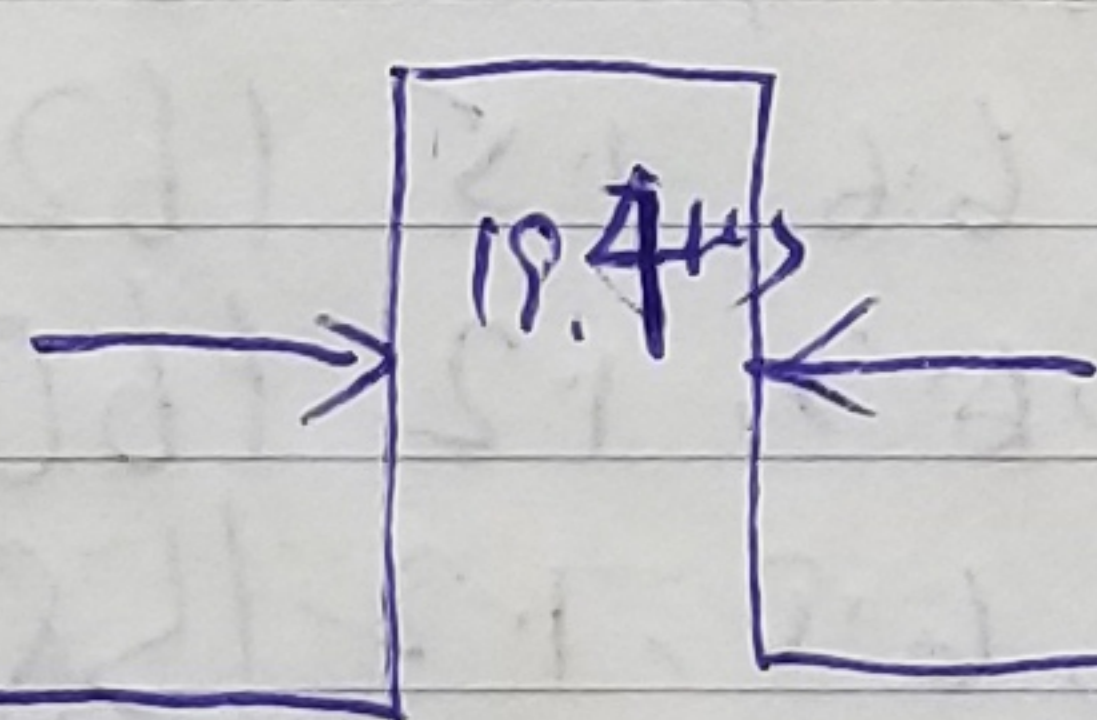


5/6/2015

(S₁2H₆ → H₁ + S₁2H₁H₅
H₂ + S₁
S₁H₃
S₁H₄

S₁2H₆ Profile
1.2 @ 5.75 Mas, calibration OK



-400V 550 torr, 2.5×10^{-4} torr

PMT: -1.20 kV

C=A-b

90.75° w6764

" + "

1400 ~ 1800, 2h

62

90.75° w6765

" - "

1600 ~ 2000, 2h

62

$$t = 2083.3 + \left(\frac{176}{2} \right) - 5.25 \sqrt{62} - \left(\left(\frac{19.4}{2} \right) - 0.25 - 67 \right)$$

		462h	1.28	A =	OFFSET	
90.75°	w6766 (2)	778, 778, 1.9		1720	-257.29	62
90.75°	w6767 (2)	458k, 769, 7.8, 2.1		1725	-257.29	62
90.75°	w6768 (2)	463k, 758, 7.5, 2.5		1715	-265.14	62
90.75°	w6769 (2)	451k, 775, 7.8, 1.8		1730	-253.39	62
90.75°	w6770 (2)	462k, 754, 7.4, 2.8		1710	-269.01	62
90.75°	w6771 (2)	441K, 783, 7.7, 1.7		1735	-249.48	62
0.75°	w6772 (2)	470K, 751, 7.3, 2.7		1705	-272.92	62
0.75°	w6773 (2)	418K, 789, 7.8, 2.0		1740	-245.58	62
0.75°	w6774 (2)	458k, 748, 7.1, 2.4		1700	-276.83	62

			V_L ↓	S ↓	σ ↓		
0.75°	w6775(2)	394h	798	7.9	2.6	1745	62
0.75°	w6776(2)	461h	746	7.1	2.4	1695	62
0.75°	w6777(2)	358h	807	8.2	3.2	1750	62
0.75°	w6778(2)	471h	744	6.8	2.4	1690	62
0.75°	w6779(2)	314h	818	8.5	3.5	1755	-244.01 62
0.75°	w6780(2)	448h	742	6.8	1.9	1685	-254.95 62
0.75°	w6781(2)	260k	832	8.9	3.2	1760	-243.23 62
0.75°	w6782(2)	448h	740	6.8	1.7	1680	-243.23 62
0.75°	w6783(2)	439h	738	6.7	1.8	1675	-244.01 62
0.75°	w6784(2)	420h	735	6.6	2.0	1665	-245.58 62
0.75°	w6785(2)	416h	736	6.4	1.8	1655	-247.14 62
0.75°	w6786(2)	410h	736	6.3	1.6	1645	-248.71 62
0.75°	w6787(2)	388h	715	6.6	1.5	1625	-251.83 62
0.75°	w6788(2)	351h	726	6.3	1.2	1605	-254.95 62
0.75°	w6789(2)	285h	701	6.0	1.2	1585	-258.08 62
0.75°	w6790(2)	196k	686	7.1	2.0	1565	-261.20 62

Maximum angle on detector 69°

5/6/2015
Chopper Wheel in, Cold head LM.
He seeded in Carbon rod
400m bucky

PMT - 1.30kV, HV - 22.5kV, Dis - 1.205V
PR - 400V, Gas He, 4.6 x 10¹⁰ cm

0.75° w6791
0.75° w6792

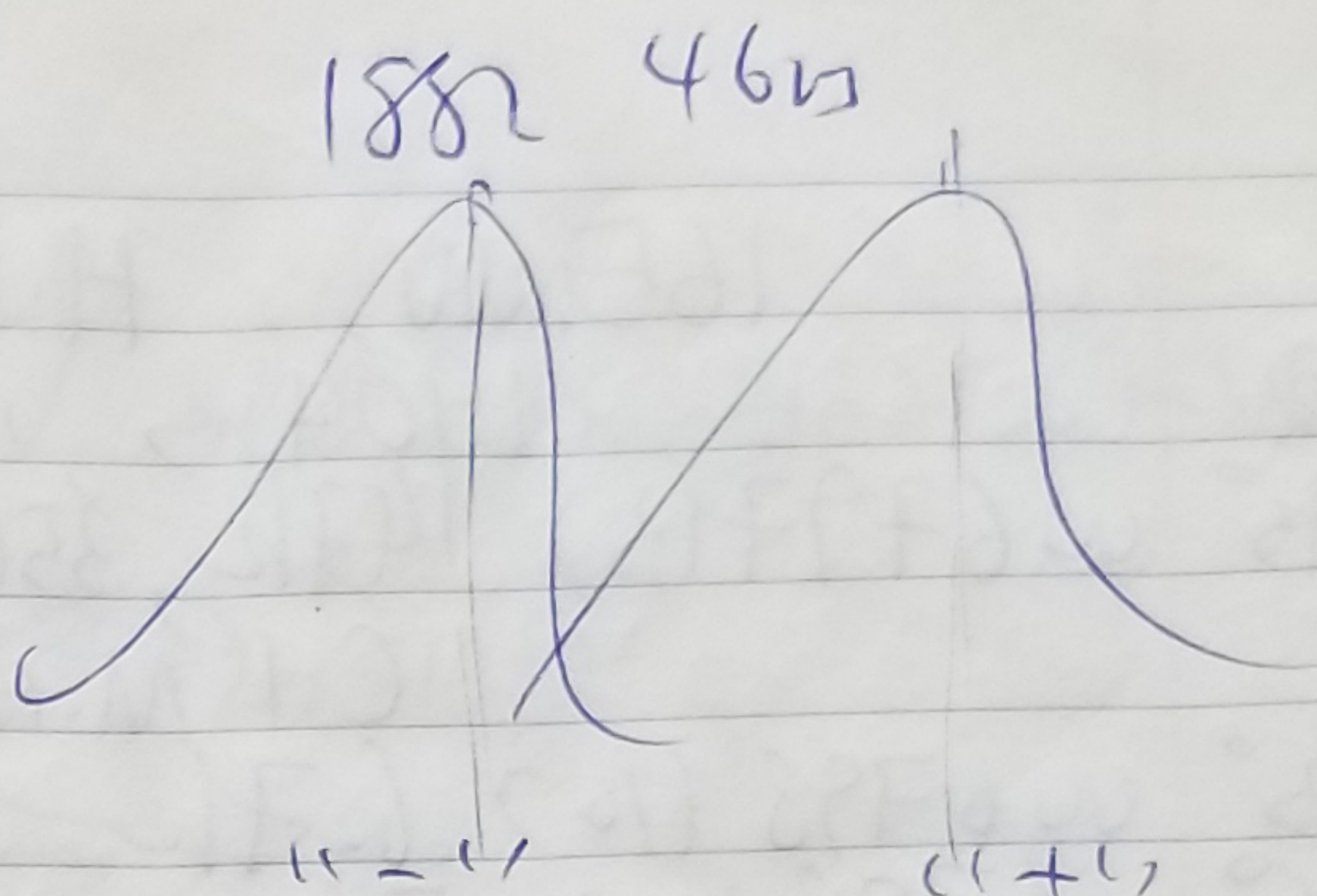
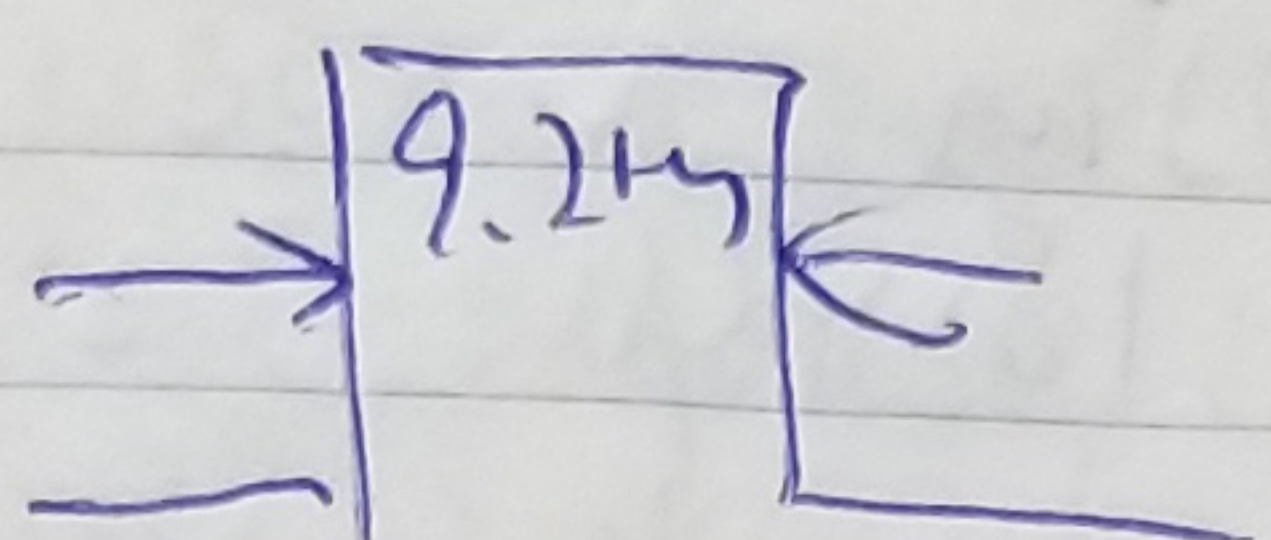
"47
"47

1700-2000, 207
1700-2000, 207

4
4

offset

-241.67
 -280.73
 -237.76
 -284.64
 -233.86
 -288.54
 -229.95
 -292.45
 -296.36
 -304.17
 -311.98
 -319.80
 -327.61
 -331.04
 -366.67
 -382.29



1882m, 16635m, 106mW
 0.75° w6783(3) 157k 12
~~188~~ 1902, 16625, 106mW
 0.75° w6784(3) 98k -33.93m 12
 1904, 16622
 0.75° w6785(3) 82k 12910, 2.12, 5.7 -33.54, 12
 C = A - 46m
 0.75° w6786(15) 73

$\Delta = 0.13 \cdot 1m$

MA 840m 51ms
 57m 767ms 56ms $\Delta = 51m$

→ Cleaned Cold Trap

05/07/2015

He 4atm in Carbon rot.

$PV_g = -400V$, 4.0×10^{-5} flow, 1904 μs

PMT = -1.35 kV, HV = -22.5 kV, 1.2 @ 5-35, Dis = 1.6 mV

laser = 160 mW, 16622 μs .

0.75° W6818(3) 137K, 3609, 1.2, 13.2

12

C+MA.

43.5° W6819(10)

6.5K

C=A-50

51

[C + Si₂H₆]

53° W6820(25) 0.6K; 26K.

15

C=A-55

73

53° W6821(25) -6, 2.2K

15

72

noisy bg — 44

noisy bg — 43

53° W6822(25) 5.7K, 18.5K.

Good ton 42

53° W6823(25) 5.3K, 19.1K

Good ton 42

53° W6824(25) 2.4K, 14.9K

41

53° W6825(25) 0.2K, 75K

43

53° W6826(25) 0.8, 3.1K

71

53° W6827(25) 0.3, 3.8K

2nd, 533 ton

71

53° W6828(25) 5.6K, 19K

C=A-55

42

53° W6829(25)

C=A-59

42

3000ms

0.75°	w6830(3)	151h	160w, 1904, 1662, 12
0.75°	w6831(3)	169h	160w, 1900, 16626, 12
0.75°	w6832(3)	169h	160w, 1898, 16628, 12
0.75°	w6833(3)	178h	160w, 1896, 16630, 12
0.75°	w6834(1)	187h, 287h, 27, 6.1	60w, 1894, 16632, 12
0.75°	w6835(3)	195h, 288h, 2.6, 5.1, "	" " " 12

pr II: 575 torr

57	w6836(25)	7.5h, 21h	42
61	w6837(25)	6h, 19.5h	42
65	w6838(25)	5h, 19.5h	42
69	w6839(25)	6h, 21h	42
(57)	w6840(25)	5.1h, 19.8h	42
53	w6841(25)	5h, 21h	42
49	w6842(25)	6.8h, 20h	42
45	w6843(25)	5.8h, 19h	42
(57)	w6844(25)	6.5h, 20h	42
37	w6845(25)	6.6h, 21h	42
34	w6846(25)	7.7h, 21h	42
33	w6847(25)	7.6h, 23h	42
(57)	w6848(25)	5.6h, 21.5h	42
23	w6849(25)	7.6h, 21h	42
18	w6850(25)	9.7h, 25h	42
(57)	w6851(25)	8h, 24h	42
8	w6852(25)	5.6h, 20h	42
(57)	w6853(25)	6.3h, 19h	42
0.75°	w6854(3)	180h, 3116, 2.2, 6.7	12

(1512H) \rightarrow H₂Si + SiH₄ Δ₀ = -452

\rightarrow H₂Si + SiH₃ Δ₀ = -280

\rightarrow cleaned Cold Trap

05/08/2015

He 4 atm in Carbon Rod.

PV_I = -400V, 3.6×10^5 Torr, 1894 μs

PMT = 1.35 kV, HV = 22.5 kV, Div = 1.6 mV, 1.2 @ 5.35

Laser = 16632 μs, 210 mW

0.75° W 6855(3) 178K 3096, 2.2, 9.3

12

PV_{II} = -400V, Si₂H₆ 600 Torr, 1.4×10^4 Torr.

57° W 6856(25) 7.2K, 22.4K

42

53° W 6857(25) 7.1K, 25.6K

42

49° W 6858(25) 5.3K, 18.9K

42

45° W 6859(25) 6.8K, 21.9K

42

41° W 6860(25) 6.0K, 20.2K

42

37° W 6861(25) 6.6K, 21.8K

42

C+ SiH₄
GeH₄
Si₂H₆

57° W 6862(25) 6.1K, 20.2K

42

0.75° W 6863(3) 197K, 3201, 2.2, 7.8

16632 μs, 215 mW 12

0.75° W 6864(3) 155K, 3074, 2.0, 7.4

16630 μs, 215 mW 12

0.75° W 6865(3) 175K, 3104, 2.1, 9.3

16631 μs, 215 mW 12

157°	W6866(25)	5.9K, 20.9K.		42
33°	W6867(25)	8.1K, 22K		42
28°	W6868(25)	8.1K, 22K		42
23°	W6869(25)	7.6K, 21K		42
18°	W6870(25)	9.7K, 22.6K		42
13°	W6871(25)	6.9K, 22.5K		42
8°	W6872(25)	5.1K, 20.0K		42
57°	W6873(25)	5.1K,		42
61°	W6874(25)	6.0K, 19.3K		42
65°	W6875(25)	5.3K, 18.1K		42
69°	W6876(25)	4.5K, 18.3K		42
57°	W6877(25)	3.0K, 18.0K		42
0.75°	W6878(25)	170K, 3013, 2.0, 8.1	150mw	12
0.75°	W6879(3)	184K,	215mw	12
0.75°	W6880(5)	315K 3578, 1.1, 6.5	215mw	12
0.75°	W6881(5)	270K 3254, 1.3, 7.8	16631μs 170mw	12
0.75°	W6882(5)	267K.	16630μs	12
0.75°		→ 3111, 2.0, 5.0	V=+0.2, H=-0.2, 16631μs	12

57°	W6883(25)	7.6K, 20.5K		42
61°	W6884(25)	6.1K, 20.6K		42
65°	W6885(25)	5.4K, 20.0K		42
69°	W6886(25)	6.1K, 20.8K		42
57°	W6887(25)	5.8, 19.7K		42
0.75°	W6888(5)	310K, 3241, 1.86, 4.42		12

He 4atm in Carbon rod

05/09/2015

$PV_2 = -400V, 4.2 \times 10^5 \text{ torr}, 1894 \mu s$

$P_{MT} = -1.35 kV, HV = -22.5 kV, Dis = 1.6 mV, 1.2 @ 5.35$

$Laser = 16631 \mu s, 200 mW$

0.75° w 6889(5) 245K, 2941, 2.0, 5.1

12

$PV_2 = -400V, 2.0 \times 10^4 \text{ Six He } 600 \text{ torr}$

57° w 6890(25) 3.0K, 22.3K

42

53° w 6891(25) 5.1K, 19.2K

42

49° w 6892(25) 5.0K, 19.4K

42

45° w 6893(25) 4.4K, 19.5K

42

41° w 6894(25) 4.8K, 20.0K

42

37° w 6895(25) 6.3K, 20.9K

42

57° w 6896(25) 4.5K, 18.8K

42

0.75° w 6897(5) 277K, 3117, 2.0, 4.3, 290 mW

12

0.75° w 6898(5) 282K, 2918, 2.2, 5.9, 225 mW

12

57° w 6899(25) 6.6K, 21.0K

42

33° w 6900(25) 7.4K, 22.1K

42

28° w 6901(25) 6.5K, 21.0K

42

23° w 6902(25) 7.9K, 25.7K

42

18° w 6903(25) 6.1K, 20.6K

42

13° w 6904(25) 4.9K, 21.1K

42

8° w 6905(25) 7.6K, 20.6K

42

57° w 6906(25) 5.1K, 19.3K

42

0.75° w 6907(13) 17.7K, 3043, 2.1, 4.0

275 mW 12

0.75° w 6908(13) 29.7K, 2834, 2.11, 5.2

250 mW 12

57° w 6909(25) 5.0K, 19K

42

61° w 6910(25) 5.0K, 19K

42

65°	w6911 (25)	3.3k, 19k	42
69°	w6912 (25)	3.7k, 18k	42
157°	w6913 (25)	3.8k, 18k	42
0.75°	w6914 (5)	295k, 3008, 2.24, 5.4	12
157°	w6915 (25)	3.5k, 17k	42
53°	w6916 (25)	4.8k, 18k	42
49°	w6917 (25)	4.9k	42
43°	w6918 (25)	6.6k, 20k	42
41°	w6919 (25)	4.6k, 19k	42
37°	w6920 (25)	5.2k, 19k	42
157°	w6921 (25)	4.3k, 19k	42
0.75°	w6922 (5)	282k, 3022, 2.01, 5.5	12

5/11/2015
Mass calibration check 1.2 @ 5.35.
OK.

PMT: -1.35kV, HV: -22.5kV, 1.2 @ 5.35,
PVI: -400V, 4.8×10^{-5} torr, 4atm He, 1894m
PVI: -400V, C-A-55, 5.75 ~ 6.00 torr; Laser: 250mW, 1663nm

0.75°	w6923 (5)	279k, 2740, 2.1, 4.8	12
0.75°	w6924 (5)	331k, 2729, 2.3, 7.4	12
0.75°	w6925 (5)	332k, 2696, 1.5, 7.5	12
157°	w6926 (25)	5.6k, 20.6k	42
33°	w6927 (25)	5.8k, 21k	42
28°	w6928 (25)	6.2k, 20.9k	42

23°	W 6929 (25)	5.8k, 20.1k	42
18°	W 6930 (25)		42
13°	W 6931 (25)	11.3k	42
8°	W 6932 (25)	6.7k, 20.5k	42
57°	W 6933 (25)	6.8k, 19.4k	42

0.75°	W 6934 (25)	330k, 2902, 2.15, 5.7	P
0.75°	W 6935 (25)	321k, 2942, 2.1, 5.61	12

57°	W 6936 (25)	5.1k, 18.9k	42
61°	W 6937 (25)	6k, 20k	42
65°	W 6938 (25)	5.8k, 19.7k	42
69°	W 6939 (25)	2.9k, 19k	42
57°	W 6940 (25)	6.6k, 20k	42

0.75°	W 6941 (5)	301k, 2919, 1.9, 5.1	12
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57°	W 6942 (25)	5.7k, 19k	42
53°	W 6943 (25)	5.7k, 20k	42
49°	W 6944 (25)	5.8k, 20.6k	42
45°	W 6945 (25)	6.2k, 21.8k	42
41°	W 6946 (25)	6.7k, 21.1k	42
37°	W 6947 (25)	7.8k, 22.1k	42
57°	W 6948 (25)	5.8k, 19.7k	42

0.75°	W 6949 (5)	317k, 2998, 1.92, 6.24, 320 mm	12
57°	W 6950 (25)	5.4k, 19.8k	42
33°	W 6951 (25)	7.2k, 21.2k	42
28°	W 6952 (25)	8.1k, 23.2k	42

C+ S₂H₆

23°	W 6953(25)	6.8K, 21.4K	42
18°	W 6954(25)	8.7K, 23.1K	42
13°	W 6955(25)	6.8K, 21.9K	42
8°	W 6956(25)	17.8K, 32.5K (1° beam contamination)	42
57°	W 6957(25)	6.7K, 20.6K	42
0.75°	W 6958(5)	337K, 3013, 1.93, 5.97 320 mW	12
57°	W 6959(25)	6.3K, 20.1K	42
61°	W 6960(25)	5.4K, 19.8K	42
65°	W 6961(25)	6.3K, 20.4K	42
69°	W 6962(25)	6.1K, 19.8K	42
57°	W 6963(25)	5.9K, 20.9K	42
53°	W 6964(25)	5.7K, 20.7K	42
49°	W 6965(25)	4.9K, 21.3K	42
45°	W 6966(25)	6.4K, 22.6K	42
41°	W 6967(25)	7.1K, 21.0K	42
37°	W 6968(25)	8.4K, 23.6K	42
57°	W 6969(25)	7.5K, 20.4K	42
0.75°	W 6970(5)	327K, 3013, 2.0, 5.4	12

5/12/2015

PMT: -1.35kV, HV: -22.5kV, Ds: 1.6mV, 1.2 @ 5.35
 PVI: -400V, 4atm, 4.8x10⁻⁵ Torr, 1894 Hz
 PVI: -400V, 575 Torr ~ 600 Torr, C-A-55, 1.8x10⁻⁴ Torr
 Lenses: 250 ~ 300 mW, 1663 Hz

Mass calibration check. OK

0.75°	W 6971(5)	303K, 2838, 1.84, 5.24	12
0.75°	W 6972(5)	338K, 2908, 1.97, 5.61	12
0.75°	W 6973(5)	340K, 2892, 2.1, 5.6	12

C + S:2H6

57	w6974 (25) 7.6k, 24k	320mW	42
57	w6975 (25) 7.6k, 24k 6.5k, 21k	280mW	42
33°	w6976 (25) 10.6k, 27k	320mW	42
28°	w6977 (25) 10.7k, 28k	330mW	42
23°	w6978 (25) 7.1k, 24k	330mW	42
18°	w6979 (25) 8.5k, 28k	330mW	42
13°	w6980 (25) 8k, 24k	325mW	42
8°	w6981 (25) 20k, 44.5k	"	42
8°	w6982 (25) 12k, 30k	280mW	42
57	w6983 (25) 6.6k, 21k	320mW	42

0.75	w6984 (5) 390k, 296k, 1.9, 6.6, -35.4	320mW	12
0.75	w6985 (5) 395k, 299k, 1.8, 7.5	320mW	12

57	w6986 (25) 6.9k, 23k	320mW	42
61°	w6987 (25) 6.1k, 28k	"	42
65°	w6988 (25) 7.3k, 22k	"	42
69°	w6989 (25) 5.7k, 22k	"	42
57	w6990 (25) 6.7k, 22k	320mW	42

0.75	w6991 (5) 404k, 297k, 1.81, 7.74		12
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57	w6992 (25) 6.0k, 21k	320mW	42
53°	w6993 (25) 7.9k, 23k	"	42
49°	w6994 (25) 7.3k, 22k	"	42
45°	w6995 (25) 9.1k, 24k	"	42
41°	w6996 (25) 7.8k, 23.0k	"	42
37°	w6997 (25) 8k, 28k	"	42
57	w6998 (25) 6.4k, 22.5k	"	42

Str 1164 C

28

28

74

62 12

0.75° W 6999 (5) 391K, 2981, 1.8, 8.1

12

[57°] W 7000 (25) 7.1K, 23K

42

33° W 7001 (25) 8.8K, 24.1K

42

28° W 7002 (25) 10.4K, 25.6K

42

23° W 7003 (25) 9.1K, 24.8K

42

18° W 7004 (25) 8.3K, 23.2K

42

13° W 7005 (25) 6.5K, 22.7K

42

8° W 7006 (25) 23.6K, 38.6K (1° beam contamination)

42

[57°] W 7007 (25) 6.1K, 21.8K

42

0.75° W 7008 (5) 419K, 2975, 1.8, 8.2

335 mW

12

0.75° W 7009 (5) 413K, 2960, 1.8, 7.8

320 mW

12

[57°] W 7010 (25) 7.8K, 22.4K

42

61° W 7011 (25) 7.4K, 22.6K

42

65° W 7012 (25) 5.6K, 21.4K

42

69° W 7013 (25) 6.3K, 22.1K

42

[57°] W 7014 (25) 7.8K, 23.5K

42

53° W 7015 (25) 7.8K, 23.0K

42

49° W 7016 (25) 6.0K, 22.4K

42

45° W 7017 (25) 7.9K, 23.4K

42

41° W 7018 (25) 9.4K, 24.6K

42

37° W 7019 (25) 8.4K, 22.7K

42

[57°] W 7020 (25) 6.7K, 22.0K

42

57° W 7021 (25) OK, 35K (no sig.)

73

57° W 7022 (50) 2.6K, 8.8K

71

0.75° W 7023 (5) 395K, 2985, 1.6, 7.3

12

C + S₂H₆

5/13/2015

Mass calibration 1.2 @ 5.35, OK

PMT: -1.35kV, HV: -22.5kV, D₂₅: 1.6mV, 1.2 @ 5.35

PVI: -400V, 4 atm He, 1894 m, 4.8×10^{-5} torr

PVI: -400V, 575 ~ 600 torr, C = A - 55 m

Laser: 320 mJ, 16631 m

0.75°	w7024(5)	362k, 2702, 2.2, 8.2	12
0.75°	w7025(5)	337k, 2723, 2.2, 8.7	12
0.75°	w7026(5)	344k, 2773, 1.9, 8.2	12

57°	w7027(25)	9k, 21.6k	42
53°	w7028(26)	8.8k, 28k	42
28°	w7029(25)	9k, 28k	42
23°	w7030(25)	6.3k, 24k	42

Laser power dropped to 0.

23°	w7031(20)	8.5k, 24k	42
18°	w7032(22)	9.6k, 24k	42
13°	w7033(26)	9k, 24k	42
-8°	w7034(22)	15k, 30k	42
57°	w7035(25)	5.8k, 21.5k	42

0.75°	w7036(5)	368k, 2844, 1.7, 7.2	12
0.75°	w7037(5)	406k, 2842, 1.8, 7.5	12

57°	w7038(25)	5.8k, 21k	42
61°	w7039(26)	6.8k, 21k	42
63°	w7040(25)	6.8k, 22k	42
63°	w7041(25)	7.7k, 27k	42
57°	w7042(25)	7.8k, 22k	42

0.75° W 7043(25) 430k, 2880, 1.8, 8.7 12

57° W 7044(25) 7.1k, 24k 42

53° W 7045(25) 8.3k, 23k 42

49° W 7046(26) 7.8k, 27.8k 42

45° W 7047(25) 7.1k, 22.1k 42

41° W 7048(25) 8.5k, 23.9k 42

37° W 7049(25) 7.4k, 23.5k 42

57° W 7050(26) 6.7k, 22k 42

0.75° W 7051(25) 384k, 2828, 2.0, 9.2 12

0.75° W 7052(25) 383k, 2880, 1.8, 9.3 12

57° W 7053(25) 7.2k, 21k 42

33° W 7054(25) 9.0k, 24.2k 42

28° W 7055(25) 8.4k, 24.2k 42

23° W 7056(25) 7.7k, 22.6k 42

18° W 7057(25) 7.9k, 22.5k 42

13° W 7058(25) 6.3k, 21.6k 42

8° W 7059(25) 8.2k, 23.2k 42

57° W 7060(25) 6.4k, 20.8k 42

0.75° W 7061(25) 397k, 2864, 1.9, 9.0, 320 mW 12

57° W 7062(25) 6.0k, 20.9k 42

61° W 7063(25) 6.7k, 20.3k 42

65° W 7064(25) 6.4k, 20.6k 42

69° W 7065(25) 5.7k, 21.1k 42

57° W 7066(25) 6.6k, 21.3k 42

33°	W 7067(25)	6.1K, 20.3K	42
49°	W 7068(25)	6.3K, 21.7K	42
75°	W 7069(25)	7.4K, 22.1K	42
41°	W 7070(25)	7.0K, 21.8K	42
37°	W 7071(25)	8.4K, 23.7K	42
57°	W 7072(25)	7.1K, 22.0K	42
61°	W 7073(25)	7.2K, 21.4K	42
65°	W 7074(25)	7.3K, 21.9K	42
69°	W 7075(25)	5.2K, 21.3K	42
57°	W 7076(25)	7.3K, 21.6K	42
0.75°	W 7077(5)	378K, 2852, 1.6, 8.4	12

5/14/2015

PMT: -1.35KV, HV: -22.5kV, Dis: 1.6mV, 1.2@5.35

PVI: -400V, 1884mg, 4 atm He, 4.9×10^{-5} torr

PVI: -400V, 580 torr or 600 torr (mostly 580 torr)

C-A-55, 3.0×10^{-5} torr

Layer: 320mV, 18 1663/nb

0.75°	W 7078(5)	336k, 2677, 2.2, 8.6	12
0.75°	W 7079(5)	380k, 2766, 2.2, 9.3	12
0.75°	W 7080(5)	334k, 2756, 2.2, 8.11	12

C + Ar at $m/z = 42$

8°	W 7081(25)	4.5k, 19.7k	C-A-70	42
8°	W 7082(25)	3.9k, 18k	C-A-70	42
8°	W 7083(25)	-10.5, 15k	C-A-65	42
8°	W 7084(25)	5.6k, 19k	C-A-75	42
8°	W 7085(25)	3.6k, 18k	C-A-80	42
13°	W 7086(25)	4.8k, 17k	C-A-75	42
18°	W 7087(25)	5.5k, 16k	C-A-75	42
23°	W 7088(25)	9.8k, 16k	C-A-75	42

28° w 7089(25) ~~788, 15.7k~~ 686, 15h C-A-75 42

0.75° w 7090(25) 364k, 2765, 1.84, 8.1 28aw 12
0.75° w 7091(25) 373k 32aw 12
0.75° w 7092(25) 388k, 2835, 1.7, 6.6 32aw 12

8° w 7093(25) 10k, 26k 42
13° w 7094(25) 4.0k, 17.6k 42
18° w 7095(25) 1.6k, 16k 42
23° w 7096(25) 708, 15h 42
28° w 7097(25) 1.6k, 15h 42
38° w 7098(25) 1.1k, 15h 42
8° w 7099(25) 15h, 28k 42
13° w 7100(25) 3k, 18h 42
18° w 7101(25) 1.9k, 15.9k 42
23° w 7102(25) 8.0k, 15h 42
28° w 7103(25) 1.2k, 15h 42

0.75° w 7104(25) 427k, 2835, 1.8, 8.0 12
0.75° w 7105(25) 285k, 2860, 1.8, 8.2 12
C + An

~~C + An at w/2 = 42~~
8° w 7106(25) 11k 75 42
13° w 7107(25) 0.4k, 16.9k C-A-75 42
18° w 7108(25) 1.1k, 15.7k 42
23° w 7109(25) 1.2k, 15.1k 42
28° w 7110(25) 0.8k, 14.9k 42
8° w 7111(25) 9.2k, 23.6k 42
13° w 7112(25) 2.5k, 16.6k 42

~~71~~ ~~73~~ 72 ~~71~~ 701

18° w 7113(25) 0.5k, 14.9k 42
23° w 7114(25) 0.2k, 14.5k 42

0.75° w 7115(5) 410k, 2862, 1.8, 7.1 320mW 12

$P_{V_1} = -400V$, C_{reH_4} , 6.6×10^{-5} Torr (600 Torr)
 $[C + C_{reH_4}]$

54° w 7116(25) 8.6k, 2.3k (Signal!) C=A-75 89

54° w 7117(25) 19.8k, 17.9k, (huge!) 88
2° gas ran out!

0.75° w 7118(5) 364k, 2885, 1.7, 7.6 12

5/15/2015

1.2 @ 535 OK.

The setting same as 5/14/2015.

0.75° w 7119(5) 318k 12

0.75° w 7120(5) 380k, 2182, 2.3, 9.5 12

0.75° w 7121(5) 400k, 2704, 2.3, 9.6 12

57° w 7122(50) 7.8k, 2.3k, 7.1k 71

57° w 7123(50) -293, 6.4k. 80eV, 2mA 73

57° w 7124(50) -249, 9.0k. " " 74

57° w 7125(50) no signal. " " 72

57° w 7126(100) 0.3k, 6.0k (small) 60eV, 1.8mA 73

57° w 7127(100) 1.2k, 10.0k (small) " " 72

57° w 7128(50) 2.6k, 8.0k. " " 71

57° w 7129(50) 3.6k, 9.1k " " 70

57° w 7130(50) 3.4k 40eV, 1.5mA 73

57° w 7131(25) 3.8k, 10.8k 40eV, 1.5mA 42

57° w 7132(40) 6.8k, 12W 40eV, 1.5mA 43

~~C~~ C + S-2H6

5/18/2015

Mass Calibration 1.2 @ 5.35.024

PMT: -135kV, HV: -225kV, 1.2 @ 5.35, 1.6mV

PVI: -400V, 4 atm He, 1894m, 5.3×10^5 torr

PVI: -400V, 580 torr S2He, C-A-58m

Laser: -320mJ, 16631m

0.75	W7135(5)	328k, 2476, 2.7, 10.2	280mJ	12
0.75	W7136(5)	360k, 2525, 2.6, 10.4	320mJ	12
0.75	W7137(5)	330k, 2648, 2.4, 10.5	1898m, 16627m, 320mJ	12
0.75	W7138(5)	260k, 2760, 2.0, 8.8	1906m, 16618, 320mJ	12
0.75	W7139(5)	223k, 2963, 2.8, 4.1 3359, 1.35, 8.5	1914, 16614, 320mJ	12
0.75	W7140(5)	235k, 3467, 1.1, 10.7	1910, 16618, 320mJ	12
0.75	W7141(5)	348k, 2571, 2.9, 15.1	1894, 16631, 320mJ	12
0.75	W7142(3)	185k, 2667, 2.3, 8.6	1900, 16625, 320mJ	12
0.75	W7143(3)	167k, 2697, 1.9, 9.2	1904, 16621, 320mJ	12
0.75	W7144(3)	144k, 2734, 1.4, 10.7	1908, 16617, 320mJ	12
0.75	W7145(3)	151k, 2734, 1.4, 10.7	1910, 16615, 320mJ	12

3272, 1.14, 12.8 (44 ~ 120 range)

0.75	W7146(5)	273k, 2924, 2.2, 11, 1904, 16621, 320mJ	12
		V: 3.44 mm H: 4.38 mm	
0.75	W7147(3)	179k, 2926, 2.3, 9.8	12
		V: 3.44 mm, H: 4.38 mm	
0.75	W7148(5)	334k, 2997, 2.2, 15	12
0.75	W7149(5)	422k	12
0.75	W7150(5)	265k, 2965, 2.1, 11.6 2014, 2.04, 11.8	12

$1898h, 16628.$
 $0.75^\circ w 7151(3) 245h, 3035, 2.1, 10.5$ 12
 $1894h, 16632h$
 $0.75^\circ w 7153(3) 253h, 2854, 2.4, 9.7$ 12
 $1894h, 16632h, V: 3.44mm, H: 3.6mm, 320h$
 $0.75^\circ w 7154(5) 417k, 2827, 2.5, 10.$ 12
 $0.75^\circ w 7155(5) 360h, 2881, 2.3, 8.7$ $[1896, 16630]$ 12
 $0.75^\circ w 7156(5) 383h, 2880, 2.4, 11.1$ 12

C + Si₂H₆

$57^\circ w 7157(26) 6h, 21h$ 42
 $57^\circ w 7158(50) 907, 5.7h, 1.6h, 8.8h$ C=A-55 71
 $57^\circ w 7159(50) 3h, 8.7h$ C=A-60 71
 $60^\circ w 7160(50) 2h, 8.1h$ C=A-60 71
 $63^\circ w 7161(50) 1.8h, 8h$ 71
 $65^\circ w 7162(50) 1.8h, 7.7h$ 71
 $69^\circ w 7163(50) 1.6h, 7.4h$ 71
 $57^\circ w 7164(50) 2.8K, 8.4K$ 71
 $0.75^\circ w 7165(5) 348K, 2928, 2.4, 7.8$ 315mW 12
 $57^\circ w 7166(50) 1.8K, 7.5K$ 71
 $53^\circ w 7167(50) 2.9K, 9.2K$ 71
 $49^\circ w 7168(50) 2.7K, 8.2K$ 71
 $45^\circ w 7169(50) 2.1K, 7.7K$ 71
 $41^\circ w 7170(50) 2.5K, 8.3K$ 71
 $37^\circ w 7171(50) 1.9K, 8.9K$ 71
 $33^\circ w 7172(50) 1.8K, 7.8K$ 71
 $28^\circ w 7173(50) 0.7K, 7.4K$ 71

CT Si₂H₆

23° w 7174(30) 0.4k, 4.4k 71
 Secondary gas ran out! → changed gas
 23° w 7175(50) 0.4k, 6.1k 71
 (57) w 7176(50) 3.1k, 8.8k 71
 0.75° w 7177(5) 413k, 2967, 2.3, 8.9 12

10

5/19/2015

~~Disable laser off~~

1.2 @ 5.35 OK

PMT: -1.35kV, HV: -22.5kV, Dis: 1.6kV, 1.2 @ 5.35

PVI: -400V, 4 atm He, 1896k, 5.6 x 10⁻⁵ Torr

PVI (~~to 12~~): -400V, 580 Torr, 1836k

Leak: 32 Torr, 16630m

0.75° w 7178(5) 374k, 2996, 2.5, 10.3 12
 0.75° w 7179(5) 402k, 3027, 2.5, 7.9 12

(57) w 7180(50) 1.8k, 10k 71
 61° w 7181(50) 2.1k, 6.8k 71
 65° w 7182(50) 1.5k, 7k 71
 69° w 7183(50) 310, 6.3k, 71
 53° w 7184(50) 2.2k, 7.3k 71
 49° w 7185(50) 2.8k, 9.1k 71

~~40.5° w~~

0.75° w 7186(50) 436k 12
 0.75° w 7187(50) 466k, 3046, 2.5, 7.3 1894, 16632 12

(57) w 7188(50) 2.6k, 8.7k 71
 45° w 7189(50) 3.5k, 8.9k 71
 41 w 7190(50) 3k, 8.4k 71

37°	W7191(50)	2.6k, 7.1k		71
33°	W7192(50)	1.2k,		71
28°	W7193(50)			71
157°	W7194(50)	2.6k, 7.1k,	330 mW	71
61°	W7195(50)	2.1k, 8.0k	330 mW	71
65°	W7196(50)	0.9k, 6.3k	332 mW	71
49°	W7197(50)	1.3k, 6.6k		71
53°	W7198(50)	2.2k, 7.8k		71
49°	W7199(50)	3.3k, 8.6k.		71
57°	W7200(50)	1.3k, 7.1k		71
0.75°	W7201(5)	432k. 3017, 2.4, 8.4	330 mW	12
45°	W7202(50)	2.3k, 7.1k		71
41°	W7203(50)	2.6k, 7.1k		71
37°	W7204(50)	2.1k, 8.0k		71
33°	W7205(50)	1.9k, 6.9k		71
28°	W7206(50)	0.0k, 6.3k		71
57°	W7207(50)	7.8k, 7.1k.		12
0.75°	W7208(5)	484k.		

5/20/2015

1.2@535 OK

PMT: -1.38kV, HV: -22.8kV, Dis: 1.6mV, 1.2@5.55

PRJ: -400V, 4atm He, 1894m, 4.8×10^{-5} Torr

PRV: (60Hz): -400V, 580mV, 10 C-A-bm

Lase: 320mJ, 16632m

0.75° W7209(5) 453k, 2971, 2.3, 10.5

0.75° W7210(5) 461k, 3029, 2.42, 8.3

30712 PRV does not work

12
12

57°	w7211(50)	2k, 8k	71
61°	w7212(50)	2.4k, 7.8k	71
65°	w7213(50)	1.8k, 6.6k	71
69°	w7214(50)	1.7k, 7.3k	71
53°	w7215(50)	2.6k, 8.8k	71
49°	w7216(50)	2.4k, 7.5k	71

0.75°	w7217(5)	446k, 2953, 2.4, 12.1	12
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57°	w7218(50)	2.1k, 7.4k	71
45°	w7219(50)	2.8k, 8.4k	71
41°	w7220(50)	2.4k, 8k	71
37°	w7221(50)	2.3k, 7.4k	71
33°	w7222(50)	1.6k,	71
28°	w7223(50)	1.1k, 6.4k	71
57°	w7224(50)	2.3k, 8.1k	71
0.75°	w7225(5)	387k, 3017, 2.4, 8.4	335mW 12

61°	w7226(50)	2.3k, 7.8k	71
65°	w7227(50)	1.7k, 7.6k	71
69°	w7228(50)	1.5k, 6.9k	71
53°	w7229(50)	1.3k, 7.4k	71
49°	w7230(50)	2.8k, 8.1k	71
57°	w7231(50)	2.6k, 8.5k	325mW 71
45°	w7232(50)	2.6k, 8.5k	71
41°	w7233(50)	2.5k, 8.0k	71
37°	w7234(50)	2.5k, 8.0k	71
0.75°	w7235(5)	440k, 2994, 2.3, 9.8	12

CfSi₂H₆

5/21/2015

Mass calibration 1.2 @ 5.35 OK

Test the pulsed generator on DVI.

PMT: -1.35kV, HV: -22.5kV, 1.2 @ 5.35, 1.6mV D₂

PVI: -400V, 1896m, 4atm, 4.8×10^{-5} torr

Laser: 320mJ, 16632m

Noisy not working back to original pV.

00075 w 7238(5) 425k, 2991, 2.13, 8.14

Using CD IL in MCS pulse generator

A = 1666667, C = A - 60, D = C + 80

57° w 7237(25) 9.5k, 24k, same as before 42

57° w 7238(50) 2.2k, 7.7k 71

33° w 7239(50) 2.7k, 7.4k 71

28° w 7240(50) 948, 6.5k 71

61° w 7241(50) 1.9k 71

65° w 7242(50) 2k, 7.4k 71

69° w 7243(50) 2.2k, 7.7k 71

53° w 7244(50) 2.3k, 8.1k 71

49° w 7245(50) 3.3k, 8.3k 71

075° w 7246(5) 47k, 2972, 2.4, 99 12

57° w 7247(50) 2.9k, 8.7k 71

45° w 7248(50) 3k, 8.3k 71

41° w 7249(50) 3.3k, 8.4k 71

37° w 7250(50) 2.1k, 7.3k 71

33° w 7251(50) 1.4k, 6.4k 71

28° w 7252(50) 1.0k, 6.6k 71

57° w 7253(50) 2.6k, 8.7k 71

CT S2H6

0.75°	W 7254(5)	511K	2947, 2.5, 11.0	350 mW	12
0.75°	W 7255(5)	462K	2921, 2.4, 11.0	325 mW	12
[57°]	W 7256(50)	3.1K, 8.6K			71
61°	W 7257(50)	3.0K, 8.6K			71
65°	W 7258(50)	2.2K, 7.4K			71
69°	W 7259(50)	2.0K, 7.1K			71
53°	W 7260(50)	2.8K, 8.3K			71
49°	W 7261(50)	2.8K, 7.9K			71
[57°]	W 7262(50)	2.9K, 7.5K			71
45°	W 7263(50)	2.5K, 7.8K		315 mW	71
41°	W 7264(50)	2.4K, 8.1K			71
37°	W 7265(50)	1.4K, 7.5K			71
0.75°	W 7266(5)	446K	2958, 2.4, 10.7		12

5/22/2015

1.2@5.35. 0K

PMT: -1.35kV, HV: -2.3kV, Dis: 1.6mV, 1.2@5.35
 PVI: -400V, 1884m, 4atm, 4.6×10^3 torr, 60Hz
 PVI: -400V, 580~600 torr, ~~60Hz~~ C: A-60 (with repeat MCS) 30Hz
 Laser: 320mW, 16632m, 630Hz
 Mes: 16667m, 30Hz

0.75°	W 7267(5)	426K	2903, 2.4, 10.8		12
0.75°	W 7268(5)	420K	2884, 2.35, 10.8		12

[57°]	W 7269(50)	2.2K, 8.3K			71
61°	W 7270(50)	2.4K, 8.2K			71
65°	W 7271(50)	2.5K, 7.6K			71
69°	W 7272(50)	1.2K, 7.6K			71
53°	W 7273(50)	3.4K, 8.0K			71
49°	W 7274(50)	2.4K, 7.6K			71

0.75° W7275(5) 260k, 2615, 2.78, 9.6 12
 0.75° W7276(5) 413k, 2853, 2.4, 10.8 12
 0.75° W7277(5) 330k 1886, 1663 12
 0.75° W7278(5) 351k, 2734, 2.5, 11.2 1884, 1662 380mw/2
 0.75° W7279(5) 421k 350mw 12
 0.75° W7280(5) 434k, 2812, 2.6, 11.4 12
 0.75° W7281(5) 421k, 2810, 2.6, 9.6 12
 0.75° W7282(5) 382k, 2788, 2.7, 5.7 12
 0.75° W7283(5) 382k 12
 0.75° W7284(5) 420k, 2854, 2.5, 11.0 360mw 12

579 W7285(50) 3k, 8.6k 71
 18° W7286(50) 0.8k, 6.4k, 71
 15° W7287(50) 0.6k, 7.0k 71
 08° W7288(50) 0.4k, 363mw 71
 23° W7289(50) 0.5k, 6.9k, 71
 157° W7290(50) 2.0k, 7.6k 375mw 71
 45° W7291(50) 2.6k, 7.9k 375mw 71
 41° W7292(50) 2.6k, 7.6k 71
 37° W7293(50) 0.5k, 6.2k 71
 33° W7294(50) 1.1k, 6.3k 370mw 71
 28° W7295(50) 1.0k, 6.4k 371mw 71
 570 W7296(50) 2.8k, 7.7k 71
 0.75° W7297(5) 392k, 2885, 2.0, 5.5 12
 61° W7298(50) 2.8k, 7.8k 71

37° W7299(25) -23, 3.6k, (small sig. 2.) 54
 37° W7300(25) 0.8k, 9.7k (no sig, back gr) 55
 0.75° W7301(5) 372k, 2854, 4.06, 5.4 12

5/23/2015

$PMT = -1.35 \text{ kV}$, $HV = -22.5 \text{ kV}$, $Dis = 1.6 \text{ mV}$, $1.2 @ 5.35$
 $PV_I = -400 \text{ V}$, $4.5 \times 10^{-5} \text{ tom}$, $1894 \mu\text{s}$, 4 atm
 $laser = 350 \text{ mW}$ $16.632 \mu\text{s}$.

0.75° W7302(5) 308k, 2700, 3.1, 2.5 350mW 12
 $PV_{II} = -400 \text{ V}$, Si_2H_6 , 600 tom,

57 W7303(50) 8.3k 71

45° W7304(50) 6.9k, 2.1k 360mW 71

41° W7305(50) 7.7, 3.0k 390mW 71

37° W7306(50) 6.2k, 0.7k 380mW 71

33° W7307(50) 6.6k, 1.3k 380mW 71

28° W7308(50) 5.8k, 1.0k 71

52 W7309(50) 2.8k, 7.8k 390mW 71

0.75° W7310(50) 330k, 2638, 3.5, 3.5 12
H. + CW 0.2mm

0.75° W7311(5) 387k, 2825, 2.5, 11.2 12

0.75° W7312(5) 379k 2785, 2.5, 12.7 12

57 W7313(50) 2.5k 7.6k 380mW 71

61° W7314(50) 2.7k 9k 71

65° W7315(50) 2.1k 7.8k 71

69° W7316(50) 1.4k, 7k 71

53° W7317(50) 2.9k 71

48° W7318(50) 1 7.2k 71

1570 W7319(50) 3k 8.2k 71

0.75° W7320(5) 364k, 2761, 2.5, 12.5 12