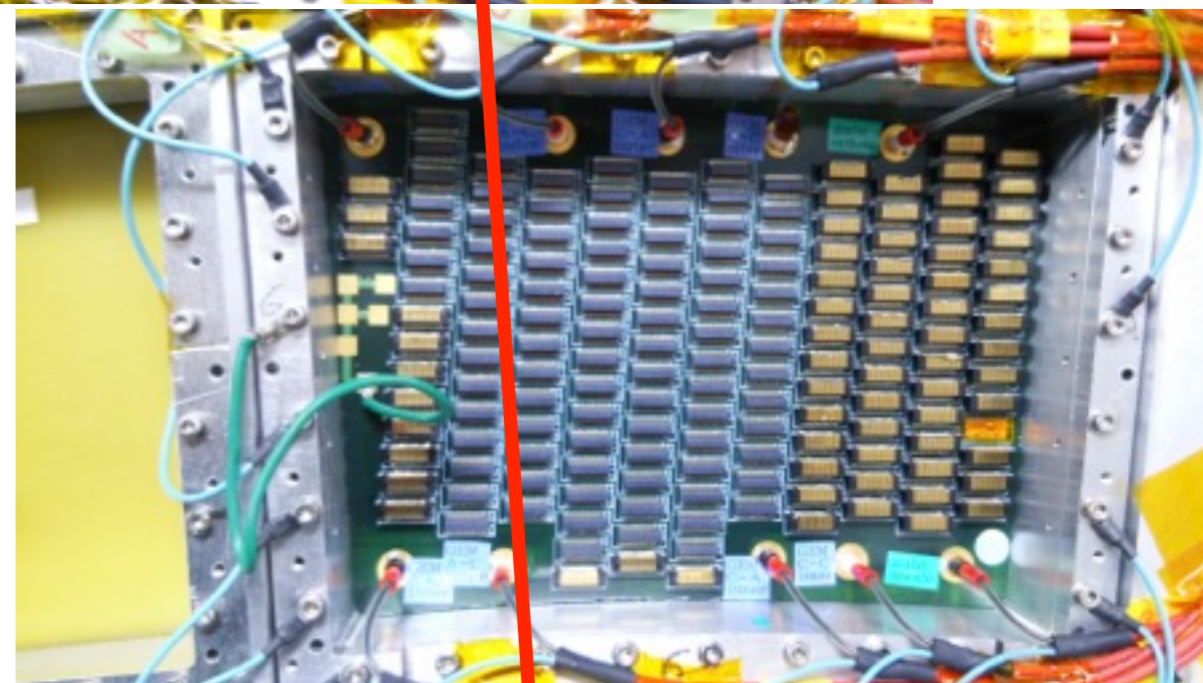
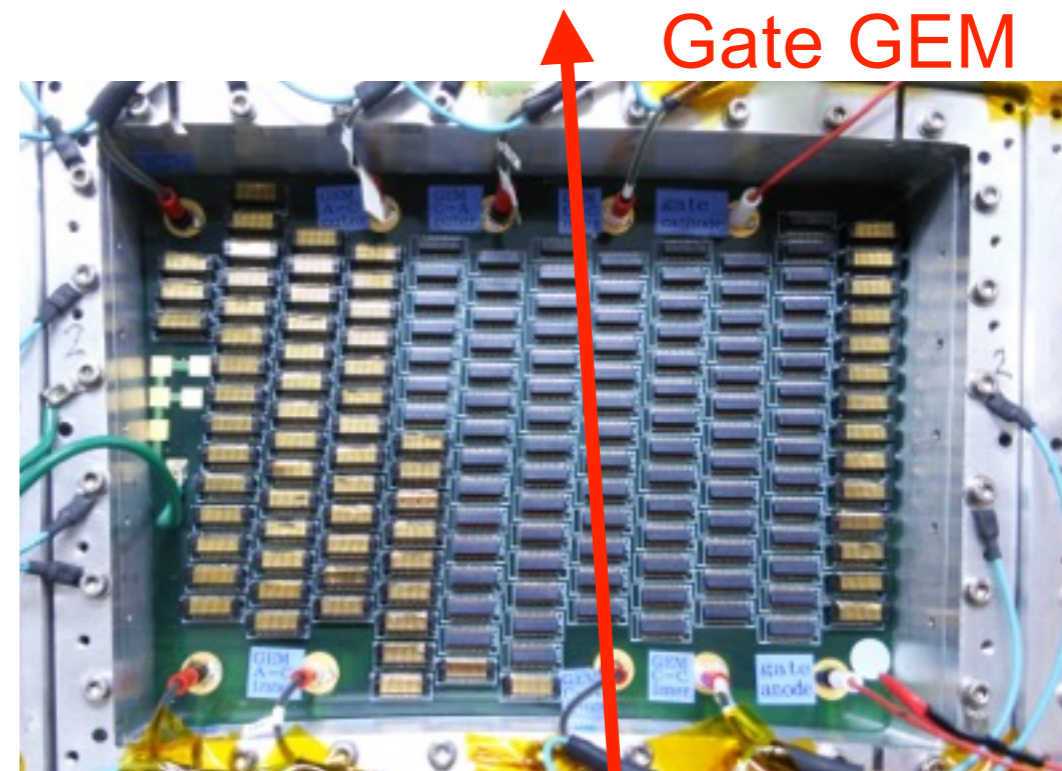


The Resolution with Gate

School of High Energy Accelerator Science, SOKENDAI
Yumi Aoki

Setting

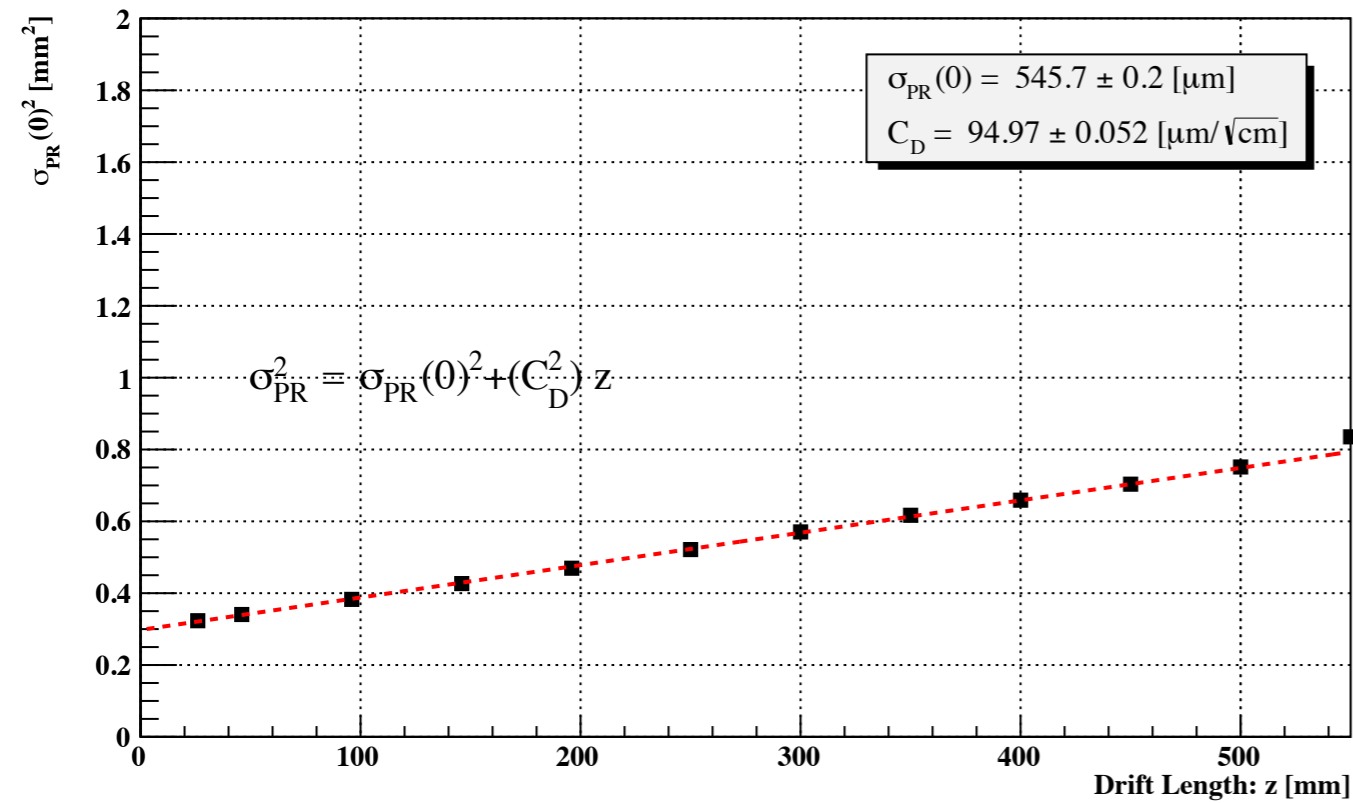
- 1 T
- 5 GeV
- Position
 - Horizontal $-170 \sim 370$
 - Rotate 0.56
 - Vertical 217
- Z scanning



Pad Response

Gate GEM

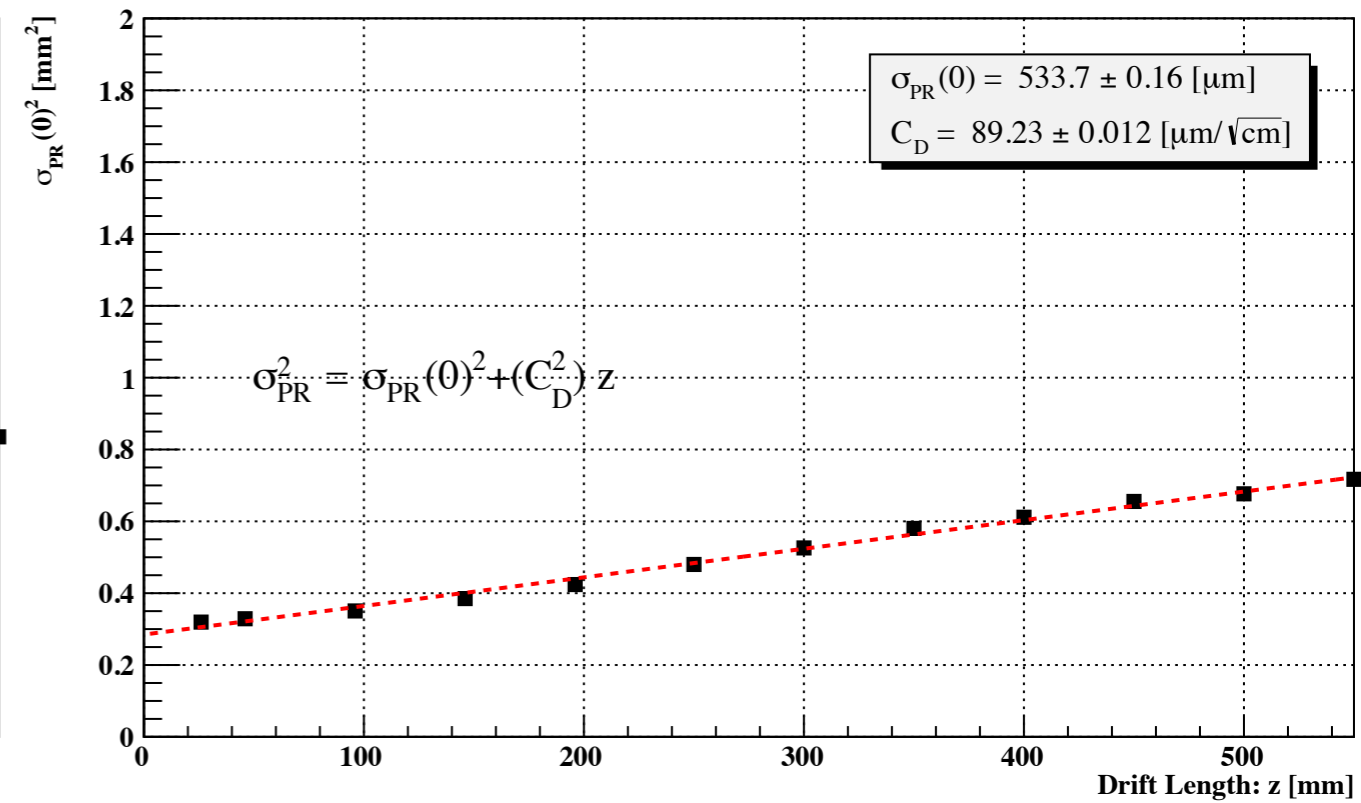
Pad Response (Row46)



$C_D = 94.97 \pm 0.052 \text{ }\mu\text{m}/\sqrt{\text{cm}}$

Field Shaper

Pad Response (Row19)

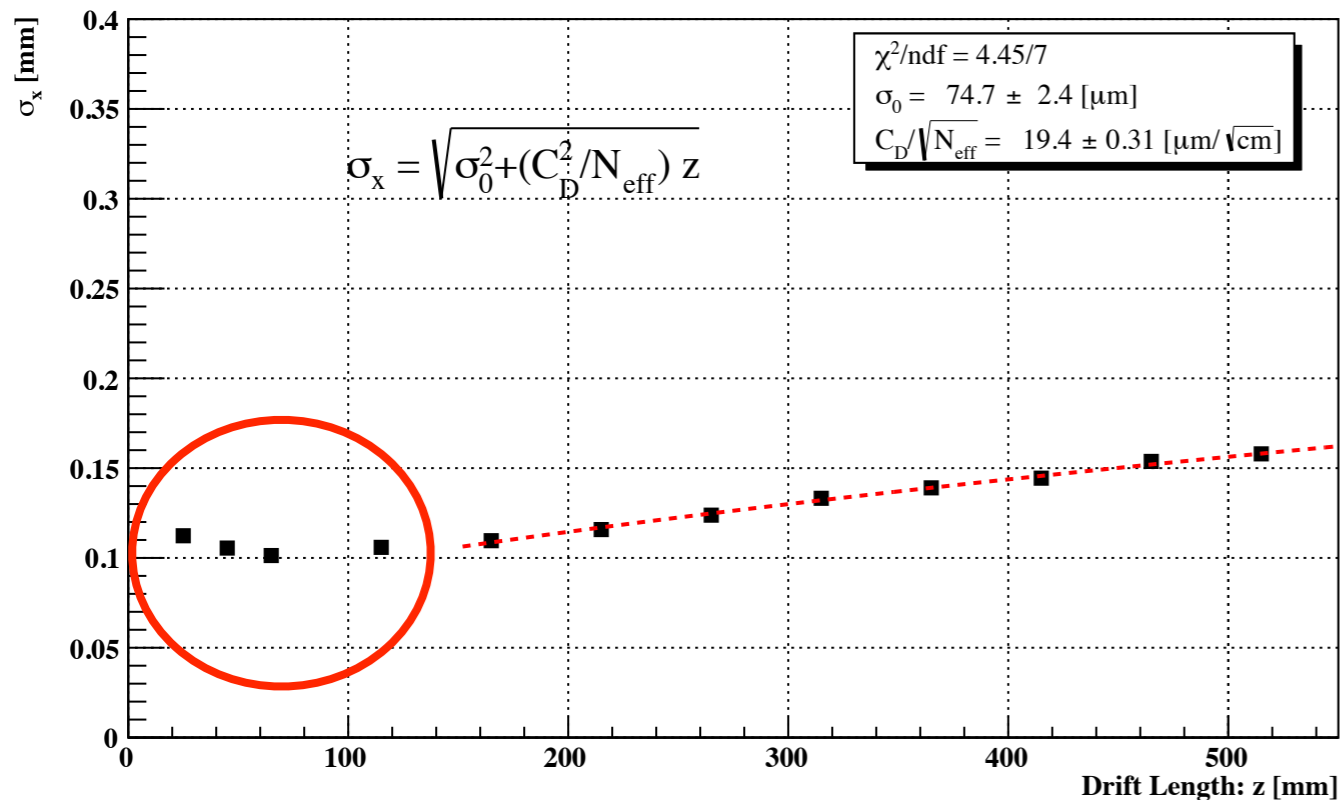


$C_D = 89.23 \pm 0.012 \text{ }\mu\text{m}/\sqrt{\text{cm}}$

Resolution

Gate GEM

GM Resolutin (Row46)



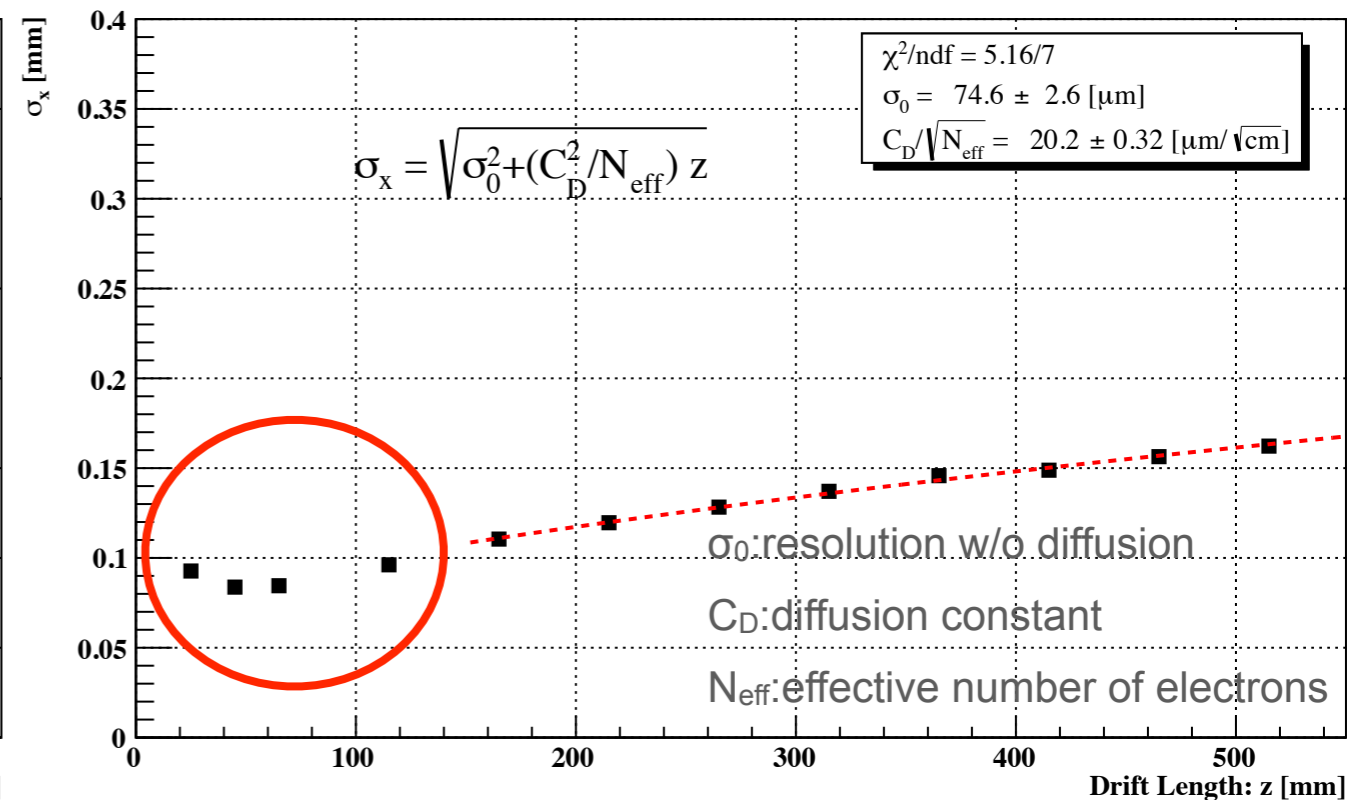
$$\sigma_0 = 74.7 \pm 2.4 \text{ \mu m}$$

$$C_D/\sqrt{N_{\text{eff}}} = 19.4 \pm 0.31 \text{ \mu m/\sqrt{cm}}$$

$$\text{if } C_D = 95 \text{ \mu m/\sqrt{cm}} \\ N_{\text{eff}} = 24.0$$

Field Shaper

GM Resolutin (Row17)



$$\sigma_0 = 74.6 \pm 2.6 \text{ \mu m}$$

$$C_D/\sqrt{N_{\text{eff}}} = 20.2 \pm 0.32 \text{ \mu m/\sqrt{cm}}$$

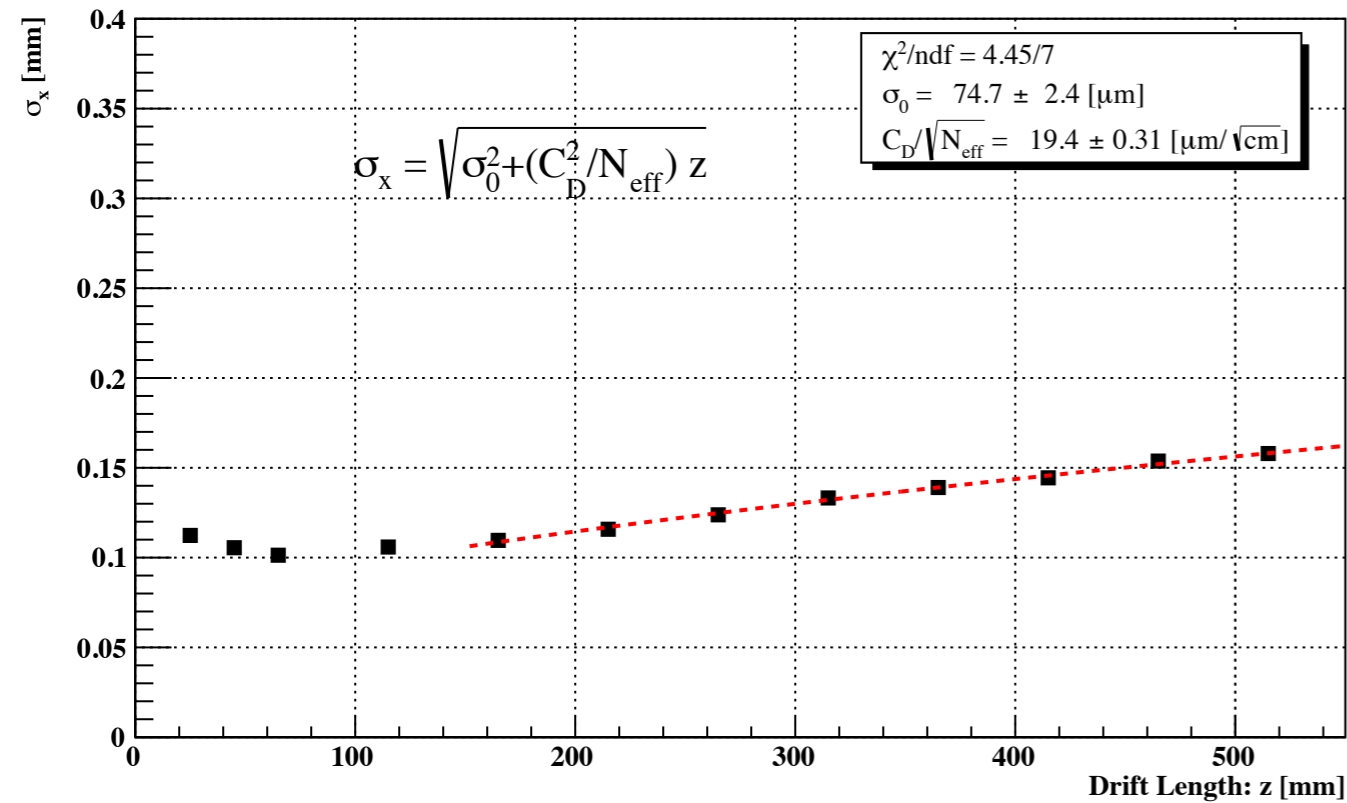
$$N_{\text{eff}} = 22.1$$

- The resolution of gate GEM is a little better than that of field shaper
- Under 120 mm of drift length, the field shaper one is better

Resolution (compare with 2010,2012)

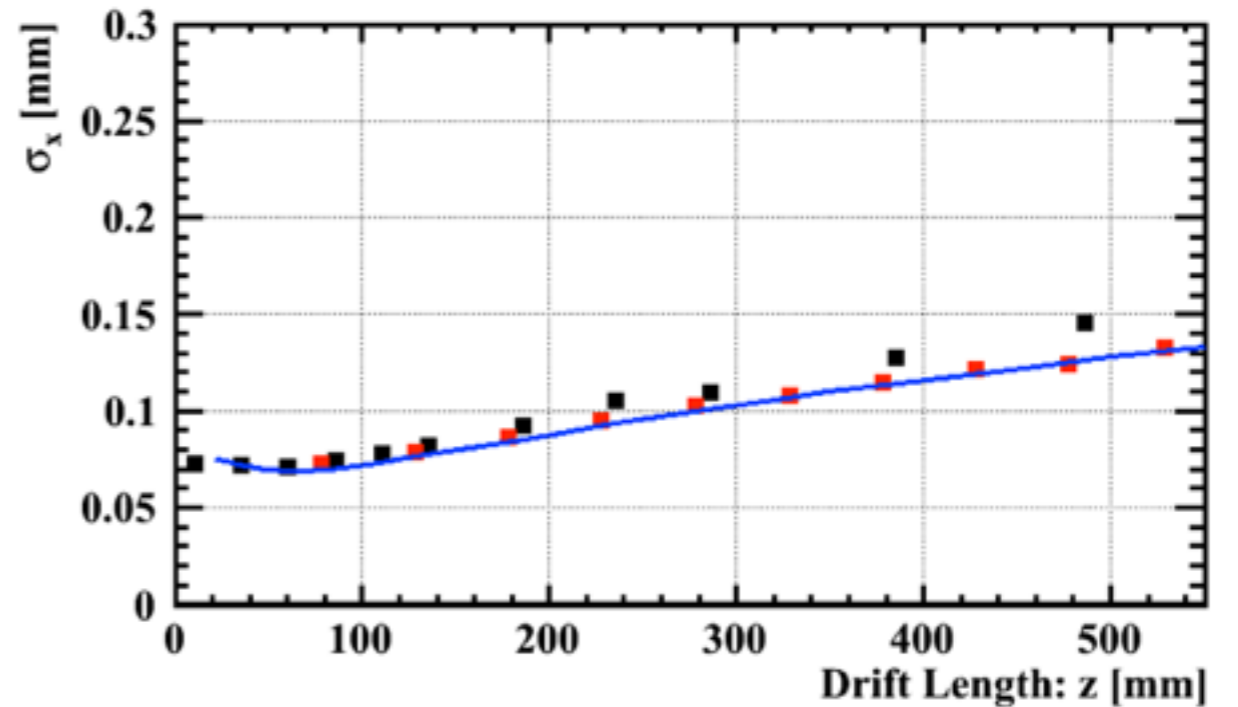
Gate GEM(2016)

GM Resolutin (Row46)



2010

2012



➤ σ_x is bigger than past data

Summery

- The difference of gateGEM and field shaper is not clear
- Compare with past data, σ_x is bigger
- We plan to replace gate GEM with field shaper
- We are going to check our analysis

Thank you for listening

Backup

- ▶ Drift velocity