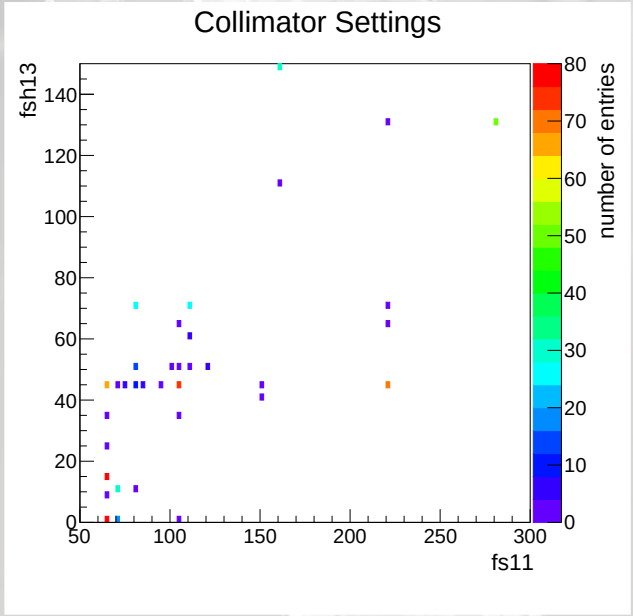

Reproducibility of the Rate Settings

Speaker: Michael Reichmann

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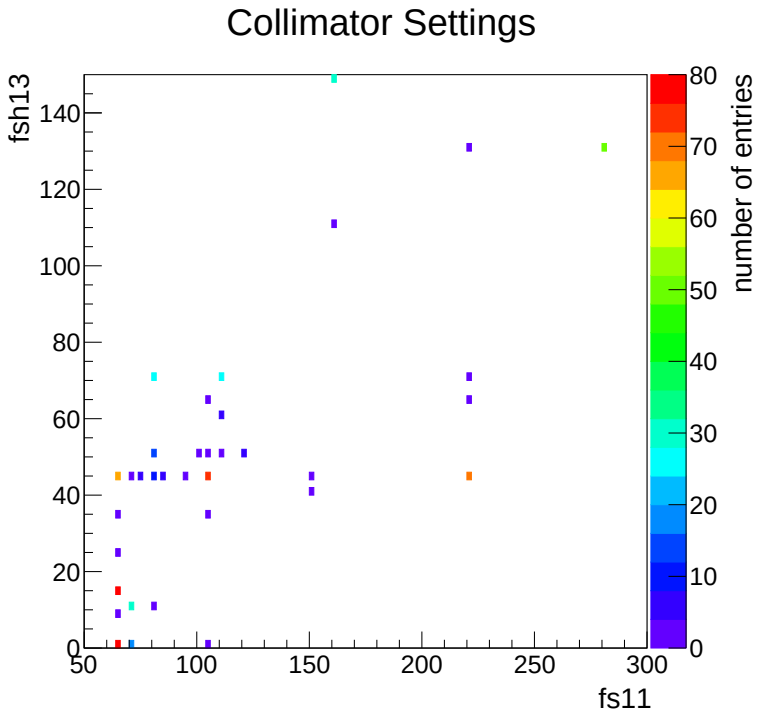
Section 1

Collimator Settings

Collimator Settings

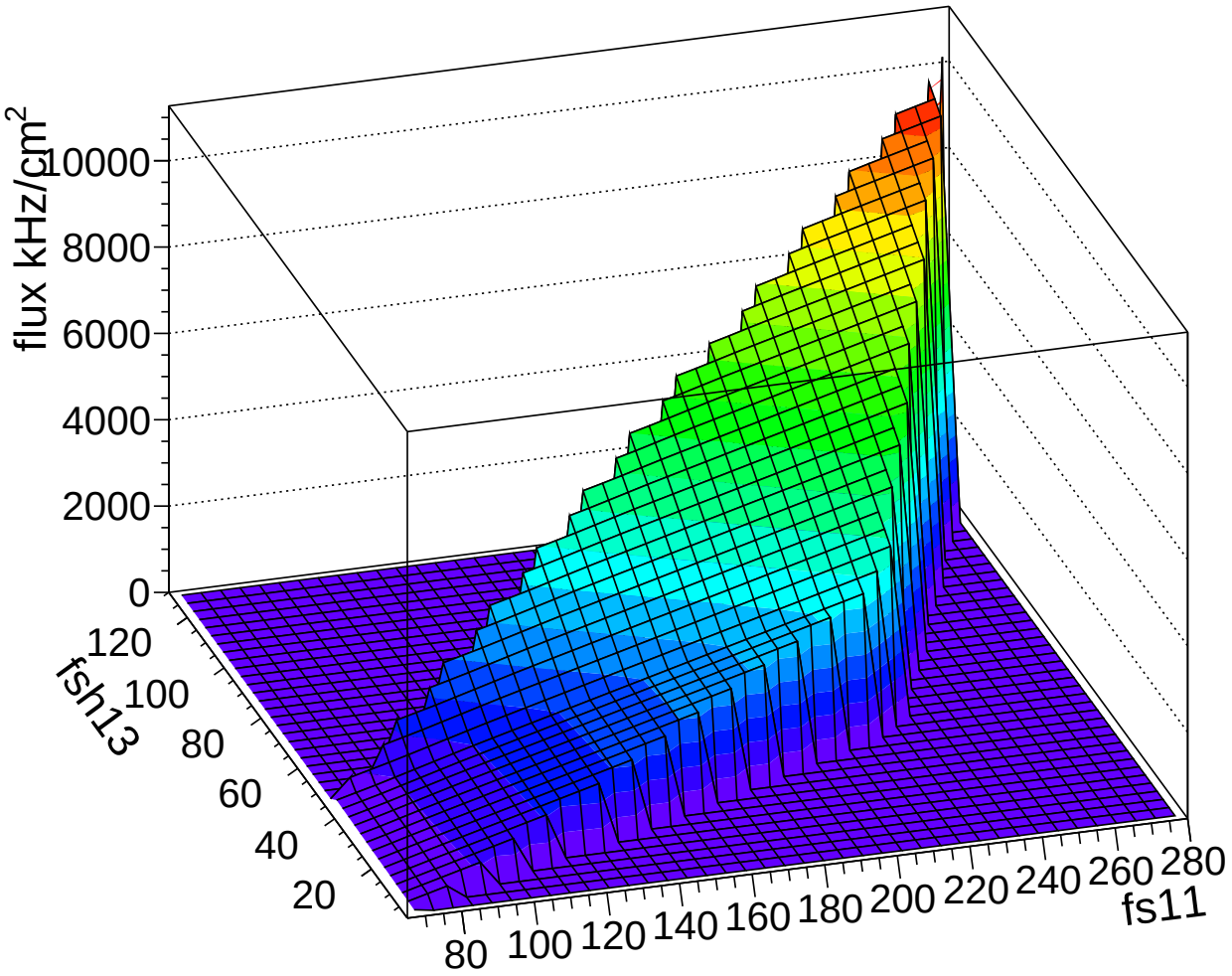


fs11	fsh13	flux [kHz/cm^2]
65	0.5	3
65	15	20
65	45	60
105	45	200
220	45	2000
280	130	500

Table : aimed fluxes for the collimator settings in Aug/Oct 2015

- plot shows all settings we ever saved in May/Aug/Oct 2015
- collimators:
  - fs11: in front of first bending magnet,
  - fsh13: last object before beam gets into area
- reddish and green points are the settings we chose for the rate scans in Aug/Oct 2015

Flux Vs. Collimators

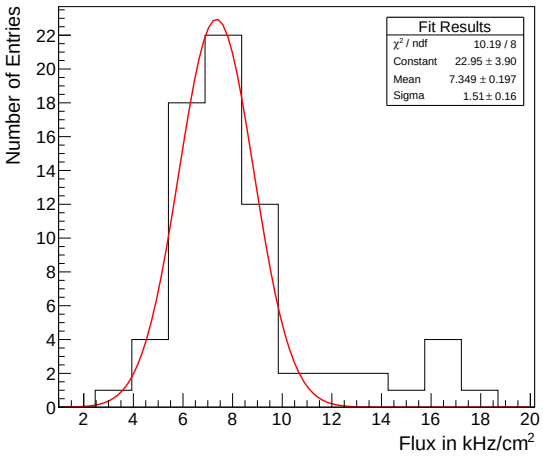


Section 2

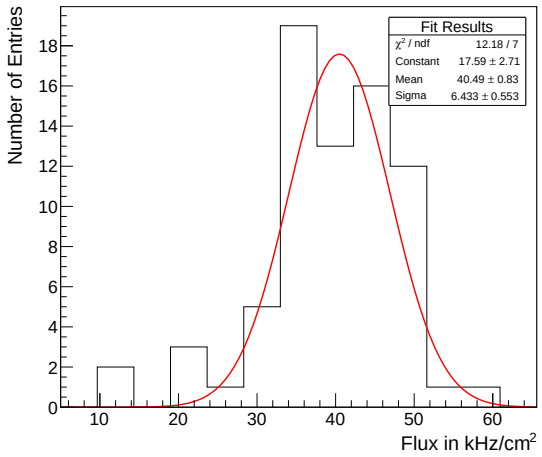
Stability of the Flux

Flux Distributions for all runs

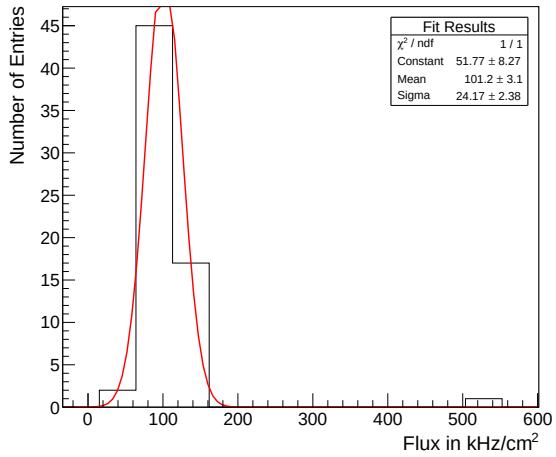
Flux Distribution for 65/0.5



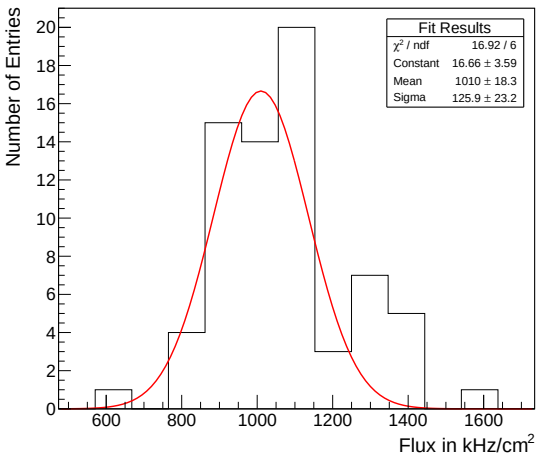
Flux Distribution for 65/15



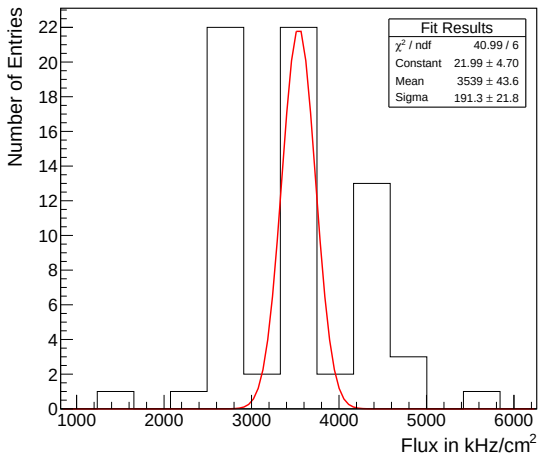
Flux Distribution for 65.0/45.0



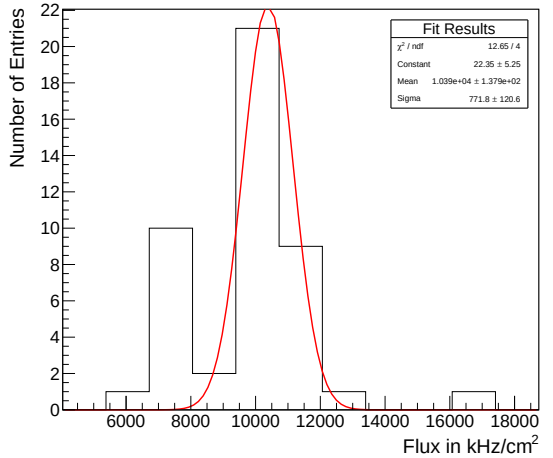
Flux Distribution for 105.0/45.0



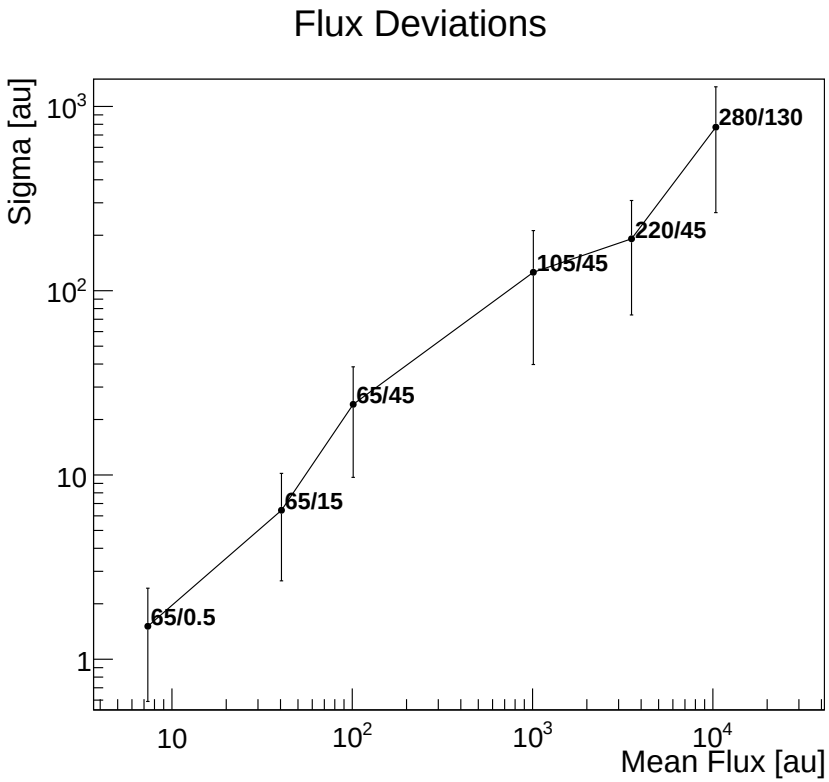
Flux Distribution for 220.0/45.0

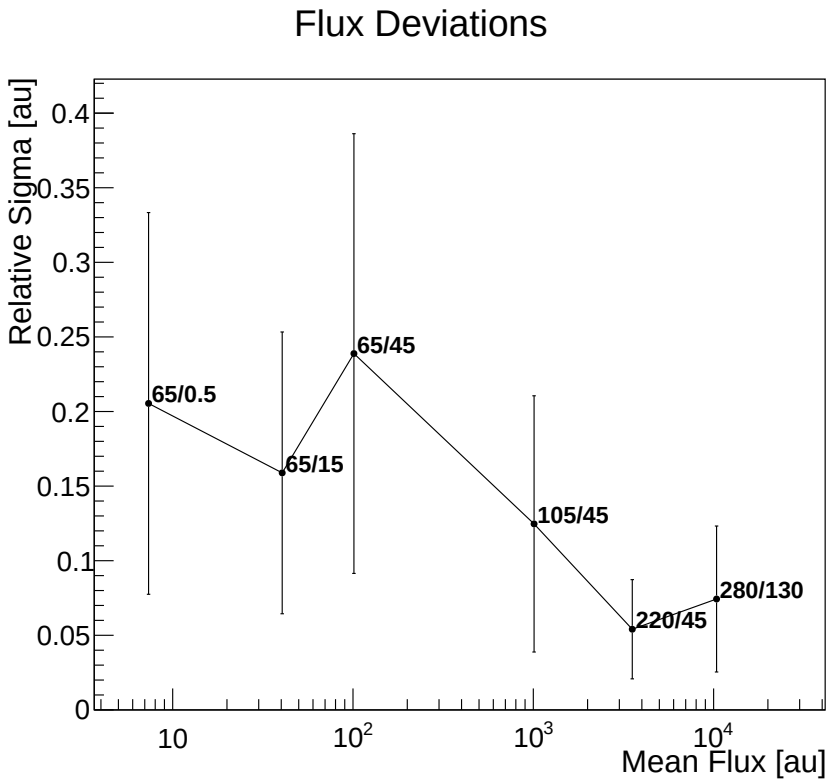


Flux Distribution for 280.0/130.0



Flux Deviations





- huge error bars due to uncertainties caused by:
  - wrongly entered fast-OR rates (beam stop, typos)
  - inconsistencies of different setups
  - different mask sizes (Gaussian beam profile)

Fluxes Within One Rate Scan

65/0.5	65/15	65/45	80/45	105/45	220/45	280/130
13.6	44.5	107.6	392.1	1114.5	3335.7	10090.3
14.1	44.6	107.6	406.6	1093.6	3366.3	10146.8
14.8	45.0	108.2	392.5	1117.3	3364.9	10235.6
15.8	44.9	107.9	411.0	1100.8	3359.3	
	45.3	108.5	395.6	1123.5	3380.2	
	46.1	109.8		1108.2	3376.5	

Table : RunPlan 8 in October 2015 (II6-B2 and poly-D @ $-1000\,\mathrm{V}$)

65/0.5	65/15	65/45	80/45	105/45	220/45	280/130
16.7	47.1	110.9	411.5	1131.3	3405.8	10190.0
16.1	46.2	105.6	399.5	1109.2	3395.9	10180.3
16.8	46.9	110.3	416.8	1139.4	3420.6	6143.1
17.4	46.8	111.2	400.6	1122.3	3423.8	
	47.5	110.5	417.1	1000.9	3444.1	
	47.9	110.8	403.9	1125.9	3444.6	

Table : RunPlan 10 in October 2015 (II6-B2 and poly-D @ $1000\,\mathrm{V}$)

Section 3

Conclusion

Conclusion

- fluxes during a single rate scan are very stable and reproducible within a couple percent
- fluxes for different setup may very within the order of 10 %