Weekly Report

Content: Electron transmission rate at beam test

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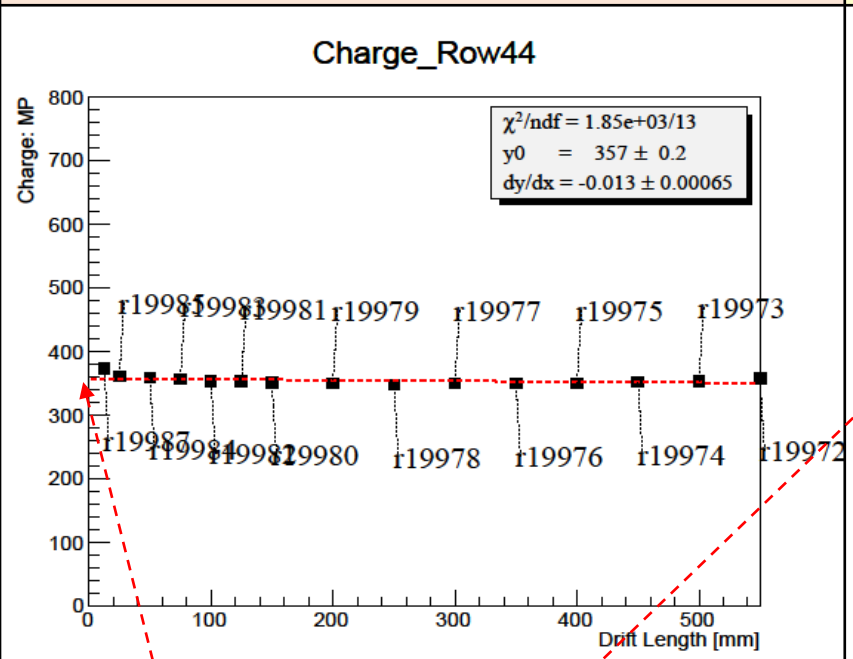
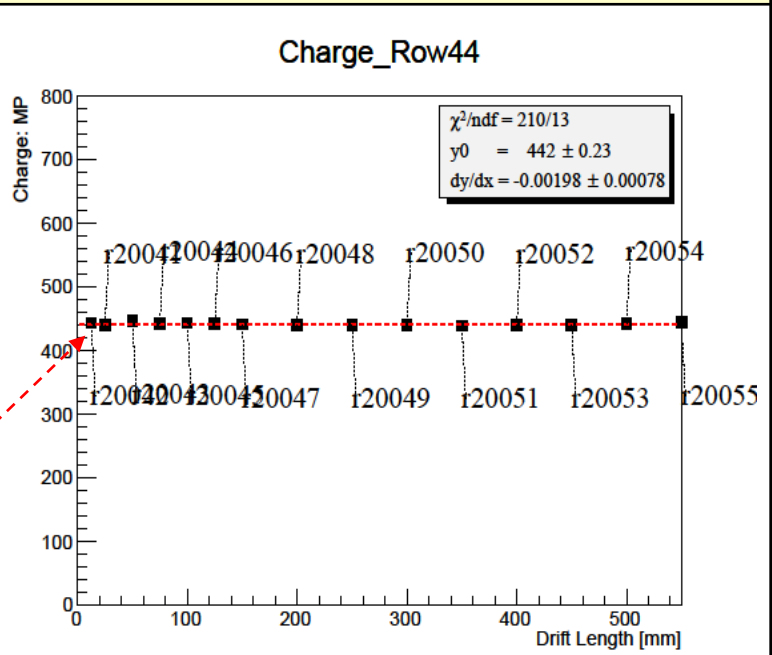
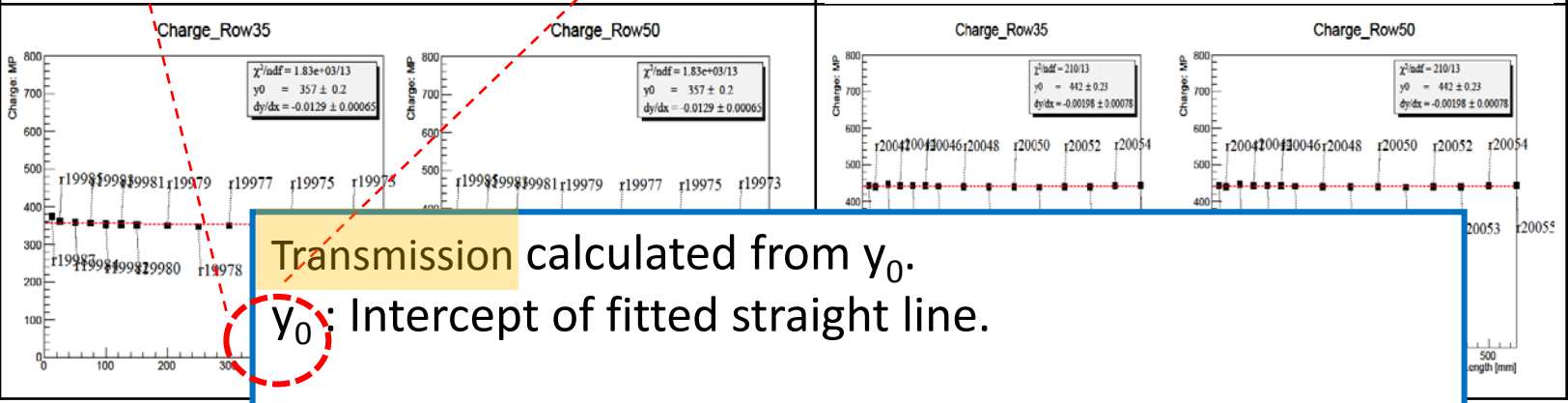
Electron Transmission rate (26th.Jan.2017slide)

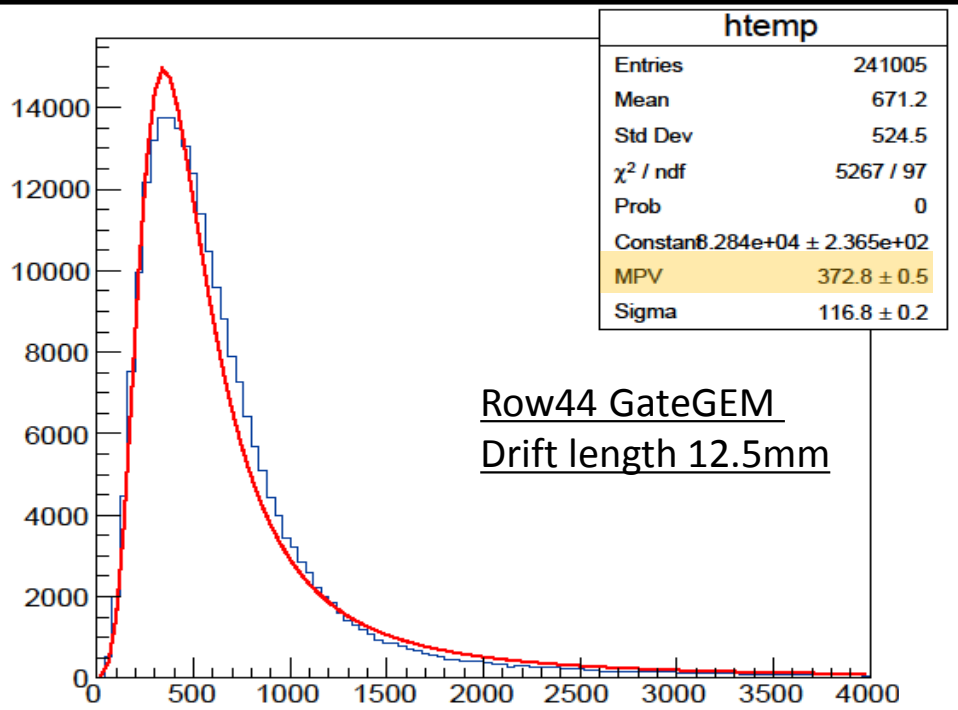
Gate GEM (w/)	Field Shaper(w/o Gate GEM)	Transmission
		$\frac{357(GG)}{442(FS)}$ = 80.8 %
		Other row (Row 35&50)

Transmission calculated from y_0.

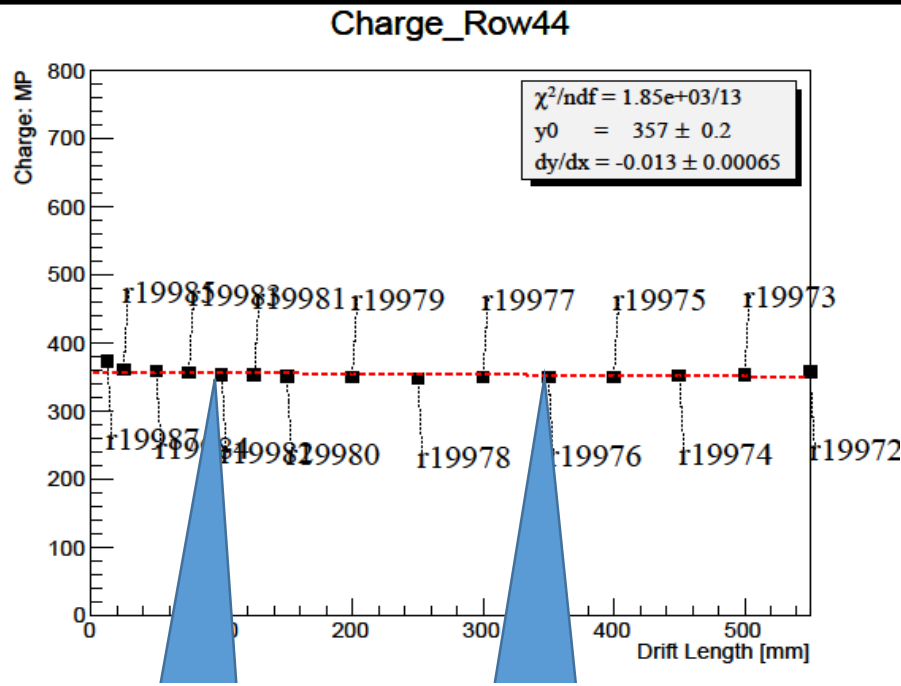
y_0: Intercept of fitted straight line.

I calculated the transmission from the average.

How to average(charge)

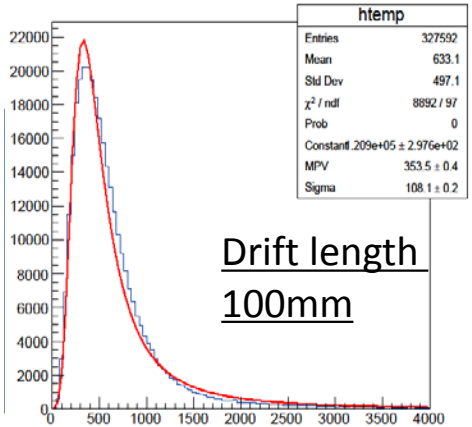


Row44 GateGEM
Drift length 12.5mm

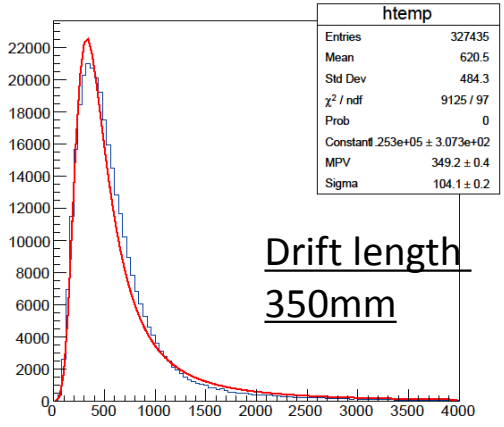


$$average(chg) = \frac{\sum MPV}{15}$$

$$average(chgError) = \frac{sqrt(\sum error)}{15}$$



Drift length
100mm

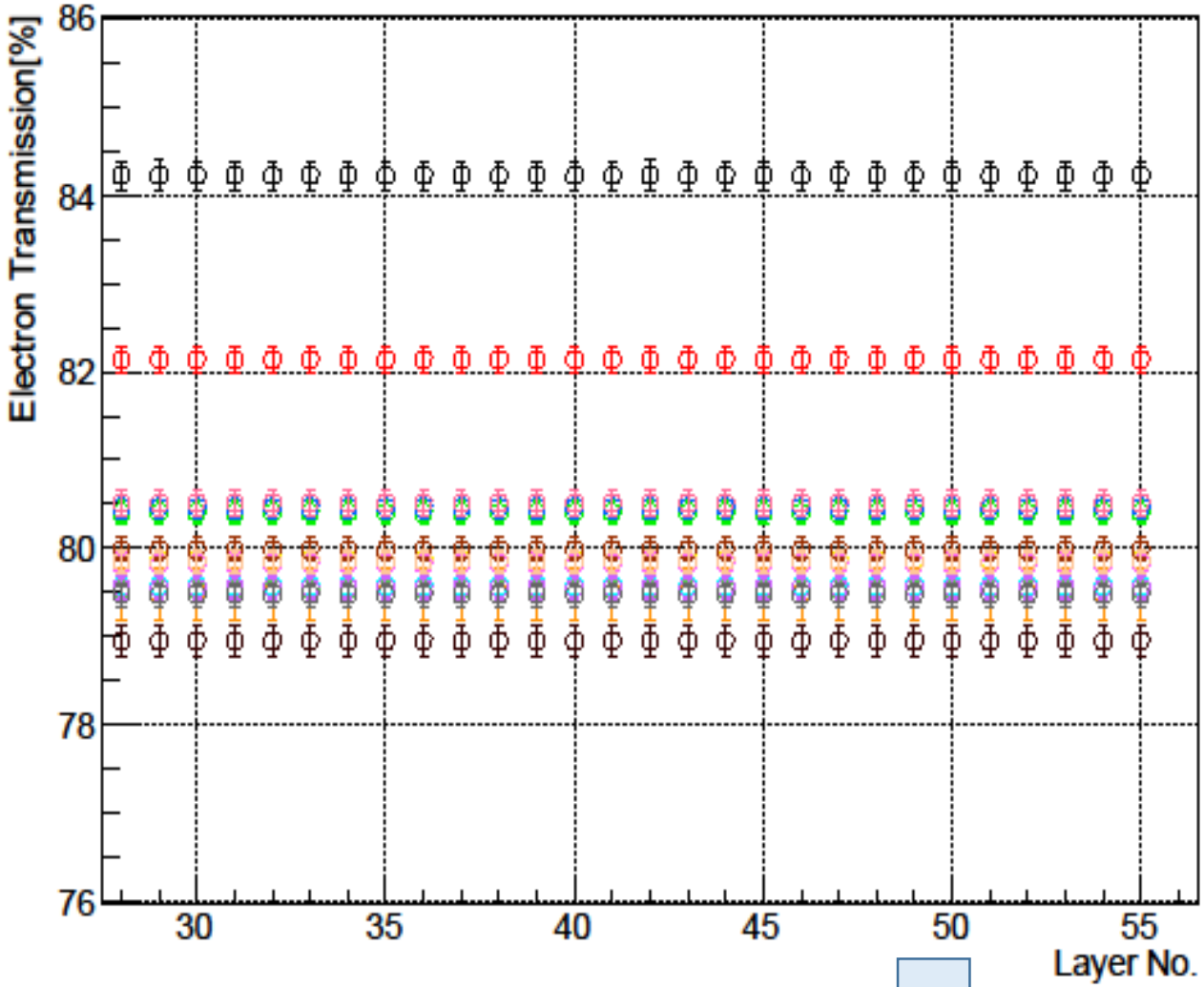


Drift length
350mm

Average transmission at row44

$$\frac{average(chg\_GateGEM)}{average(chg\_FieldSaper)} = 80.3 \pm 0.04\ \%$$

Electron Transmission by row & drift length



- I am not confident in calculating errors…
- There are some cases where the transmission does not reach 80% subtlely.

average

	Drifft Length [mm]	Trans mission [%]	Error [%]
	12.5	84.22	0.032
	25	82.14	0.027
	50	80.41	0.026
	75	80.50	0.026
	100	79.86	0.026
	125	79.82	0.025
	150	79.58	0.025
	200	79.55	0.025
	250	78.95	0.035
	300	79.48	0.055
	250	79.55	0.025
	400	79.47	0.025
	450	79.99	0.025
	500	79.85	0.025
	550	80.51	0.026

Summary

Electron Transmission rate

Electron transmission rate seems to change for each drift distance.

Next Step

Calculate Transmission from N_eff

But…

Master's thesis presentation: 16th Feb. 2017
I will concentrate on making presentation slides and abstract.

Thank you for your attention.

Fin.