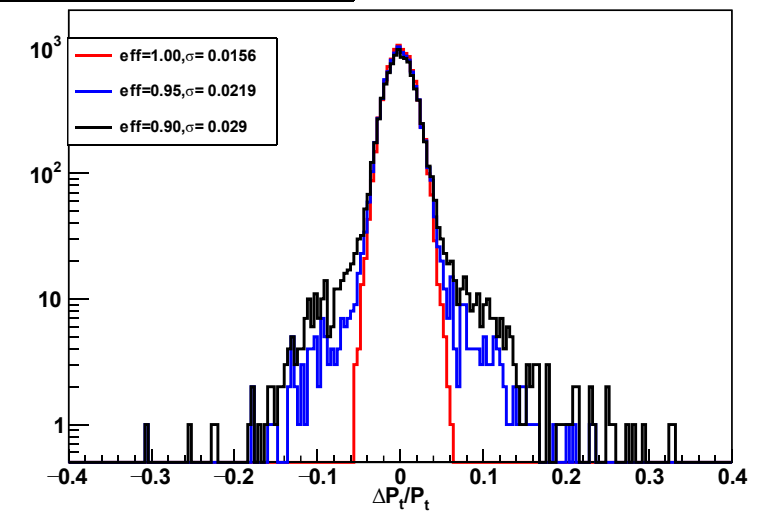
$\Delta(P_t)/P_t @ P_t=20\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t @ P_t=50\text{GeV}, \theta=10^\circ$



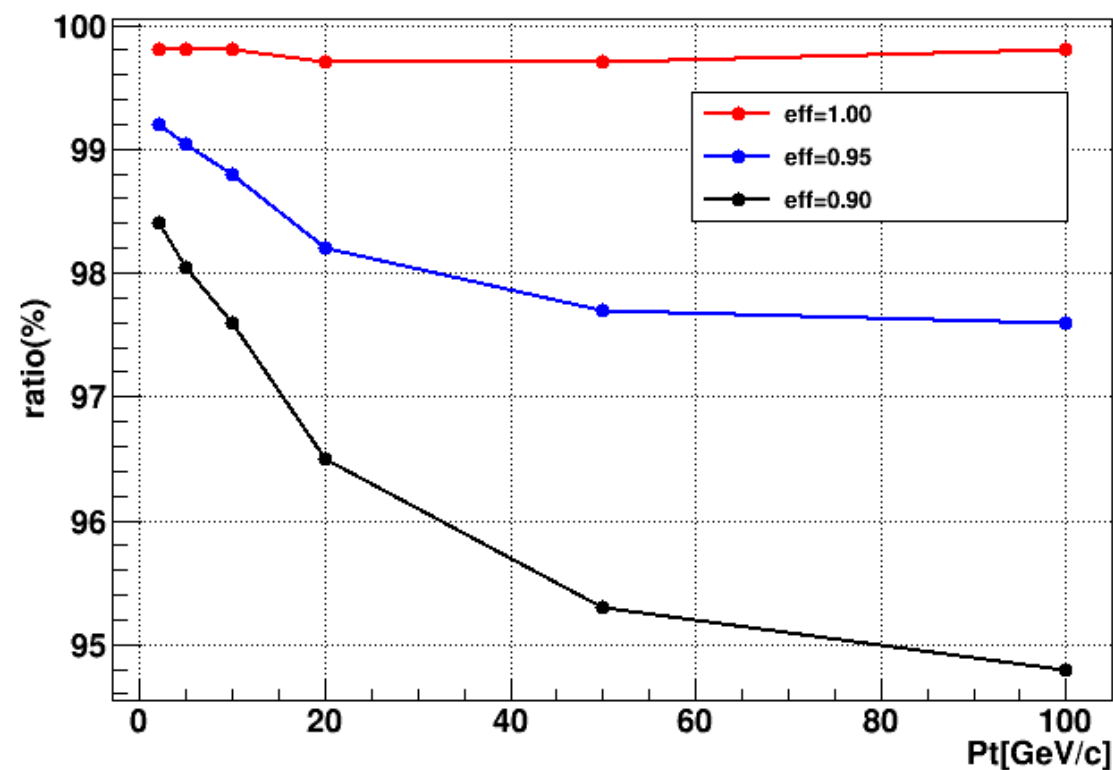
$\Delta(P_t)/P_t @ P_t=100\text{GeV}, \theta=10^\circ$



events ratio within 3σ

$$\text{events}_{(\text{between } \pm 3\sigma)} / \text{events}_{(\text{total})}$$

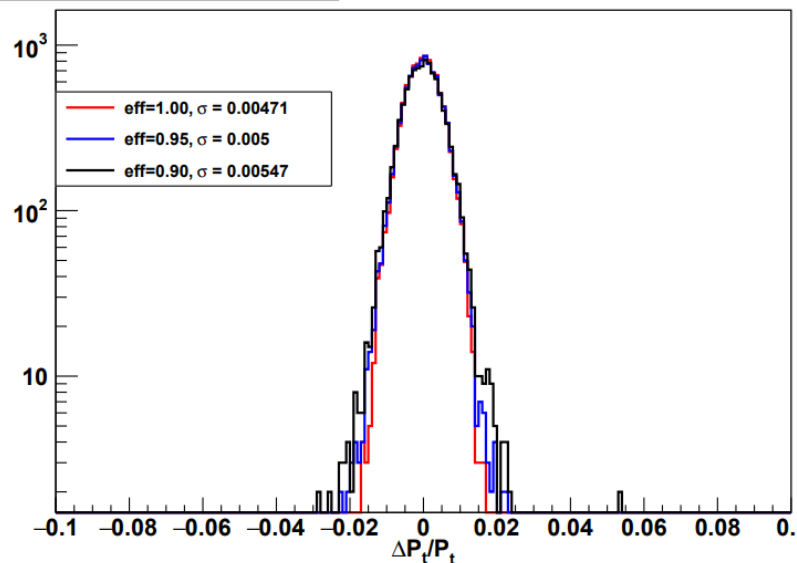
Pt \ eff	2	5	10	20	50	100
100%	99.8%	99.8%	99.8%	99.7%	99.7%	99.8%
95%	99.2%	99.04	98.8%	98.2%	97.7%	97.6%
90%	98.4%	98.04	97.6%	96.5%	95.3%	94.8%



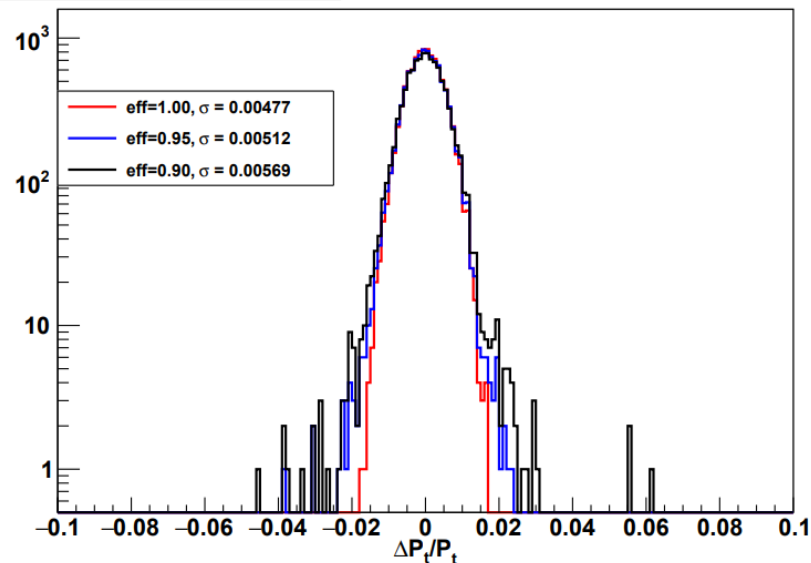
pt分辨的残差分布未观察到明显拖尾现象， 3σ 范围内事例数占比随效率和动量增加而降低。

z of ITKE4: 1500mm→1800mm

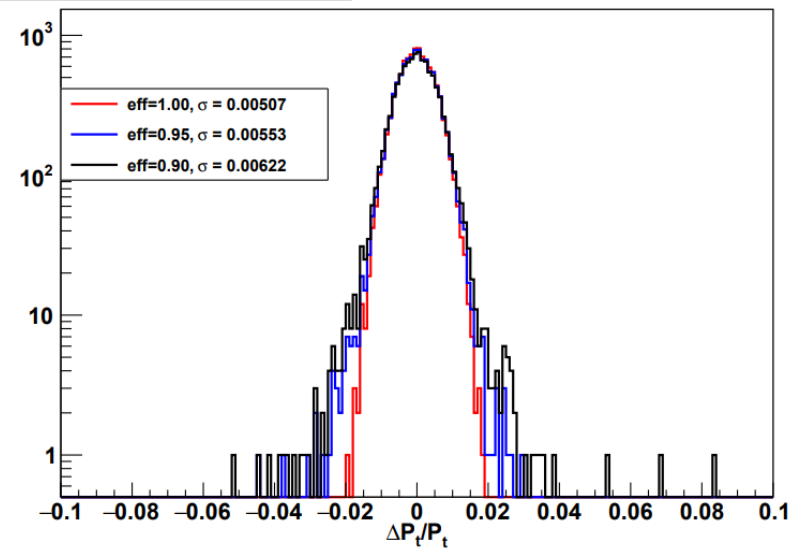
$\Delta(P_t)/P_t$ @ $P_t=2\text{GeV}, \theta=10^\circ$



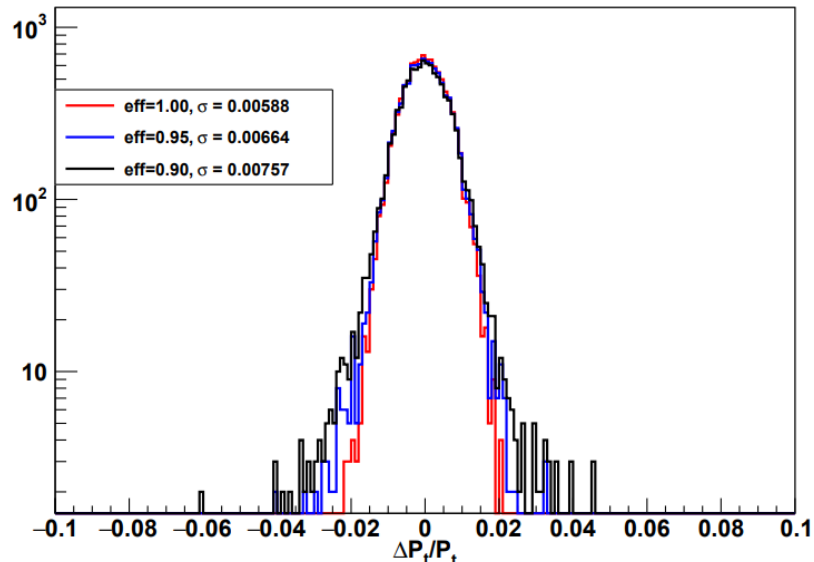
$\Delta(P_t)/P_t$ @ $P_t=5\text{GeV}, \theta=10^\circ$



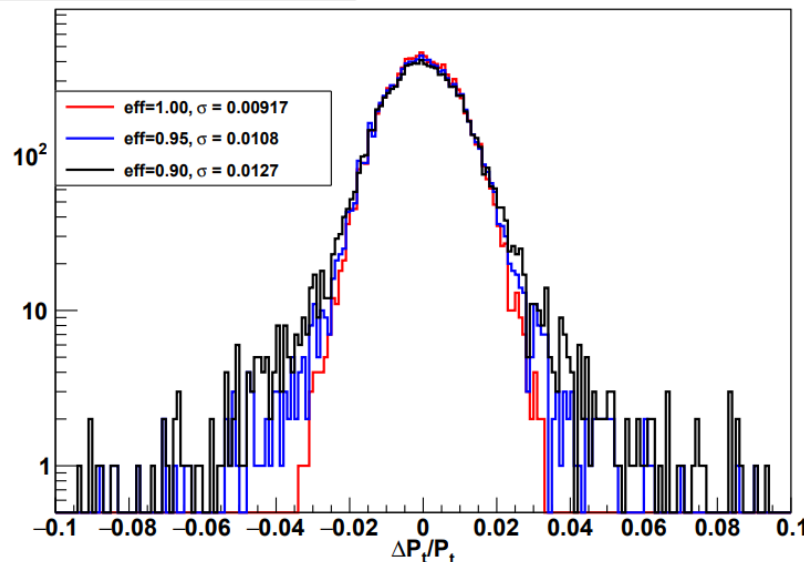
$\Delta(P_t)/P_t$ @ $P_t=10\text{GeV}, \theta=10^\circ$



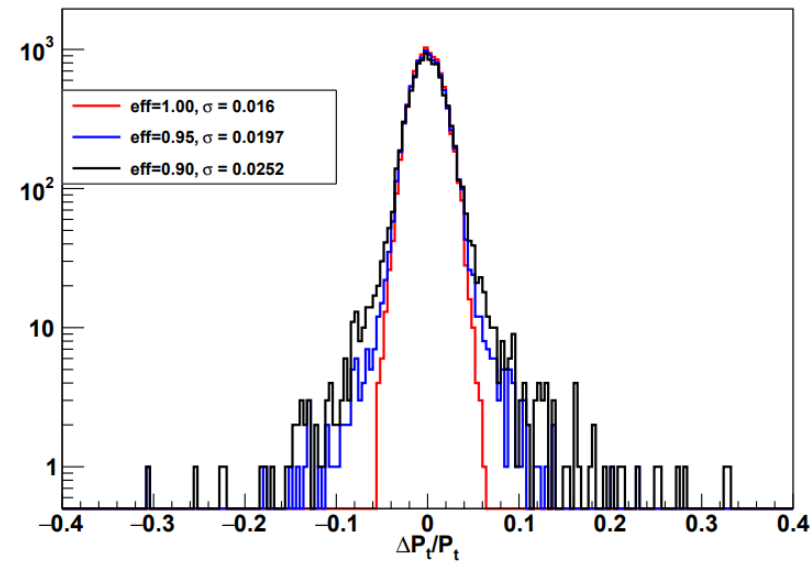
$\Delta(P_t)/P_t$ @ $P_t=20\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t$ @ $P_t=50\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t$ @ $P_t=100\text{GeV}, \theta=10^\circ$

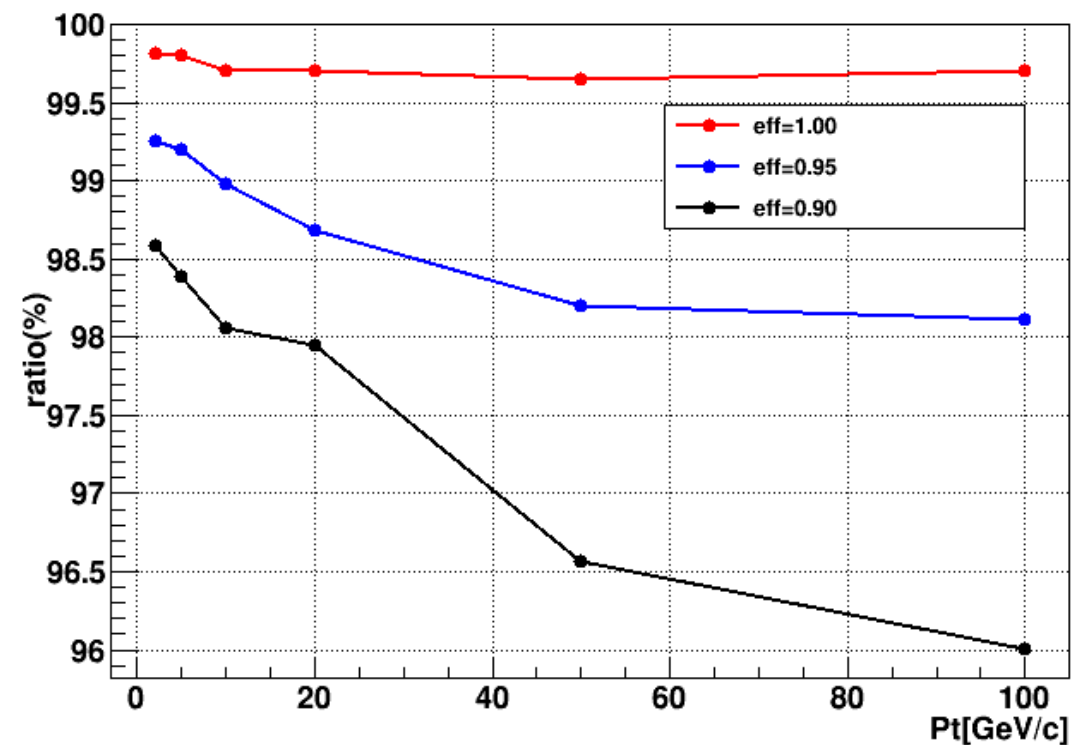


events ratio within 3σ for 4 endcaps

z of ITKE4: 1500mm \rightarrow 1800mm

events_(between $\pm 3\sigma$) / events_(total)

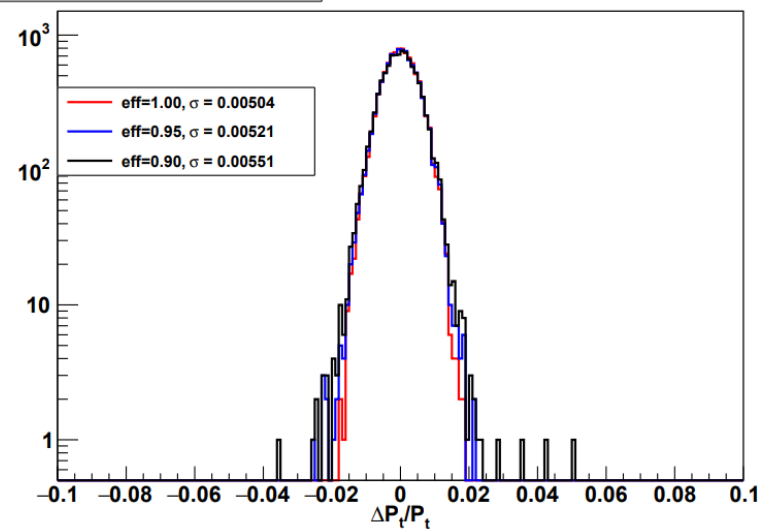
Pt \ eff	2	5	10	20	50	100
100%	99.81%	99.80%	99.71%	99.70%	99.65%	99.71%
95%	99.25%	99.20%	98.98%	98.68%	98.20%	98.11%
90%	98.58%	98.39%	98.06%	97.95%	96.56%	96.01%



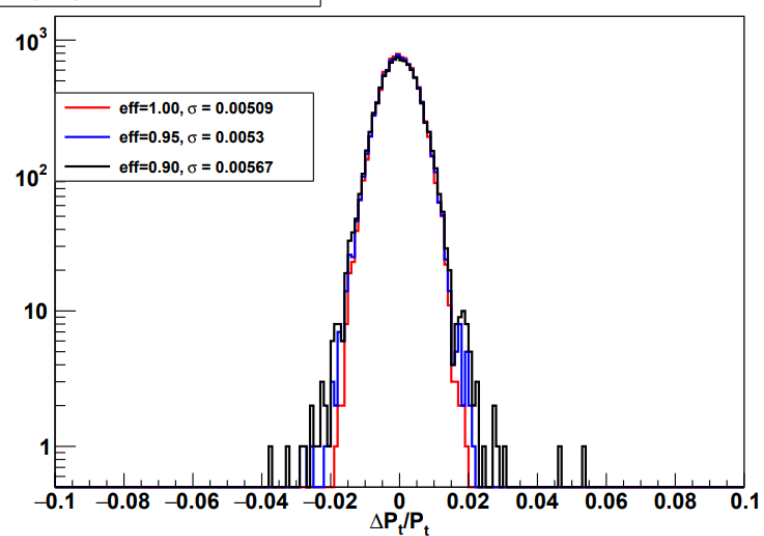
z of ITKE3、ITKE4:

1001mm、1500mm→1301mm、1800mm

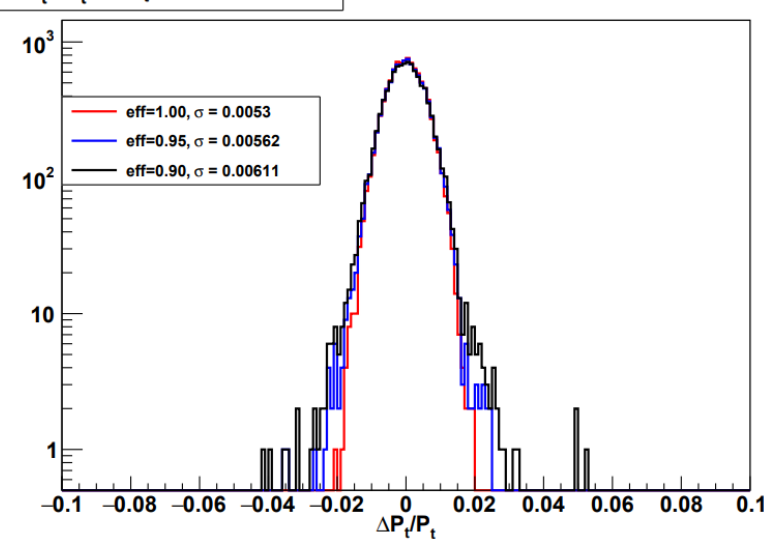
$\Delta(P_t)/P_t$ @ $P_t=2\text{GeV}, \theta=10^\circ$



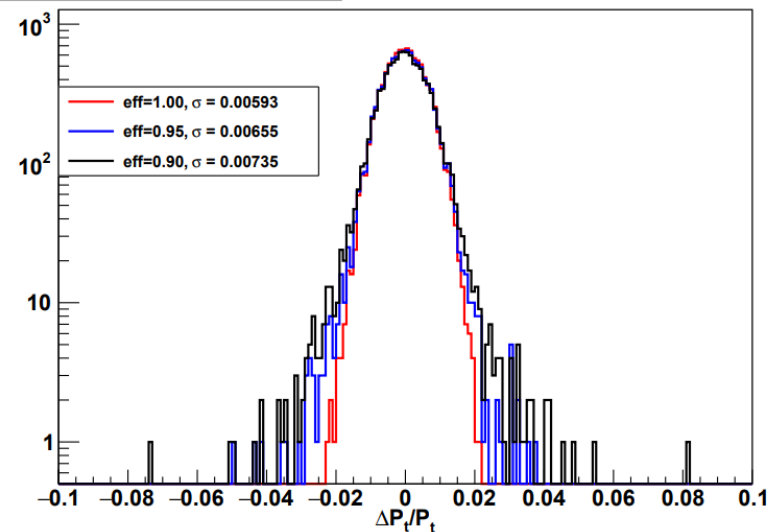
$\Delta(P_t)/P_t$ @ $P_t=5\text{GeV}, \theta=10^\circ$



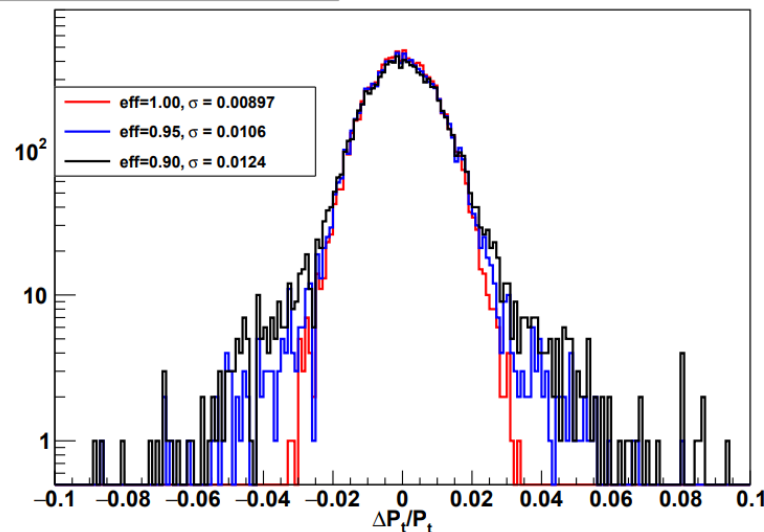
$\Delta(P_t)/P_t$ @ $P_t=10\text{GeV}, \theta=10^\circ$



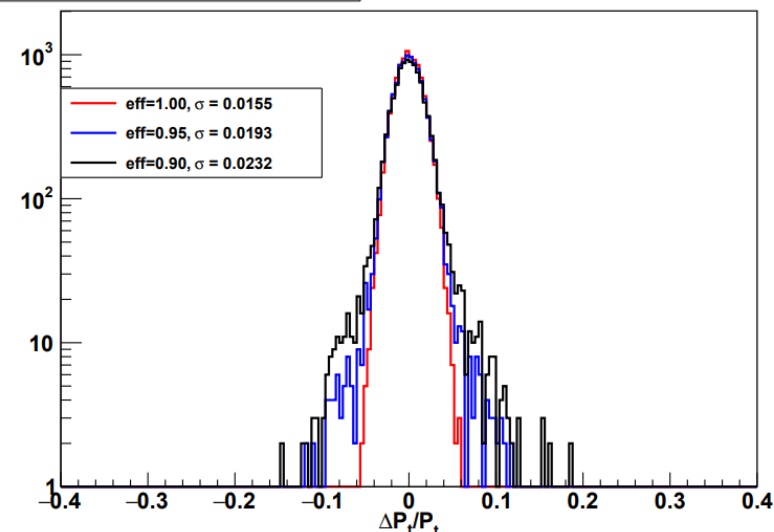
$\Delta(P_t)/P_t$ @ $P_t=20\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t$ @ $P_t=50\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t$ @ $P_t=100\text{GeV}, \theta=10^\circ$



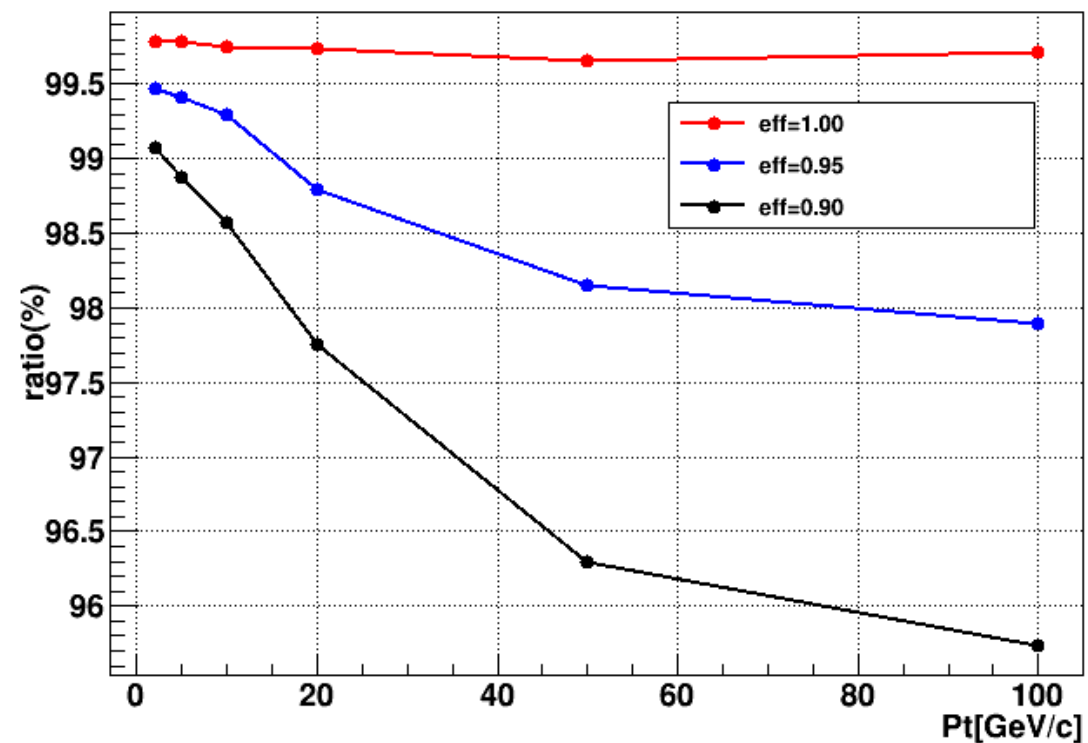
events ratio within 3σ for 4 endcaps

z of ITKE3、ITKE4:

1001mm、1500mm→1301mm、1800mm

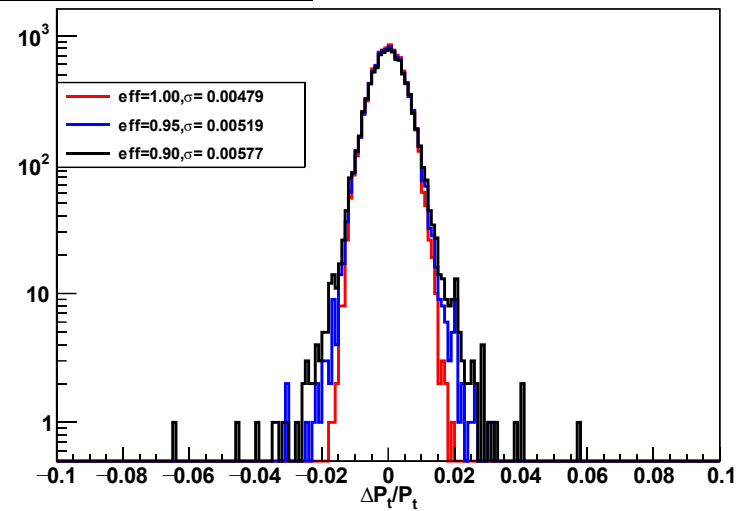
$\text{events}_{(\text{between } \pm 3\sigma)} / \text{events}_{(\text{total})}$

Pt \ eff	2	5	10	20	50	100
100%	99.78%	99.78%	99.75%	99.74%	99.66%	99.71%
95%	99.47%	99.41%	99.29%	98.79%	98.15%	97.90%
90%	99.07%	98.87%	98.57%	97.76%	96.29%	95.74%

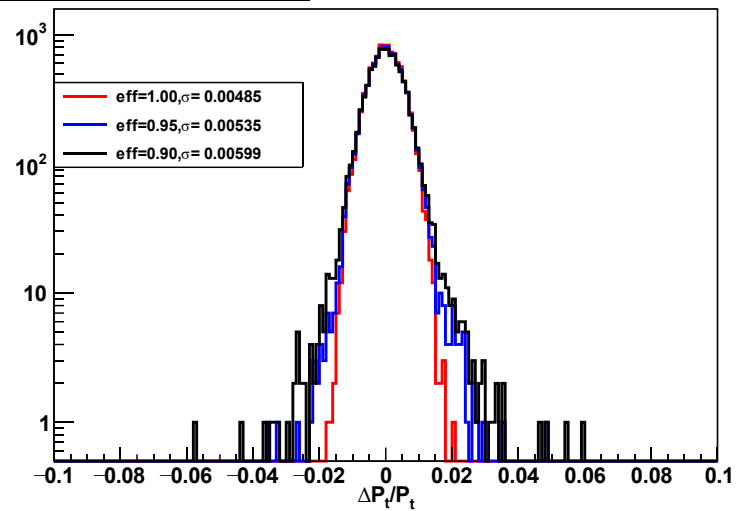


residual distribution of σP_t for 3 endcaps(no ITKE2)

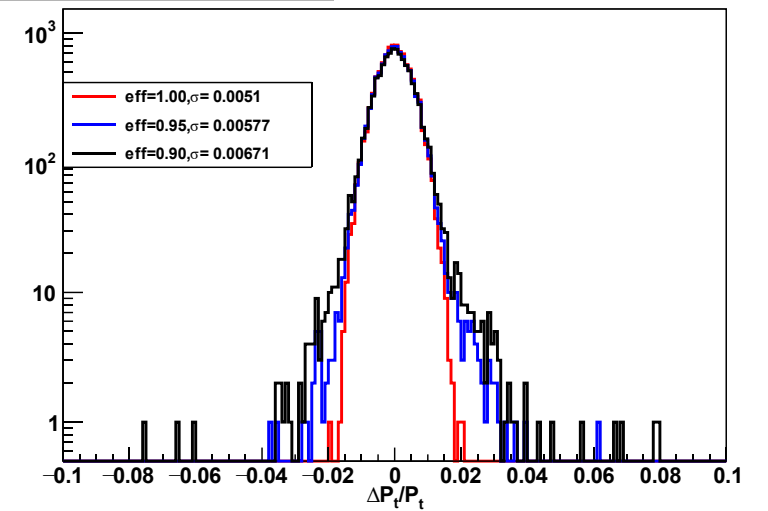
$\Delta(P_t)/P_t @ P_t=2\text{GeV}, \theta=10^\circ$



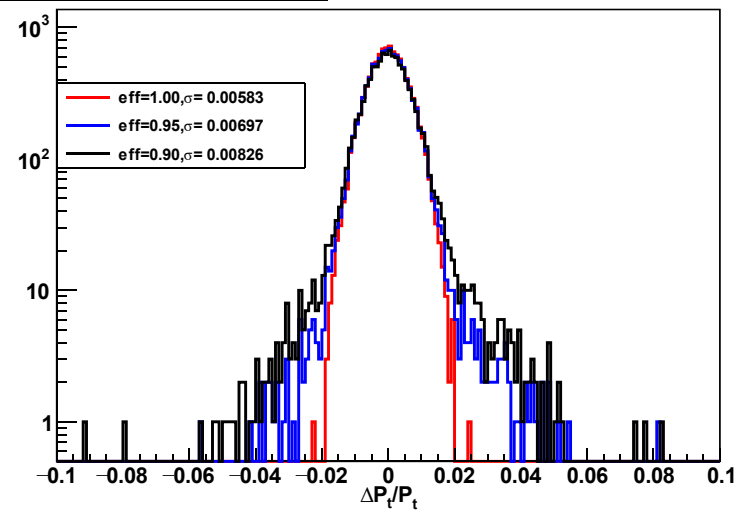
$\Delta(P_t)/P_t @ P_t=5\text{GeV}, \theta=10^\circ$



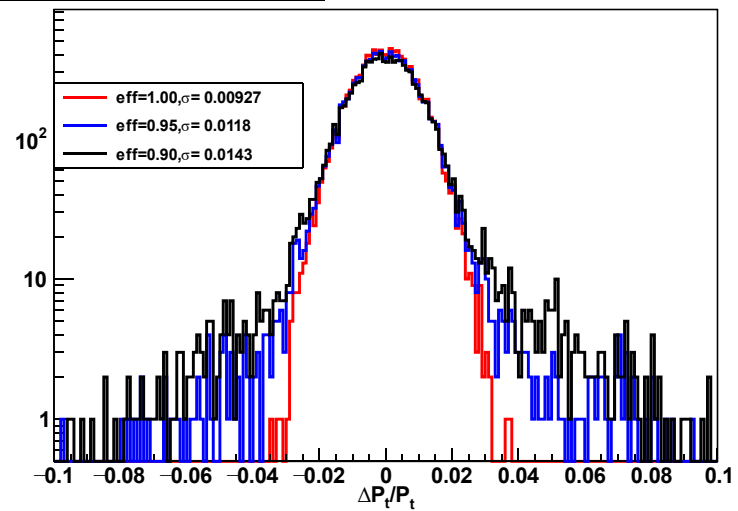
$\Delta(P_t)/P_t @ P_t=10\text{GeV}, \theta=10^\circ$



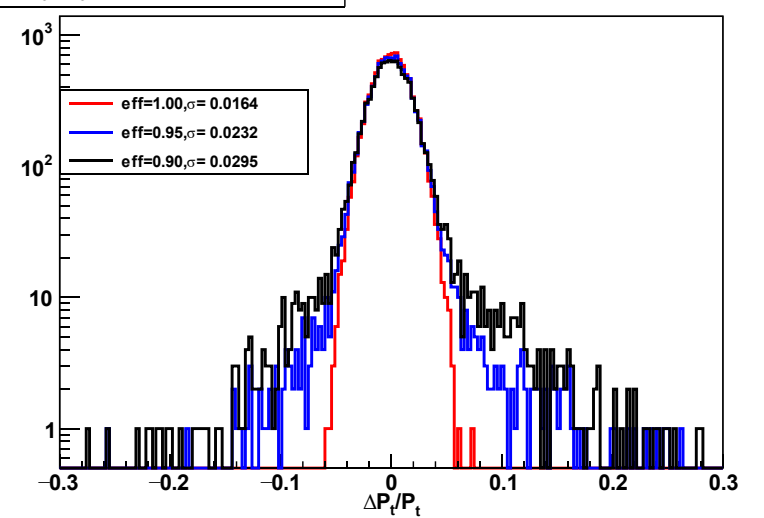
$\Delta(P_t)/P_t @ P_t=20\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t @ P_t=50\text{GeV}, \theta=10^\circ$



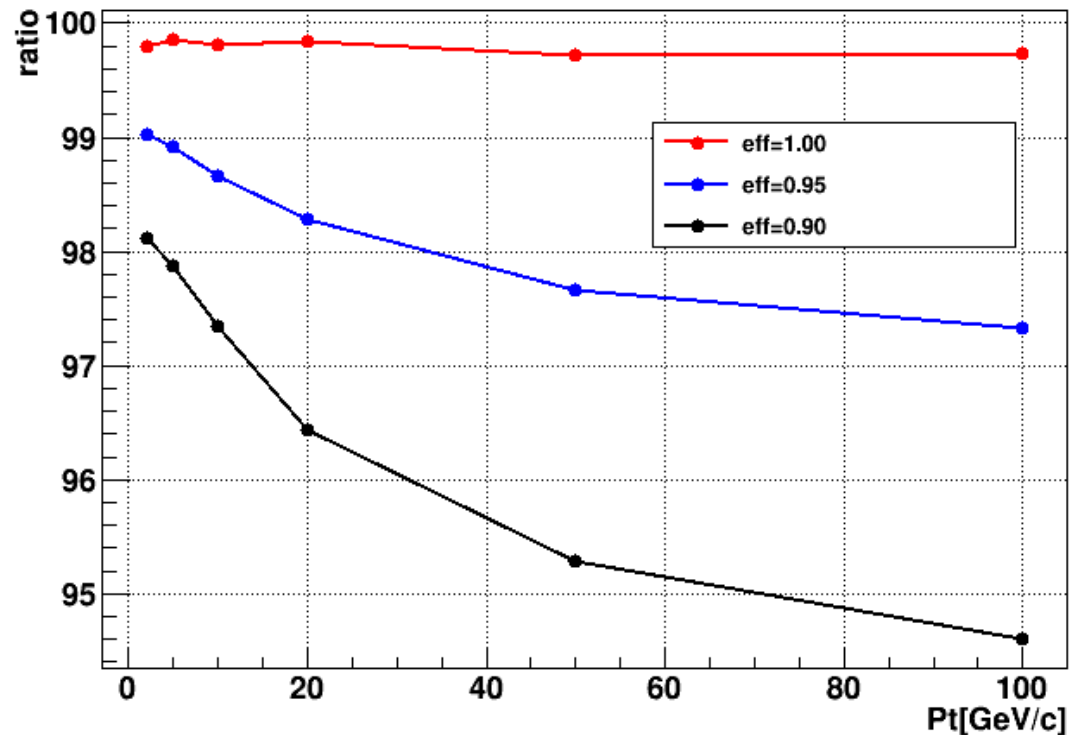
$\Delta(P_t)/P_t @ P_t=100\text{GeV}, \theta=10^\circ$



events ratio within 3σ for 3 endcaps

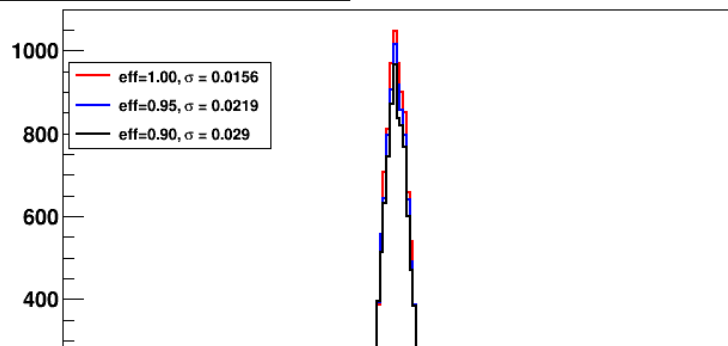
$\text{events}_{(\text{between } \pm 3\sigma)} / \text{events}_{(\text{total})}$

Pt \ eff	Pt	2	5	10	20	50	100
100%		99.79%	99.85%	99.81%	99.84%	99.72%	99.74%
95%		99.03%	98.92%	98.66%	98.28%	97.66%	97.33%
90%		98.11%	97.88%	97.34%	96.44%	95.28%	94.61%

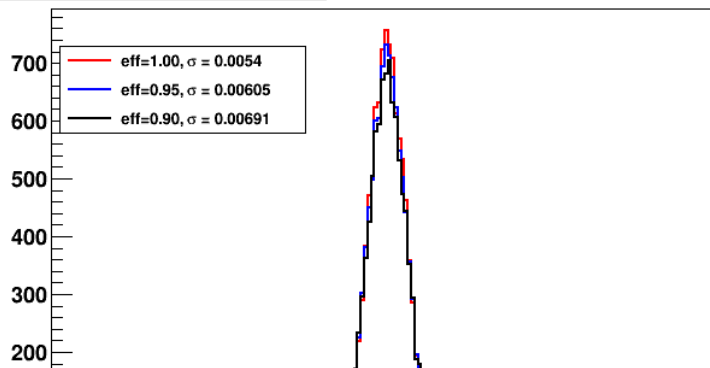


backup

$\Delta(P_t)/P_t @ P_t=100\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t @ P_t=10\text{GeV}, \theta=10^\circ$



$\Delta(P_t)/P_t @ P_t=2\text{GeV}, \theta=10^\circ$

