

11/15/20

Silica pure no  
polymer

Replaces

G3A = -2/04

DoneCompletion of ~~E~~-senses measurements

11/25/20 13h30

Changed lenses from  $N=15$   $R=0.2$ mm (1D)to  $N=3.5$   $R=0.1$ mm 2D3 lenses  $R=0.1$ mm1 lens  $R=0.2$ mm labelled **F1**

✓ moved cr/z to through hole

cr/z = 3.7

cr/y = 0

} need to check  
w/ beamPlan to keep beam height  
as before so optimized w/ piezo  
at fixed height.

Date of Lens Change

Mon Nov 25 13:55:00 2020

Number of CRLs

8x10-8.2mm(V)+3.5x20(0.1mm)

data\_subfolder

CSS | NOV 2020

11/27/2020 • GAP 17.68mm on DS/US  
• Mono 7.35keV

See alignment 10/27 pl for reference

FILE zjiang 20201127

#3 ascan piezo 0 15 60 1

Mistake need to move slit/diamp out

TOP up mode.

unvr diam x -1 / slit x 0 / slit cen = 0

#4 redo piezo / slits opening si I probably wrong,  
peak @ 7.6 V  
Actually 250 x 250

Cts 131543 cps on pind 1 appears low from pl

#5 lup fa2 fine -30 30 30 1 peak 131.7 kcps on pind 1  
tweaked to peak

#6 lup si I v cen -500 500 50 1 go to 80.

/var/tmp/fool Fri Nov 27 10:41:26 2020

Detector = 1  
Amps\_per\_Volt(pind1) = 0.0002 A/V  
CtpV = 100000  
Length = 0.0400 cm  
Element = Si  
Ephot = 7350 eV  
Si Elength = 0.0054 cm

149982 cps is a current of 30.1984 Amps

9.23e+11 photons per second

flux pind 1 150992-1010

9.23 x 10<sup>11</sup> ph/s

low

dark  
pind 1 1010  
pind 2 792  
pind 4 26454

#7 ascan piezo 0 15 60 1 peak 7.5 go there.

# CSSI Nov 27, 2020 P2

70h46 Turn w/ slits on (HGAP)

umv sal hgap 0.3

#8 lep sal hcen -0.3 0.3 50 | go to 0.04 mm

#9 ascan sal hgap -0.02 0.02 40 |  
zero looks good.

#10 ascan sal hgaps -0.01 0.04 50 |  
over laps  
gap set to 40µm in sal hgap

#11 lep fa2 fine -30 30 30 | peaks 32<sup>000</sup> cps  
tweak to peak.

flux pind 1 32348-1010 ⇒  $9.3 \times 10^{11}$  ph/s @ 101.6 mA  
sil ⇒ 250 x 250 µm

umv diam x 1 / umv sil x 0.2

#12 lep diam x -0.5 0.5 40 |

\*\* go to -2.7 mm  
doesn't look great a curve?

umv sil vgap 150 / umv sil hcen 50

flux pind 1 10513-1010 ⇒  $5.85 \times 10^{10}$  ph/s

#13 lep sil vcen -300 300 50 |  
leave as is in a flat region

#14 ascan sil hgap -10 20 30 |

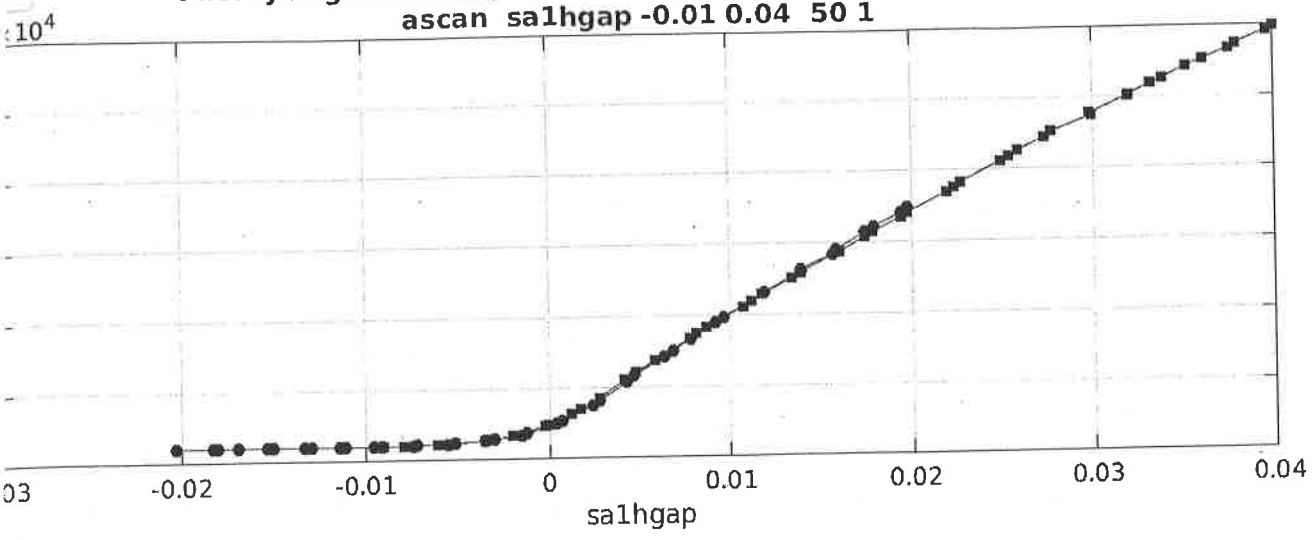
#15 " " -30 10 40 |

#16 ascan sil vgap -20 20 40 |

} Dumb  
slit  
using  
50 I hgap

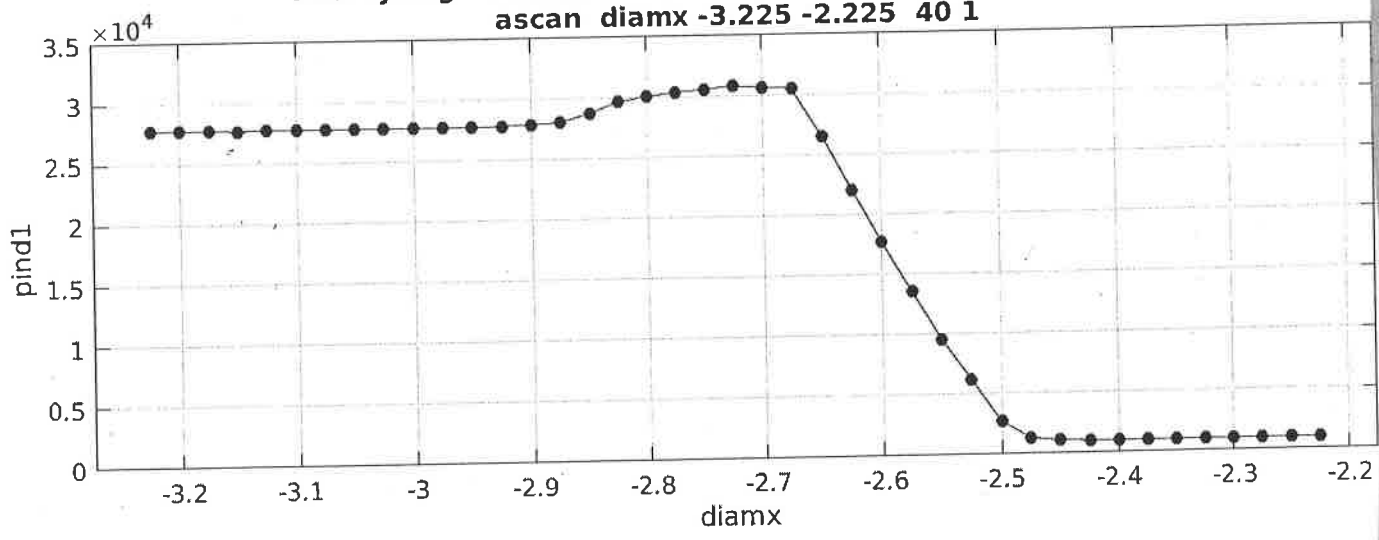
issue w/ spec and  
sil slit

File: zjiang20201127, Scan 9-10, Fri Nov 27 10:54:46 2020  
ascan salhgap -0.01 0.04 50 1



Peak 29921 @ 0.04, COM 0.025378, FWHM 0.023177 @ 0.016823

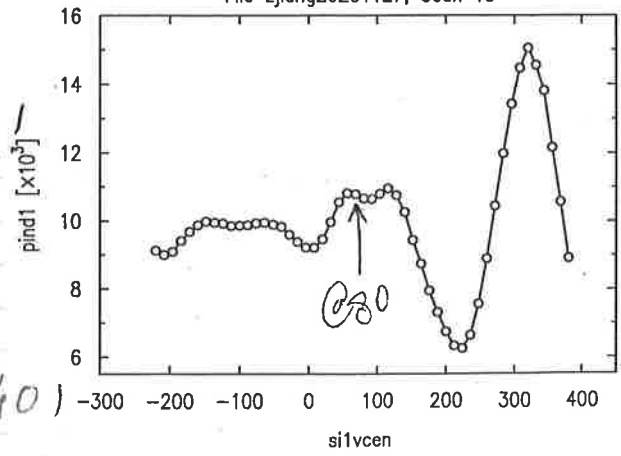
File: zjiang20201127, Scan 12, Fri Nov 27 11:03:03 2020  
ascan diamx -3.225 -2.225 40 1



Peak 30814 @ -2.725, COM -2.8915, FWHM 0.63875 @ -2.5863  
11:14:20 AM 11/27/20

- #17 ascan silvgap 0 150 50 1  
zero is very off?
- #18 ascan silvgap 80 120 40 1  
overlaps w/ 18.  
zero @ 99
- #19 ascan silvgap -10 150 80 1  
GAP looks good.
- #20 ascan silhgap -60 -40 40 1  
set zero @ -49
- #21 ascan silhgap -20 20 40 1

ascan silvcen -219.999 380.001 50 1  
File zjiang20201127, Scan 13



pind1: Peak at 320 is 15057. COM at 88.736.  
FWHM is 72.583 at 247.42.

CSSI Nov 2020/27 P4

17h41

Scan #21 from previous page  
Doesn't add up.

Wrong call.

#22 ascan silvgap -20 20 40 1 (zero is fine now)

adjust zero to -1

#23 ascan silvgap -20 20 40 1 zero's good.

slits are 150 μm x 150 μm

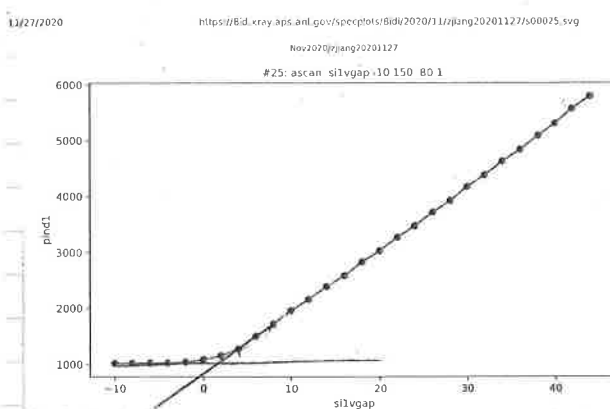
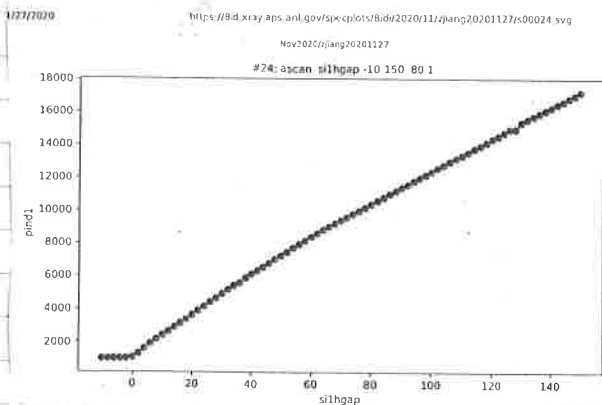
Si1

\* flux pind1 17109-1010 ⇒ 9.9 × 10<sup>10</sup> ph/s  
@ 7.35 keV

#24 ascan silvgap -10 150 80 1  
zero OK! looks great.

#25 ascan silvgap -10 150 80 1  
zero looks pretty good too!

So we do have Si1 @ 150 x 150.



flux pind1 17246-1010 ⇒ 9.99 × 10<sup>10</sup> ph/s

Appears more flux than p2  
@ 200 μA/V

$$\frac{9.99}{7.44} = 1.34$$

CSSI 11/27/20 P5

# w/ pind2 #26 lap crlz -1 1 40 1

#27 dummy scan

12:15:15 PM 11/27/20

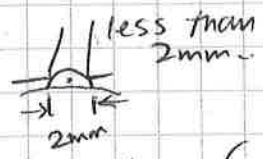
#28 alx -1.25 1.25 50 1

# 1.43mm wide? too narrow

w/v Si2hgap 3000

#29 lap crlx -1.25 1.25 50 1

Maybe because I'm in the center of the half moon



flux pind2 (350508 - 792) \* 4.396 (att 2)  
 $9.46 \times 10^{10}$  ph/s

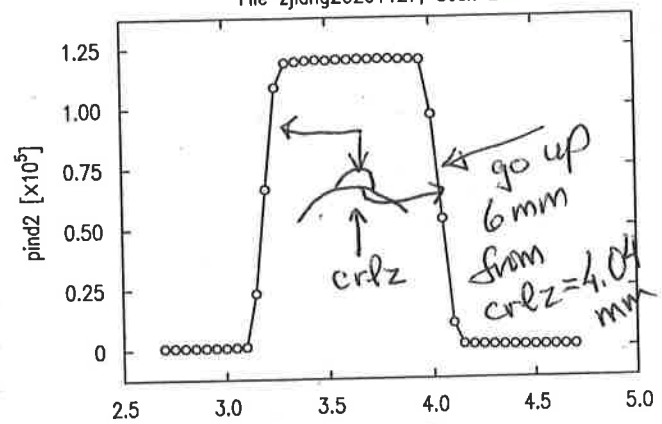
Consistent w/ pind1 minus some 5%

Changed gain on pind2 to  $10 \mu A/V$

dark pind2 178 cps.

flux pind2  $328467 - 178 \Rightarrow 1.01 \times 10^{11}$  ph/s att  $\emptyset$

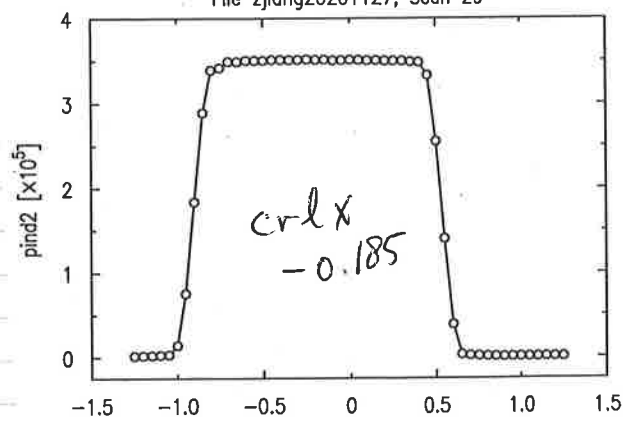
ascan crlz 2.7 4.7 40 1  
 File zjiang20201127, Scan 26



crlz  
 pind2: Peak at 3.8 is  $1.2031e+05$ . COM at 3.6195.  
 FWHM is 0.84948 at 3.6175.

12:29:33 PM 11/27/20

ascan crlx -1.25 1.25 50 1  
 File zjiang20201127, Scan 29



crlx  
 pind2: Peak at -0.25 is  $3.5168e+05$ . COM at -0.184.  
 FWHM is 1.4382 at -0.18462.