

10/14/05

896 7797

MCP Tests.

Run 11
MCP0 ~~V=210~~ V = 2101 V
I = 64.6 μ A

Coincident with plastic for calibration

Run 12 Same as 11 but V = 2205
I = 68.0 μ A

Soils were NOT ON!!!

Run 13 Same as 12, but 1000 \checkmark on target

Run 14 Same Voltages but singles differ

Run 15 ~~Redistal~~ run on MCP0

Run 16 MCP1 (target) ~~singles~~ ~~pedestal~~
(pedestal run): with MCP0 target position 134.5

Run 17 MCP1 (tgt) singles.
with MCP0 target position 209.5

Run 18 MCP1 (tgt) singles
with MCP0 target position ∞ !

10/19/05

Run 19

MCP I. con. targ.

$$V = 2000 \text{ V}$$

$$I = 64.5 \text{ } \mu\text{A}$$

$$V_{\text{fil}} = 1000 \text{ V}$$

Run 20

$$V_{\text{MCP}} = 2100 \text{ V}$$

$$V_{\text{fil}} = 1000 \text{ V}$$

Run 21

Same as 20 but singles.

Run 22

MCP I. ped run

10/19/05

Target Drive

X - position

0 - out

82 - 10 μm Polyprop (viewer old pag)
(thick target)

58 - target

234 - mask

Y - position (upstream "Targets")

2 - out

135.5 - target

210.5 - mask

Came in @ ~9 pm, to look @ noise on
MCP time signal

Noise still there but @ 15mV level

- Nothing to fix - turn on electronics bms,

VME crate still - 15mV

10/19/05

MCP Pedestals

<u>MCP0</u>	<u>MCP0</u>	<u>MCP1</u>
Ped 0	53	57
Ped 1	61	65
Ped 2	60	51
Ped 3	50	68

mcp0 theta Rot = 132°

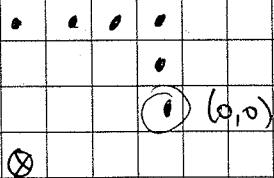
mcp1 theta Rot = 195°

MCP0 mask run run13-4096-evt
pedestals run15-4096-evt

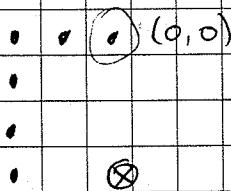
MCP1 mask run run20-4096-evt
pedestals run22-4096-evt

"L" pattern.

MCP1

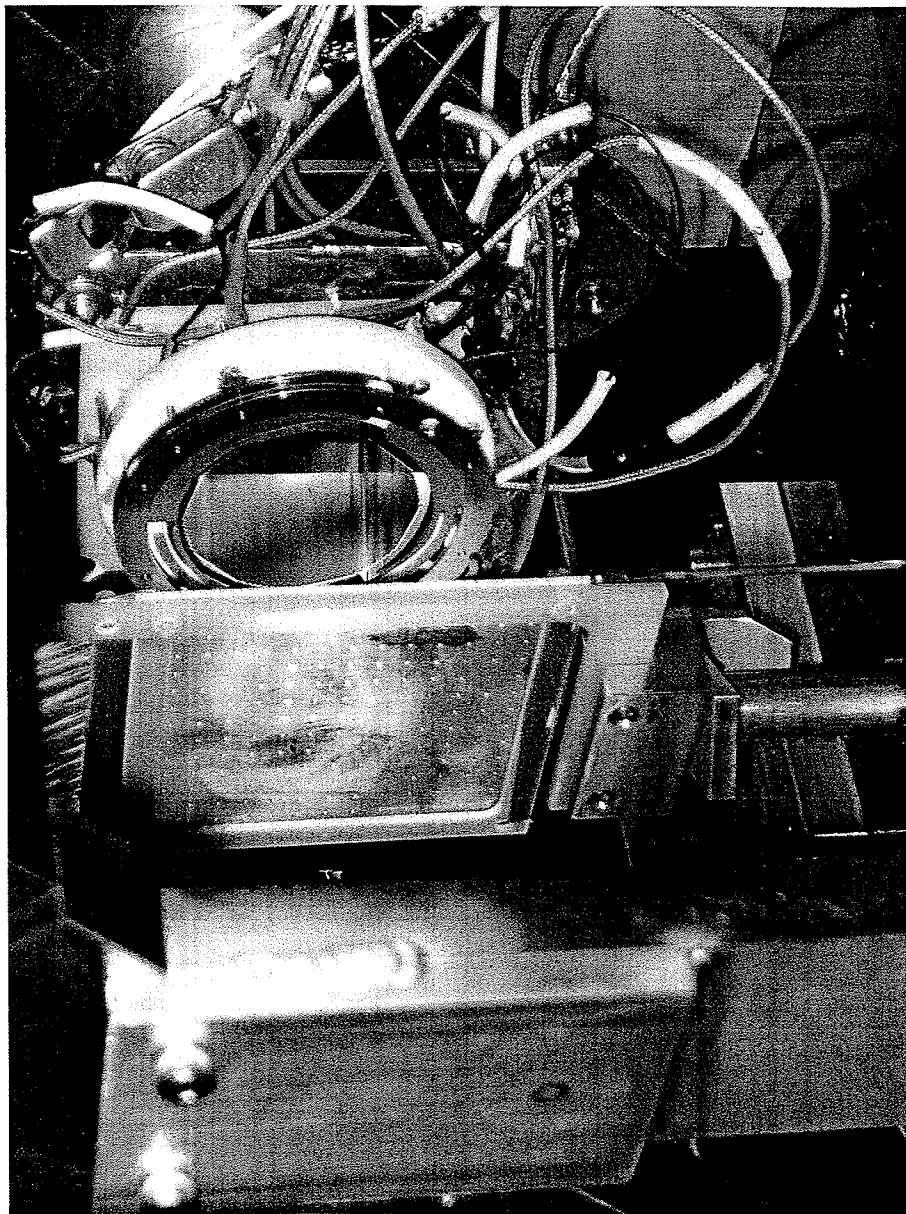


MCP0

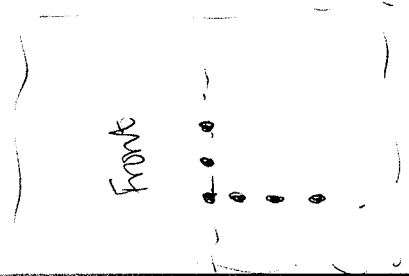


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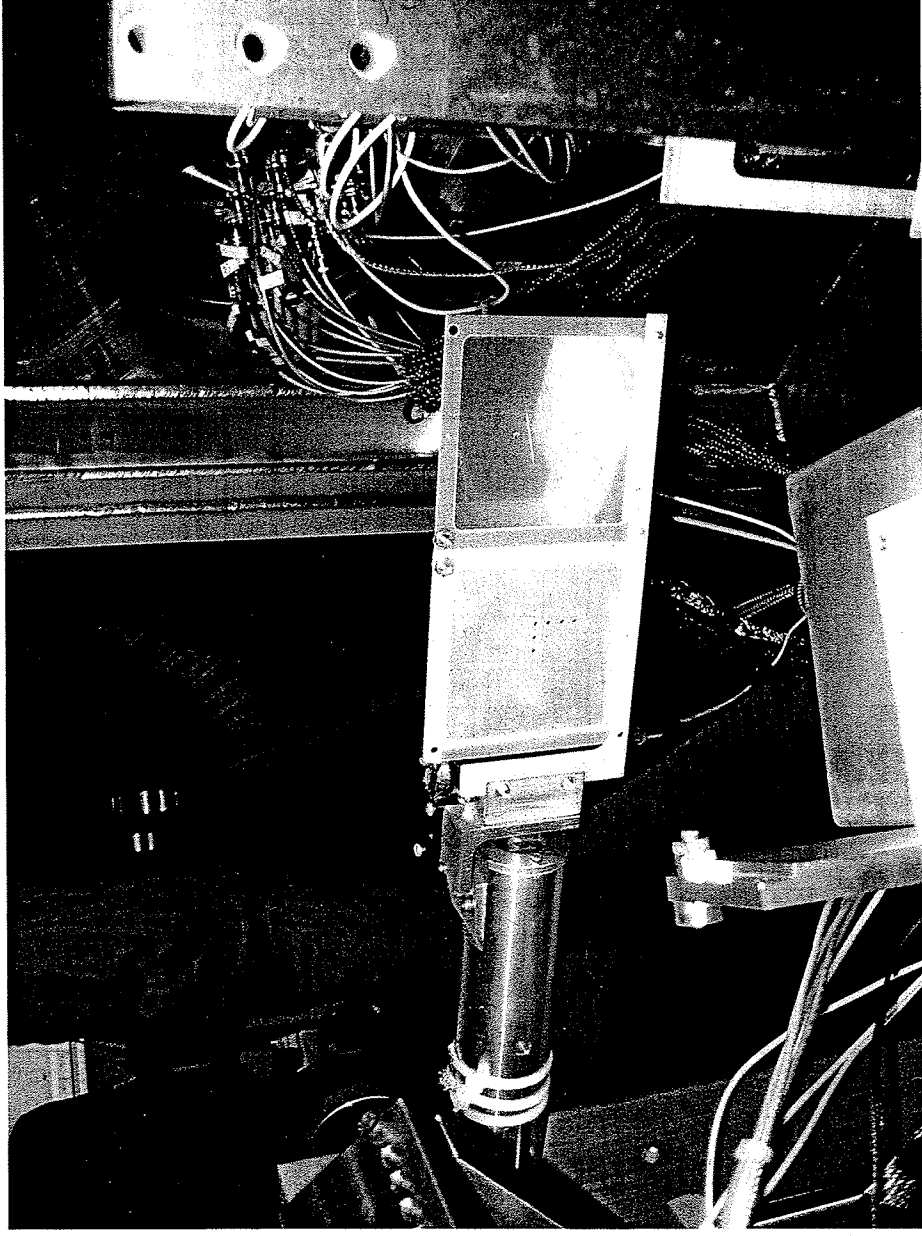
front



MCP1



42.



Andy Dan

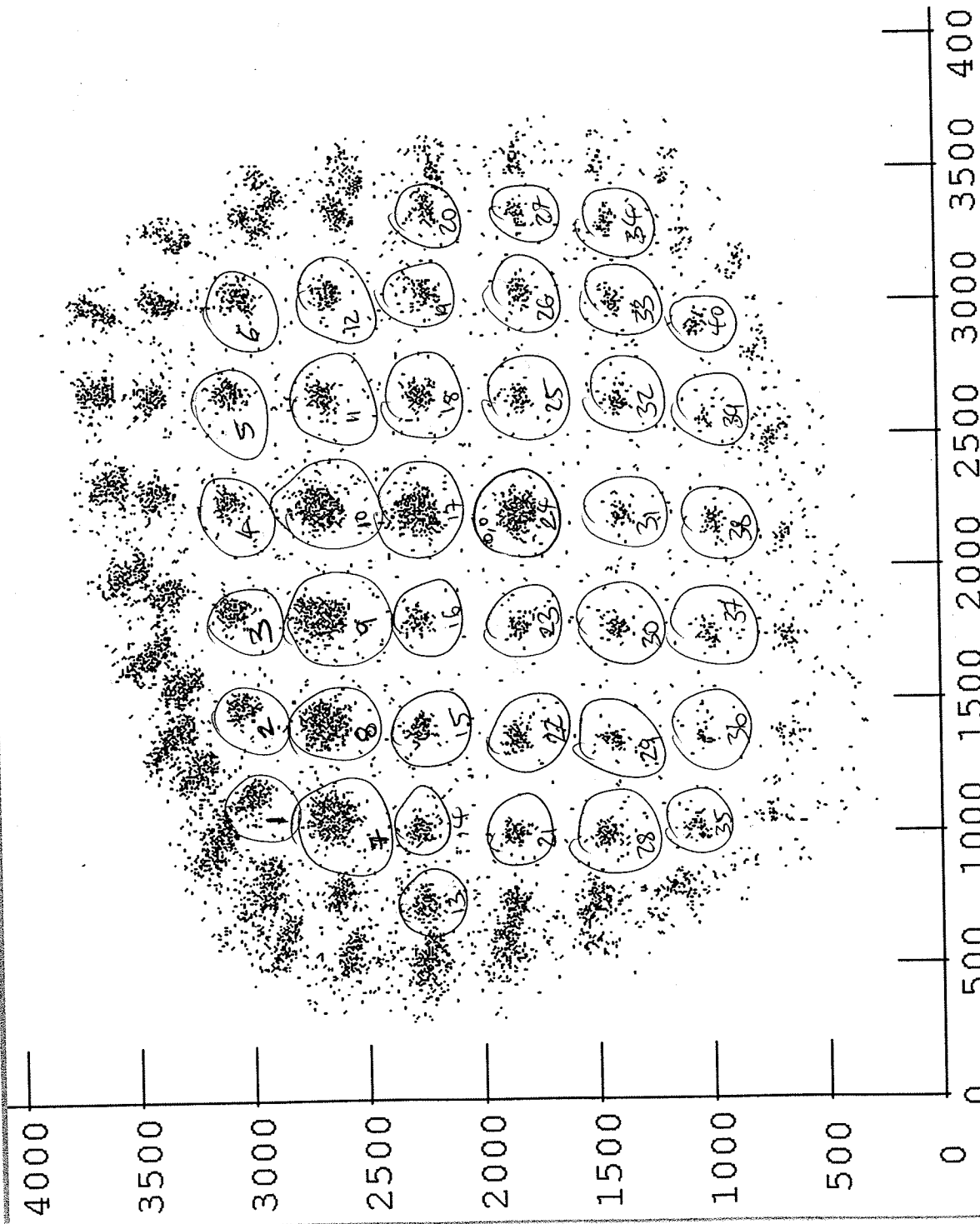
MUPO



Help

Xuans - [MCP1-75y.ps]

File Window Spectra Options Graph_objects



5mm between holes

[63] MCP.MCP1.XVSY / Current/Images/mask2/mcp1-75y.ps

Integration Results

Regions for spectrum 63

MCP1

Name	Centroid	FWHM	Area
1	(1146.3,2990.4)	(65.7, 83.2)	254.000000
2	(1478.1,3038.3)	(54.9, 69.1)	247.000000
3	(1852.2,3074.9)	(62.5, 82.2)	244.000000
4	(2254.8,3085.2)	(60.9, 67.7)	175.000000
5	(2667.9,3074.5)	(55.7, 83.7)	152.000000
6	(3029.9,3027.6)	(77.9, 90.4)	137.000000
7	(1064.7,2654.7)	(84.8, 96.8)	856.000000
8	(1416.0,2683.2)	(83.6, 98.2)	772.000000
9	(1818.9,2694.2)	(85.3, 108.6)	715.000000
10	(2235.8,2691.0)	(90.3, 106.3)	682.000000
11	(2653.8,2673.1)	(79.4, 87.6)	131.000000
12	(3043.5,2638.6)	(68.4, 70.5)	108.000000
13	(739.2,2257.5)	(86.9, 101.6)	172.000000
14	(1014.1,2272.7)	(72.1, 81.9)	157.000000
15	(1389.2,2266.3)	(70.5, 78.7)	117.000000
16	(1800.8,2265.5)	(67.2, 87.8)	88.000000
17	(2216.9,2260.7)	(102.9, 111.4)	521.000000
18	(2658.1,2249.6)	(101.3, 92.8)	105.000000
19	(3047.3,2230.2)	(94.7, 104.9)	99.000000
20	(3360.5,2208.5)	(86.1, 79.8)	88.000000
21	(991.2,1866.4)	(54.6, 69.2)	122.000000
22	(1360.4,1835.0)	(81.9, 91.4)	128.000000
23	(1783.4,1820.5)	(85.9, 93.6)	92.000000
24	(2208.4,1826.5)	(98.5, 97.8)	358.000000
25	(2642.0,1818.6)	(70.8, 78.8)	78.000000
26	(3039.9,1793.1)	(85.5, 111.4)	79.000000
27	(3333.5,1803.4)	(85.4, 95.8)	58.000000
28	(989.5,1452.3)	(69.4, 91.9)	100.000000
29	(1346.7,1423.7)	(59.3, 107.9)	63.000000
30	(1771.8,1399.5)	(78.1, 95.8)	59.000000
31	(2195.0,1373.7)	(80.8, 85.9)	54.000000
32	(2629.8,1384.2)	(82.3, 68.2)	68.000000
33	(2998.3,1400.0)	(81.6, 76.3)	45.000000
34	(3299.0,1421.5)	(80.2, 81.1)	52.000000
35	(1016.5,1067.8)	(69.7, 76.2)	58.000000
36	(1373.3,1018.2)	(118.2, 95.1)	42.000000
37	(1744.6, 986.5)	(75.3, 104.0)	57.000000
38	(2165.5, 974.1)	(87.8, 83.5)	54.000000
39	(2564.6,1000.2)	(85.5, 99.0)	32.000000
40	(2914.7,1039.5)	(60.6, 52.6)	33.000000

[63] MCP.MCP1.XVSY /Current/Images/mask/mcp1-xy.ps

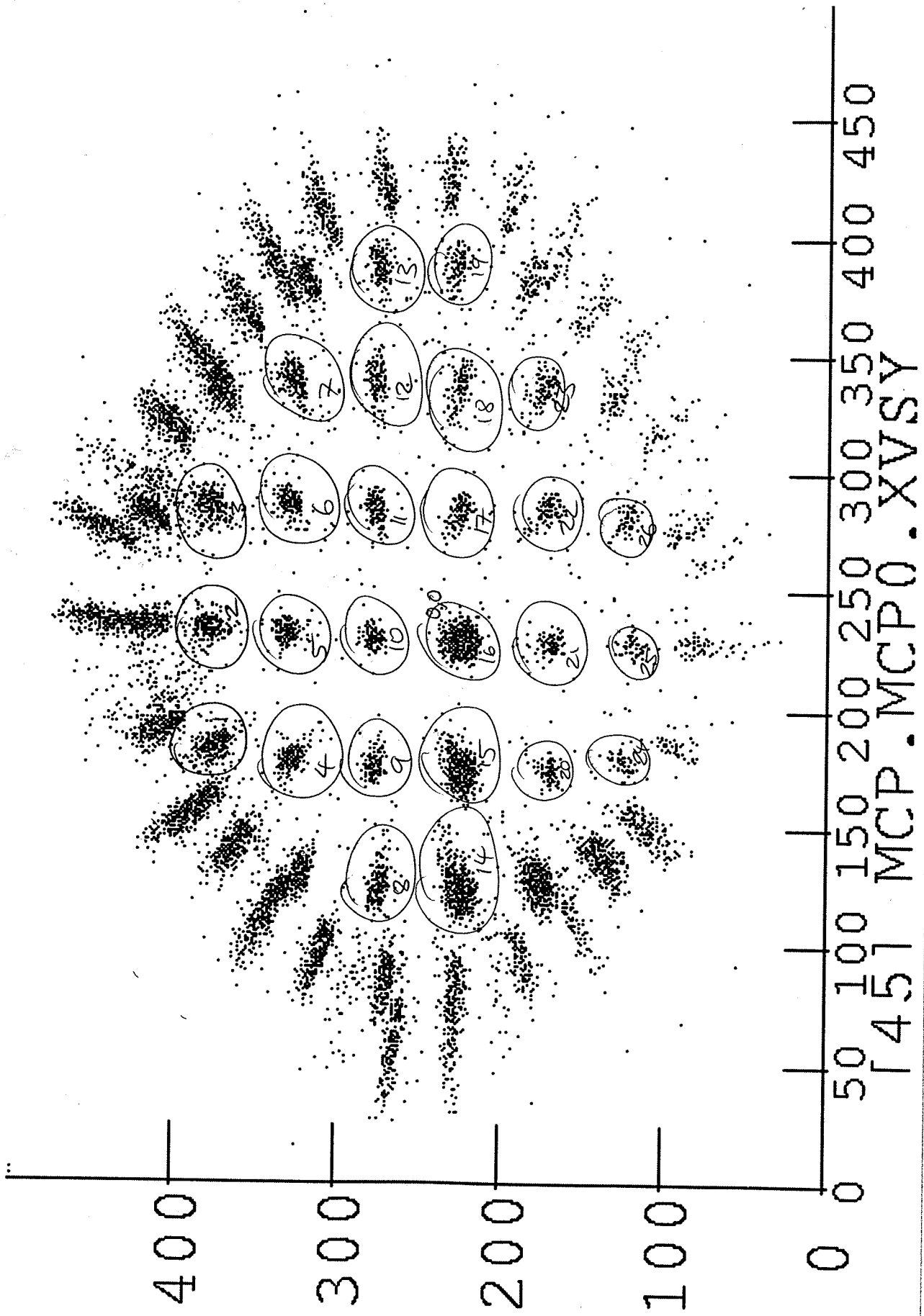
~ /calibrate / mcp / mcp0 - pos . tex

regions:

mcp0

	x	y			
2	(232.9,	379.5)	(7.2,	10.9)	621.000000
5	(231.0,	331.5)	(6.3,	8.3)	434.000000
10	(229.1,	278.4)	(5.7,	7.3)	288.000000
16	(228.2,	224.9)	(10.3,	12.5)	921.000000
21	(227.7,	169.9)	(6.6,	10.8)	142.000000
25	(226.9,	118.9)	(7.1,	12.4)	78.000000
8	(124.3,	273.7)	(13.2,	7.2)	369.000000
9	(175.1,	277.2)	(8.6,	7.0)	310.000000
11	(283.9,	278.1)	(10.1,	7.6)	329.000000
12	(337.9,	278.1)	(15.2,	8.0)	252.000000
13	(386.7,	276.8)	(12.7,	7.9)	266.000000

~ /calibrate / mcp / mcp0 - pos . tex



/Current/Images/masks/mc00-24-ps

x calibration

point	X (mm)	cha
8	-10	124.3 124.3
9	-5	175.0 175.0
10	0	229.0 229.0
11	5	283.9 283.9
12	10	337.9 337.9
13	15	386.7 386.7

$$X = -21.65 \text{ mm}$$

$$+ 0.0943 \times \text{channel}$$

$$X = 1.945 + 23.575 \times d$$

y calibration channel

point	Y (mm)	channel
25 25	-10	118.9
21 21	-5	169.9
16 16	0	224.9
10 10	5	278.4
5 5	10	331.5
2 2	15	379.5

$$Y = -21.30$$

$$+ 0.0950 \times \text{channel}$$

$$Y = 2.45 + 23.75 \times d$$

MCP1

x calibration

13	-20	739.2
14	-15	1014.1
15	-10	1389.2
16	-5	1800.8
17	0	2216.9
18	5	2658.1
19	10	3047.3
20	15	3360.5

$$X = -28.45$$

$$+ 0.0128 \times \text{channel}$$

$$X = 2.235 + 26.21 \times d$$

y calibration

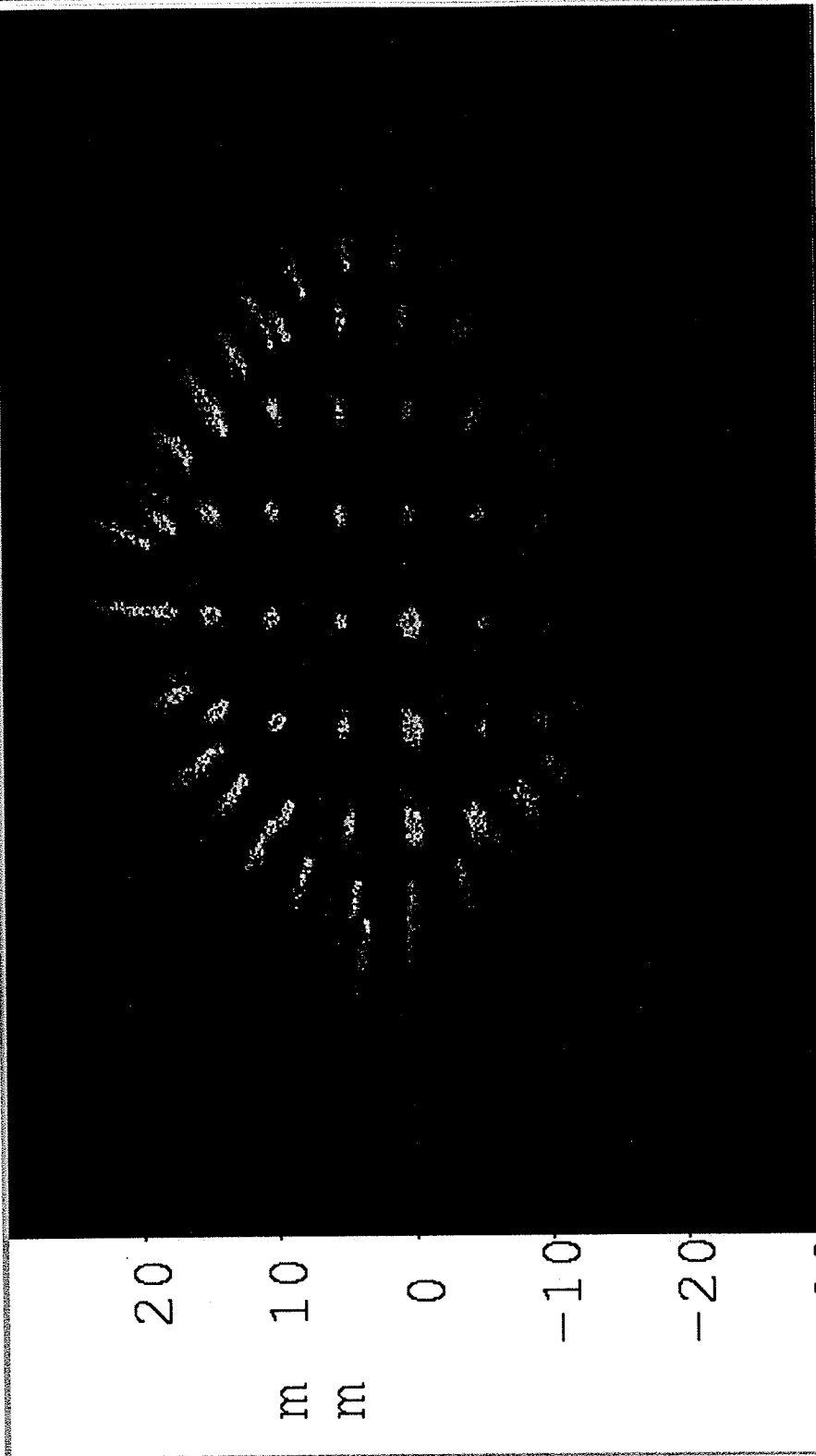
38	-10	974.1
31	-5	1373.7
24	0	1826.5
17	5	2260.7
10	10	2691.0
4	15	3085.2

$$Y = -21.33$$

$$+ 0.0117 \times \text{channel}$$

$$Y = 0.631 + 23.96 \times d$$

/ Current Images / masks / mcp0 / mcp1



20
m
10
m
0
-10
-20
-30

mm
[451 MCP.MCP0.XVSY

-30 -20 -10 0 10 20

Spectrum 45 X -7.62 Y -29.94 Counts 0

Geometry	<input type="checkbox"/> Zoom	Marker	<input type="button" value="Cut"/>
Display	<input type="checkbox"/> Map	Summing Region	<input type="button" value="Band"/>
Display +	<input type="checkbox"/> Log	Integrate	<input type="button" value="Contour"/>
Update All	<input type="button" value="Expand"/>		
Update Selected	<input type="button" value="UnExpand"/>		
Info	<input type="button" value="+"/> <input type="button" value="-"/>		

Display +

Update Selected + - Log Map

Summing Region Integrate Contour

help

20
m
10
m
0

-30 -20 -10 0 10 20

611 MCP.MCP1XVSY

Spectrum 61

X-29.94

Y-10.98

Counts 0

Geometry Zoom
Display +

Update All Expand
Update Selected UnExpand
Info + - Log Map

Marker Summing Region Contour
Integrate Band

TDC_start_00	MCP0 + 40ns OR MCP1
TDC_start_01	MCP1
TDC_start_02	MCP0 + 20ns
TDC_start_03	MCP1 + 40ns OR MCP0
TDC_start_04	TDC_start_03 + 51ns

Assumptions:

Flight Time ($T1 - T0$) is ~ 5 ns

TDC_start_00 will have MCP1 ($T1$) come first and trigger the start on the TDC.

TDC_start_03 will have MCP0 ($T0$) come first and trigger the start on the TDC

Rtime0	TDC_start_02 - TDC_start_01	$T0 - T1 + 20$ ns
Rtime1	TDC_start_02 - TDC_start_00	$T0 - T1 + 20$ ns (with $T0, T1$ present) -20ns (with $T1$ missing)
Rtime2	TDC_start_01 - TDC_start_03	$T1 - T0$ (with $T0, T1$ present) - 40ns (with $T0$ missing)
Rtime3	TDC_start_04 - TDC_start_03	51 ns

2nd part of Beam

On line :- 11/01/05

Run # 397	Trigger <i>deusec.</i> HiRA S800 Coin			Date 01/11
Beam	Target	On shift		
Run comments: <u>locked beam</u>				
Barney printed at <u>h</u>				
Detector Biases and Currents file _____ .ps				
Rate ratio Plastic _{XFP} /Plastic _{OBJ}				

Run # 392	Trigger <i>deusec.</i> HiRA S800 Coin			Date 01/11
Beam	Target	On shift		
Run comments: <u>normal data taking</u>				
Barney printed at <u>h</u>				
Detector Biases and Currents file _____ .ps				
Rate ratio Plastic _{XFP} /Plastic _{OBJ}				

Run # 393	Trigger <i>deusec.</i> HiRA S800 Coin			Date 01/11/05
Beam	Target	On shift		
Run comments: <u>normal data taking</u>				
Barney printed at <u>22 h 51</u>				
Detector Biases and Currents file _____ .ps				
Rate ratio Plastic _{XFP} /Plastic _{OBJ}				

20:59

we ask the operators to tune the beam intensity
if it decreased by a factor of two by new and
continuously decreases

02010

Run # 394	desc. <u>HiRA</u>		Trigger S800		Date 2/11
	<u>Coincidence</u>				
Beam	Target	On shift:			
Run comments: <u>continuation of data taking after beam tuning - beam int. increased by a factor of 2</u>					
Barney printed at <u>00</u> h <u>32</u>					
Detectors Biases and Current file _____ .ps					
Rate ratio Plastic _{XFP} /Plastic _{OBJ}					

02010

Run # 395	desc. <u>HiRA</u>		Trigger S800		Date 2/11
	<u>Coincidence</u>				
Beam 69As	Target CH ₂	On shift:			
Run comments: <u>continuation of data taking</u> <u>NOTE ON DE'S</u>					
Barney printed at _____ h					
Detectors Biases and Current file <u>run 395_0131 .pps</u>					
Rate ratio Plastic _{XFP} /Plastic _{OBJ}					

Terminal window showing detector parameters for Group 01. The table lists Channel Name, V0Set, I0Set, V1on, I1on, Pa, Status, and Chg.

Channel Name	V0Set	I0Set	V1on	I1on	Pa	Status	Chg
Tou0Card10	210.00 V	6.00 uA	209.89 V	6.01 uA	On		0.04.000
Tou0Card11	250.00 V	6.00 uA	250.00 V	1.20 uA	On		0.04.001
Tou0Card9	190.00 V	6.00 uA	189.75 V	6.04 uA	On		0.04.002
Tou0Card8	240.00 V	6.00 uA	239.75 V	3.01 uA	On		0.04.003
Tou0Card16	290.00 V	6.00 uA	289.75 V	1.00 uA	On		0.04.005
Tou0Card12	340.00 V	6.00 uA	339.75 V	2.24 uA	On		0.04.006
Tou0Card5	390.00 V	6.00 uA	389.75 V	3.04 uA	On		0.04.007
Tou0Card6	305.00 V	6.00 uA	304.50 V	3.20 uA	Off		0.04.008
Tou0Card13	210.00 V	6.00 uA	209.75 V	6.73 uA	On		0.04.011
Tou0Card9	250.00 V	6.00 uA	249.75 V	1.88 uA	On		0.04.012
Tou0Card8	250.00 V	6.00 uA	249.75 V	1.70 uA	On		0.04.013
Tou0Card3	350.00 V	6.00 uA	350.00 V	2.14 uA	On		0.04.014
Tou0Card15	210.00 V	6.00 uA	210.00 V	2.30 uA	On		0.04.015
Tou0Card12	200.00 V	6.00 uA	200.25 V	3.00 uA	On		0.04.016
Tou0Card9	100.00 V	6.00 uA	120.00 V	1.20 uA	On		0.04.017
Tou0Card6	310.00 V	6.00 uA	309.50 V	4.02 uA	On		0.04.018

Display/Edit Group 01 LogOn 02/10 T 0401 01507

2:30am we observe that the voltage applied to MCPs increased by itself from 1965 → 2020
1995 → 2000

↳ we leave it as it is, will check it again at 4am

Run #	Trigger		Date
396	^{discr.} HIRA	S800	2/11/05
Beam $67As$	Target CH_2	On shift:	
Run comments: <u>normal data taking</u> <u>readout crashed</u>			
Barney printed at _____ h			
Detectors Biases and Current file _____ .ps			
Rate ratio Plastic _{XFP} /Plastic _{OBJ} _____			

2:40 beam gets very spiky, operator will try to stabilize it, not yet sure what will be the result
→ data are still recorded (RUN 396)

Run #	Trigger		Date
397	^{discr.} HIRA	S800	
Beam $67As$	Target CH_2	On shift:	
Run comments: <u>data taking</u>			
Barney printed at _____ h			
Detectors Biases and Current file _____ .ps			
Rate ratio Plastic _{XFP} /Plastic _{OBJ} _____			

3:50 voltage applied to MCPs is now 1980
1960

↳ it changes by itself
(it's a kind of magic!?)

The beam is again very spiky.

4:00

The key goes to operators

THE END OF BEAMTIME

- insert beam plug
- switch off voltages on chf-sc²
 - MEP 1012
 - MEPO, 1
- insert gate values
- switch off speaker in the cave
 - ↳ we observe increase of current on the 3 ~~hollow cathode~~

11/02/05

Pulses gamma

run 398

Pulses	from	min	fill	max	
		0.5		6.5	0.5
17 steps	=	0.375 mV			0.875
	time	60s			1.25
					1.625
					2.0
					2.375
					2.750
					3.125
					3.500
					3.875
					4.25
					4.625
					5.0
					5.375
					5.75
					6.125
					6.50

3 times max
more

180 seconds

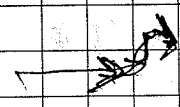
Even 398

pulses min 0.875 V to 9.875 V
25 steps 60 sec

the 13th should be max exposure

- 0.875
- 1.25
- 1.625
- 2.0
- 2.375
- 2.75
- 3.125
- 3.50
- 3.875
- 4.25
- 4.625
- 5.0
- 5.375
- 5.75
- 6.125
- 6.5
- 6.875
- 7.25
- 7.625
- 8.0
- 8.375
- 8.75
- 9.125
- 9.50
- 9.875

180 sec max?



run up pulses for one channel
T1, Chip 1(0) from slot 12,
channel 0

from 0.875V step 0.375V 25 steps
the middle one max (60x3 sec) exposure

Analysis 5-30 (EF)

run 401

analysis
5-20
5-21

T1 slot 12, chip 1(0), channel #8
 0.875V min step 0.375V 9.875V-max

middle one is 3x60 sec exposure

run #402

TELES T1 slot 12, chip 1(0), channel #10
 EF10 same ramping condition as before

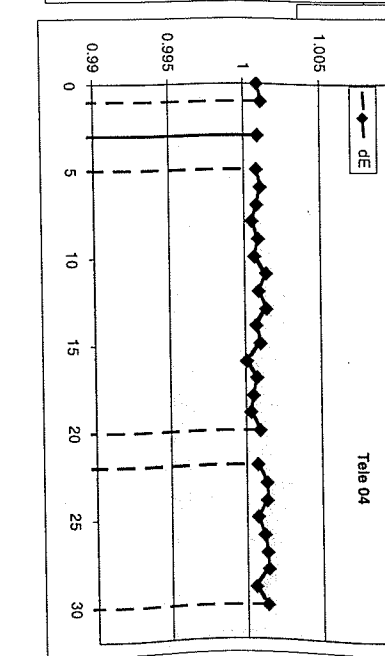
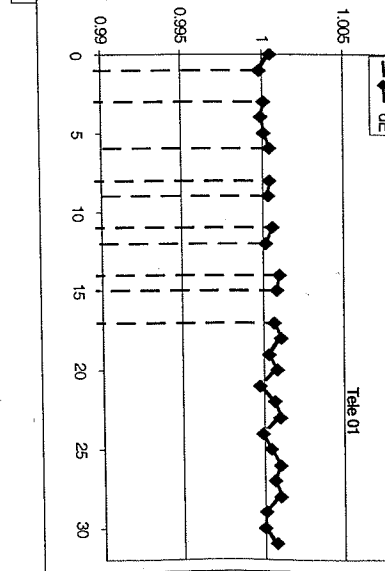
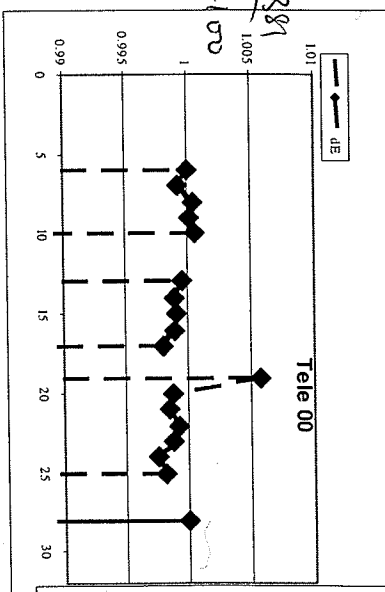
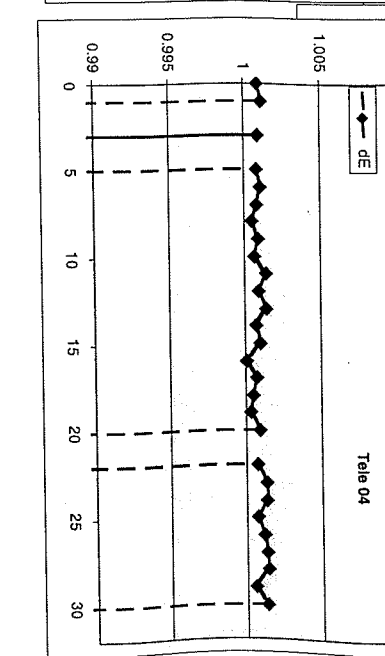
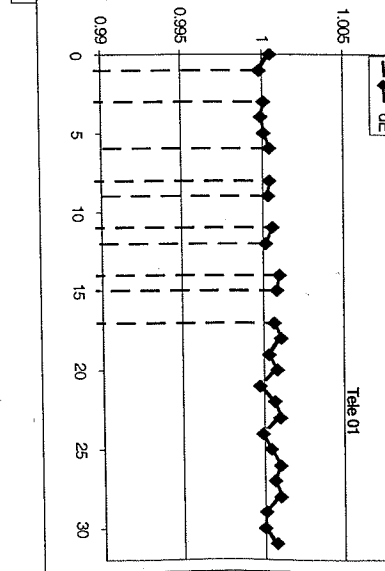
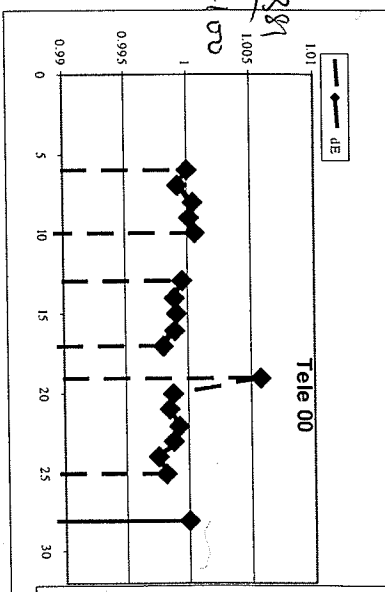
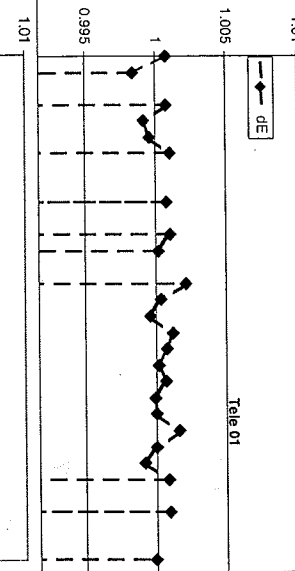
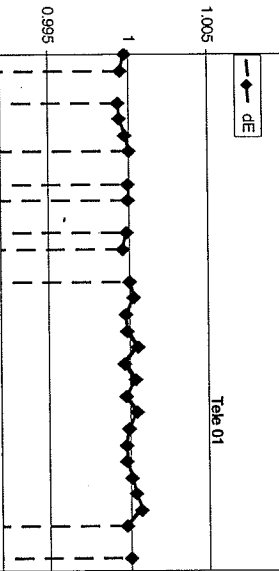
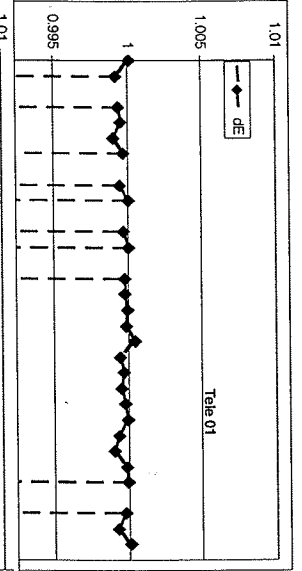
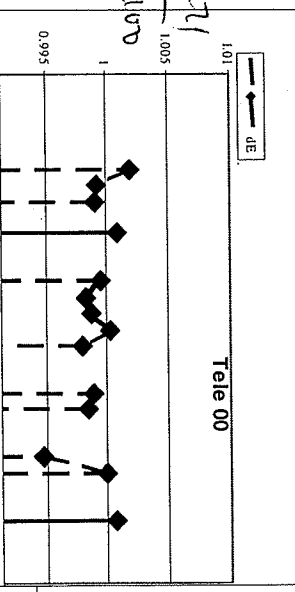
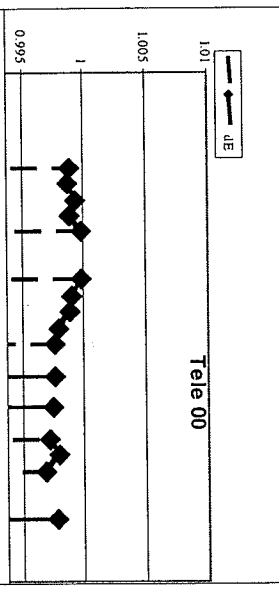
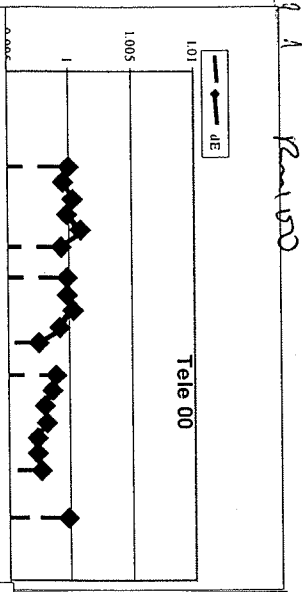
run #403

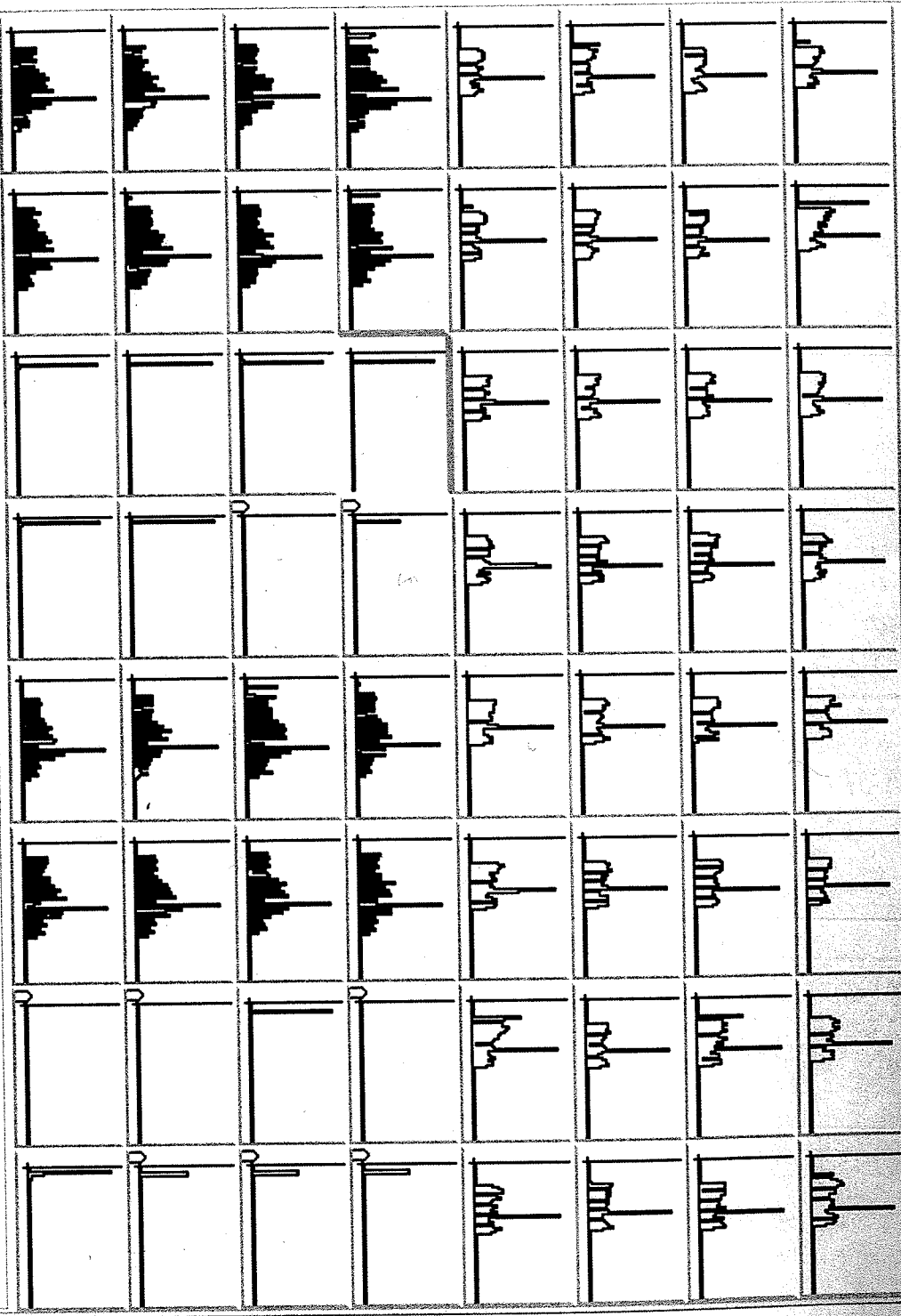
Tel 5
EF 10

T1 slot 12 chip 1(0) ch #14

1491
Runt 3
Runt 100

WC





Spectrum 63 X 4392 Y 0 Counts 0

Geometry Zoom
 Display Update All Expand Marker Cut
 Display + Update Selected UnExpand Summing Region Zero
 Info + - Log Map Integrate Contrast

File ϕ
 rms 399

run 404

CsI pulser calibration

0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
max → 0.5 exposure
0.55
0.6
0.65
0.70
0.75
0.80
0.85
0.90
0.95
~~1.00~~ *

run 405

1.00	1.80
1.05	1.85
1.10	1.90
1.15	1.95
1.20	2.00
1.25	2.05
1.30	2.10
1.35	2.15
1.40	2.20
1.45	2.25
1.50	
1.55	
1.60	
1.65	
1.70	
1.75	

Run 406

2.25		3.05
2.30		3.10
2.35		3.15
2.40		3.20
2.45		3.25
2.50		3.30
2.55		3.35
2.60		3.40
2.65		3.45
2.70		3.50
2.75		
2.80		
2.85	2.85	
2.90		
2.95		
3.00		

Run 407

3.50
3.55
3.60
3.65
3.70
3.75
3.80
3.85
3.90
3.95
4.00
4.05
4.10
4.15

Channel Name	V0Set	I0Set	V0in	I0in	Pw	Status	CH
Teo0Card15	210.00 V	6.00 uA	209.50 V	6.00 uA	On	0.01,000	
Teo0Card12	250.00 V	6.00 uA	250.20 V	1.12 uA	On	0.04,001	
Teo0Card8	100.00 V	6.00 uA	100.70 V	0.15 uA	On	0.04,002	
Teo0Card3	140.00 V	6.00 uA	139.70 V	1.02 uA	On	0.04,003	
Teo0Card13	50.00 V	6.00 uA	49.70 V	0.44 uA	On	0.04,005	
Teo0Card11	50.00 V	6.00 uA	49.50 V	0.54 uA	On	0.04,006	
Teo0Card4	100.00 V	6.00 uA	100.70 V	2.50 uA	On	0.04,007	
Teo0Card7	100.00 V	6.00 uA	100.70 V	2.50 uA	On	0.04,008	
Teo0Card11	210.00 V	6.00 uA	210.00 V	0.72 uA	On	0.04,011	
Teo0Card9	250.00 V	6.00 uA	249.70 V	1.50 uA	On	0.04,012	
Teo0Card6	250.00 V	6.00 uA	249.70 V	1.02 uA	On	0.04,013	
Teo0Card5	250.00 V	6.00 uA	250.00 V	1.03 uA	On	0.04,014	
Teo0Card15	210.00 V	6.00 uA	210.00 V	2.20 uA	On	0.04,015	
Teo0Card2	200.00 V	6.00 uA	200.20 V	1.70 uA	On	0.04,016	
Teo0Card10	120.00 V	6.00 uA	120.20 V	1.10 uA	On	0.04,017	
Teo0Card8	310.00 V	6.00 uA	309.50 V	3.00 uA	On	0.04,018	

Jumping with regular MV for E's
 Same condition as in the previous run,
 # 399

run 408 - reuser calibration of Eb, Ed with
 50V on telescopes 5 and 6

Channel Name	V0Set	I0Set	V0in	I0in	Pw	Status	CH
Teo0Card15	210.00 V	6.00 uA	209.50 V	6.00 uA	On	0.01,000	
Teo0Card12	250.00 V	6.00 uA	250.20 V	1.12 uA	On	0.04,001	
Teo0Card8	100.00 V	6.00 uA	100.70 V	0.15 uA	On	0.04,002	
Teo0Card3	140.00 V	6.00 uA	139.70 V	1.02 uA	On	0.04,003	
Teo0Card13	50.00 V	6.00 uA	49.70 V	0.44 uA	On	0.04,005	
Teo0Card11	50.00 V	6.00 uA	49.50 V	0.54 uA	On	0.04,006	
Teo0Card4	100.00 V	6.00 uA	100.70 V	2.50 uA	On	0.04,007	
Teo0Card7	100.00 V	6.00 uA	100.70 V	2.50 uA	On	0.04,008	
Teo0Card11	210.00 V	6.00 uA	210.00 V	0.72 uA	On	0.04,011	
Teo0Card9	250.00 V	6.00 uA	249.70 V	1.50 uA	On	0.04,012	
Teo0Card6	250.00 V	6.00 uA	249.70 V	1.02 uA	On	0.04,013	
Teo0Card5	250.00 V	6.00 uA	250.00 V	1.03 uA	On	0.04,014	
Teo0Card15	210.00 V	6.00 uA	210.00 V	2.20 uA	On	0.04,015	
Teo0Card2	200.00 V	6.00 uA	200.20 V	1.70 uA	On	0.04,016	
Teo0Card10	120.00 V	6.00 uA	120.20 V	1.10 uA	On	0.04,017	
Teo0Card8	310.00 V	6.00 uA	309.50 V	3.00 uA	On	0.04,018	

Integration Results

run 408

Integrations for spectrum 76

tele 5. ef. everaw. 11

orig. veltege

Id	Name	Centroid	FWHM	Area
0	Summing Region 000	522.41	13.27	1417.000000
1	Summing Region 001	648.70	12.94	1496.000000
2	Summing Region 002	761.29	13.72	1465.000000
3	Summing Region 003	878.71	13.33	1369.000000
4	Summing Region 004	998.52	13.14	1455.000000
5	Summing Region 005	1118.20	13.14	1479.000000
6	Summing Region 006	1236.98	13.58	1510.000000
7	Summing Region 007	1356.62	13.79	1467.000000
8	Summing Region 008	1475.68	14.04	1320.000000

Cuts:

run 409

Integration Results

Integrations for spectrum 76

tele 5. ef. everaw 11

50V

Id	Name	Centroid	FWHM	Area
11	Summing Region 011	518.98	12.35	838.000000
12	Summing Region 012	645.52	12.41	971.000000
13	Summing Region 013	756.64	12.88	1031.000000
14	Summing Region 014	873.47	12.26	1140.000000
15	Summing Region 015	991.94	12.58	1226.000000
16	Summing Region 016	1110.92	12.67	1363.000000
17	Summing Region 017	1229.25	13.22	1373.000000
18	Summing Region 018	1348.30	12.45	1384.000000
19	Summing Region 019	1467.64	12.68	1400.000000

Cuts:

Integration Results

Integrations for spectrum 140 *ele6 et. enerac. 11 cr 5.v.*

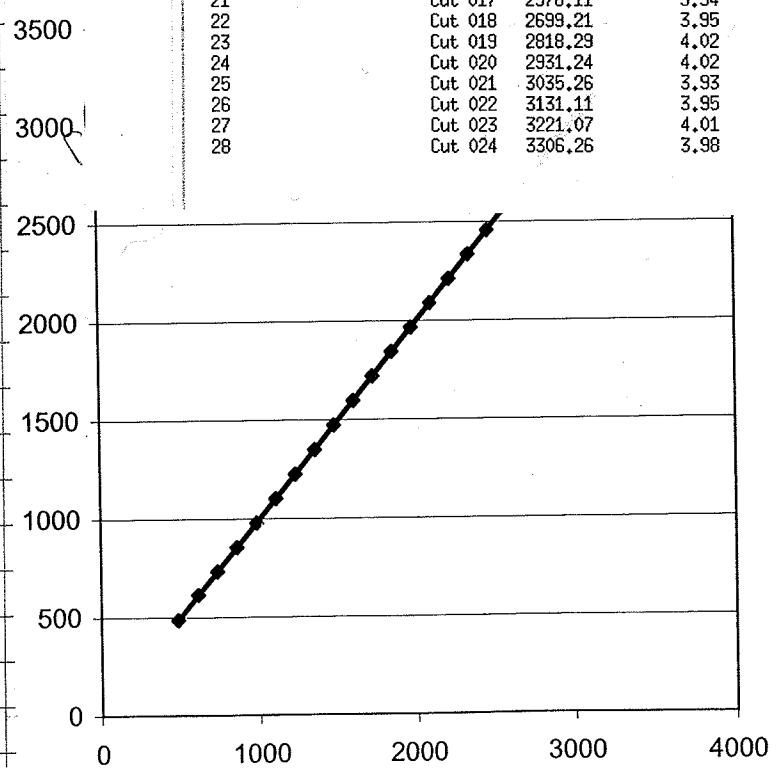
Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	487.49	4.05	1418.000000
1	Summing Region 001	615.89	3.78	1496.000000
2	Summing Region 002	736.73	4.79	1464.000000
3	Summing Region 003	859.81	4.06	1370.000000
4	Summing Region 004	984.07	3.83	1455.000000
5	Summing Region 005	1108.10	3.84	1479.000000
6	Summing Region 006	1232.40	3.82	1510.000000
7	Summing Region 007	1356.48	3.89	1467.000000
8	Summing Region 008	1480.37	3.70	1320.000000
9	Summing Region 009	1604.20	3.93	1304.000000
10	Summing Region 010	1727.95	4.12	1285.000000
11	Summing Region 011	1851.53	3.79	1388.000000
12	Summing Region 012	1975.08	3.99	5672.000000
13	Summing Region 013	2098.49	3.83	1477.000000
14	Summing Region 014	2221.30	3.94	1523.000000
15	Summing Region 015	2344.22	3.89	1531.000000
16	Summing Region 016	2466.88	3.78	1546.000000
17	Summing Region 017	2589.34	3.81	1524.000000
18	Summing Region 018	2711.07	3.89	1519.000000
19	Summing Region 019	2830.38	4.04	1543.000000
20	Summing Region 020	2943.37	3.92	1533.000000
21	Summing Region 021	3047.73	4.11	1468.000000
22	Summing Region 022	3143.92	3.90	1491.000000
23	Summing Region 023	3233.79	3.81	1394.000000
24	Summing Region 024	3319.36	4.02	1477.000000

Cuts:

Integration Results

Integrations for spectrum 172 *ele6 et. enerac. 11 50V*

Id	Name	Centroid	FWHM	Area
Summing regions:				
Cuts:				
2	Cut 000	486.04	4.29	1059.000000
6	Cut 001	615.09	4.41	1023.000000
7	Cut 002	733.87	5.78	1108.000000
8	Cut 003	855.72	4.29	1195.000000
1	Cut 004	979.21	4.12	1284.000000
9	Cut 005	1102.61	4.09	1401.000000
10	Cut 006	1226.27	4.11	1398.000000
11	Cut 007	1349.59	4.05	1419.000000
12	Cut 008	1473.12	3.97	1467.000000
13	Cut 009	1596.37	3.96	1492.000000
14	Cut 010	1719.42	4.16	1472.000000
15	Cut 011	1842.74	4.03	1503.000000
16	Cut 012	1965.45	3.98	6123.000000
17	Cut 013	2088.49	4.06	1524.000000
18	Cut 014	2210.98	3.93	1533.000000
19	Cut 015	2333.67	4.37	1513.000000
20	Cut 016	2456.05	3.88	1546.000000
21	Cut 017	2578.11	3.94	1501.000000
22	Cut 018	2699.21	3.95	1480.000000
23	Cut 019	2818.29	4.02	1514.000000
24	Cut 020	2931.24	4.02	1413.000000
25	Cut 021	3035.26	3.93	1523.000000
26	Cut 022	3131.11	3.95	1564.000000
27	Cut 023	3221.07	4.01	1550.000000
28	Cut 024	3306.26	3.98	1523.000000



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tele6.eb.everaw.11 SOU

Integration Results

Integrations for spectrum 140

Id	Name	Centroid	FWHM	Area
Summing regions:				
Cuts:				
29	Cut 026	707.77	5.72	1097.000000
30	Cut 028	766.25	5.85	1176.000000
31	Cut 029	822.23	5.89	1260.000000
32	Cut 030	880.65	5.80	1279.000000
33	Cut 031	941.66	5.48	1312.000000
34	Cut 032	1005.21	5.50	1387.000000
35	Cut 033	1070.97	5.52	1391.000000
36	Cut 034	1137.99	5.43	1469.000000
37	Cut 035	1205.20	5.31	1501.000000
38	Cut 036	1272.42	5.35	1493.000000
39	Cut 037	1339.48	5.33	1530.000000
40	Cut 038	1405.41	5.33	1470.000000
41	Cut 039	1471.00	5.25	6236.000000
42	Cut 040	1535.87	5.16	1574.000000
43	Cut 041	1600.25	5.13	1570.000000
44	Cut 042	1663.68	5.09	1574.000000
45	Cut 043	1727.09	5.24	1576.000000
46	Cut 044	1789.56	5.31	1541.000000
47	Cut 045	1850.59	5.27	1497.000000
48	Cut 046	1907.78	5.14	1543.000000
49	Cut 047	1954.48	5.23	1475.000000
50	Cut 048	1991.26	5.25	1562.000000
51	Cut 049	2021.06	4.95	1560.000000
52	Cut 050	2046.67	5.13	1560.000000
53	Cut 051	2069.30	5.28	1552.000000

Shift ~ 20%

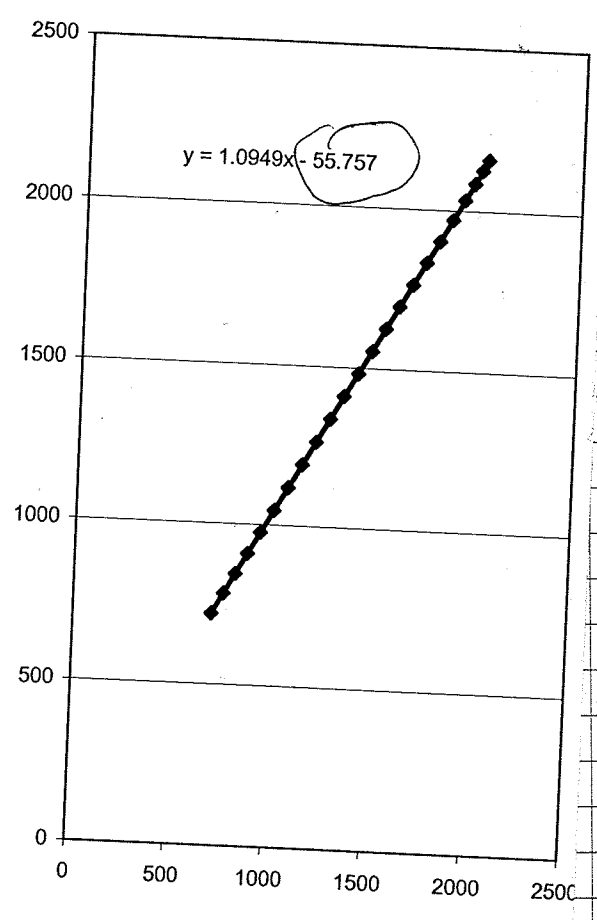
tele6.eb.everaw.11 erg.vdt.

Integration Results

Integrations for spectrum 172

Id	Name	Centroid	FWHM	Area
Summing regions:				
25	Summing Region 025	719.36	3.37	1449.000000
26	Summing Region 026	782.30	3.26	1552.000000
27	Summing Region 027	844.07	3.35	1509.000000
28	Summing Region 028	908.67	3.44	1474.000000
29	Summing Region 029	975.72	3.23	1530.000000
30	Summing Region 030	1045.71	3.39	1499.000000
31	Summing Region 031	1117.63	3.51	1547.000000
32	Summing Region 032	1191.27	3.37	1510.000000
33	Summing Region 033	1263.74	3.47	1328.000000
34	Summing Region 034	1337.00	3.45	1333.000000
35	Summing Region 035	1409.33	3.69	1308.000000
36	Summing Region 036	1481.36	3.41	1417.000000
37	Summing Region 037	1553.46	3.46	5799.000000
38	Summing Region 038	1624.60	3.46	1488.000000
39	Summing Region 039	1695.48	3.46	1567.000000
40	Summing Region 040	1765.22	3.35	1567.000000
41	Summing Region 041	1834.82	3.52	1577.000000
42	Summing Region 042	1902.94	3.57	1570.000000
43	Summing Region 043	1970.27	3.45	1566.000000
44	Summing Region 044	2032.61	3.36	1546.000000
45	Summing Region 045	2084.90	3.45	1552.000000
46	Summing Region 046	2125.35	3.53	1483.000000
47	Summing Region 047	2158.37	3.76	1519.000000
48	Summing Region 048	2186.78	3.57	1412.000000
49	Summing Region 049	2212.33	3.51	1534.000000
Cuts:				

◆ tele6.eb.eneRaw.11
— Linear (tele6.eb.eneRaw.11)



tele Co. eb. eneraw. 27 50V

Integration Results

Integrations for spectrum 156

Id	Name	Centroid	FWHM	Area
Summing regions:				
Cuts:				
79	Cut 079	696.75	5.67	1097.000000
80	Cut 080	758.11	5.64	1176.000000
81	Cut 081	820.47	2.02	84.000000
82	Cut 082	814.94	5.63	1260.000000
83	Cut 083	873.69	5.88	1279.000000
84	Cut 084	935.43	5.86	1312.000000
85	Cut 085	999.87	5.57	1387.000000
86	Cut 086	1066.65	5.68	1391.000000
87	Cut 087	1134.62	5.53	1469.000000
88	Cut 088	1202.60	5.71	1502.000000
89	Cut 089	1270.70	5.25	1493.000000
90	Cut 090	1338.82	5.55	1530.000000
91	Cut 091	1405.76	5.48	1470.000000
92	Cut 092	1472.45	5.23	6235.000000
93	Cut 093	1538.49	5.17	1574.000000
94	Cut 094	1603.93	5.22	1570.000000
95	Cut 095	1668.30	5.24	1574.000000
96	Cut 096	1732.92	5.11	1576.000000
97	Cut 097	1796.45	5.21	1541.000000
98	Cut 098	1858.71	5.11	1497.000000
99	Cut 099	1916.76	5.37	1543.000000
100	Cut 100	1964.29	5.33	1475.000000
101	Cut 101	2001.88	5.47	1562.000000
102	Cut 102	2032.33	5.24	1561.000000
103	Cut 104	2058.43	5.06	1558.000000
104	Cut 105	2081.49	5.26	1551.000000

Dismiss

wrens cut

tele Co. eb. eneraw. 27 orig. voltage

Integration Results

Integrations for spectrum 188

Id	Name	Centroid	FWHM	Area
Summing regions:				
75	Summing Region 075	711.64	3.04	1450.000000
76	Summing Region 076	775.71	2.93	1552.000000
77	Summing Region 077	838.18	3.10	1509.000000
78	Summing Region 078	903.47	3.07	1474.000000
79	Summing Region 079	971.75	3.04	1530.000000
80	Summing Region 080	1042.76	3.03	1499.000000
81	Summing Region 081	1115.70	3.09	1547.000000
82	Summing Region 082	1190.45	3.01	1510.000000
83	Summing Region 083	1263.89	3.21	1328.000000
84	Summing Region 084	1338.31	3.20	1333.000000
85	Summing Region 085	1411.60	3.33	1308.000000
86	Summing Region 086	1484.71	2.96	1417.000000
87	Summing Region 087	1557.82	3.15	5799.000000
88	Summing Region 088	1630.00	3.11	1488.000000
89	Summing Region 089	1701.80	3.06	1567.000000
90	Summing Region 090	1772.56	3.06	1567.000000
91	Summing Region 091	1843.08	3.13	1577.000000
92	Summing Region 092	1912.36	3.11	1570.000000
93	Summing Region 093	1980.56	3.12	1566.000000
94	Summing Region 094	2043.86	2.98	1546.000000
95	Summing Region 095	2096.99	3.18	1552.000000
96	Summing Region 096	2137.93	3.15	1483.000000
97	Summing Region 097	2171.48	3.29	1519.000000
98	Summing Region 098	2200.19	3.23	1412.000000
99	Summing Region 099	2226.22	3.16	1534.000000
Cuts:				

Dismiss

tele6.et.eneraw.27 50V

Integration Results

Integrations for spectrum 188

Id	Name	Centroid	FWHM	Area
Summing regions:				
Cuts:				
54	Cut 053	496.32	4.29	1059.000000
55	Cut 054	625.86	4.25	1023.000000
56	Cut 055	745.44	5.54	1110.000000
57	Cut 056	868.02	4.24	1195.000000
58	Cut 057	992.14	4.13	1283.000000
59	Cut 058	1116.10	4.15	1401.000000
60	Cut 059	1240.55	4.07	1398.000000
61	Cut 060	1364.70	4.04	1419.000000
62	Cut 061	1488.48	4.08	1467.000000
63	Cut 062	1612.61	4.11	1492.000000
64	Cut 063	1736.47	3.83	1472.000000
65	Cut 064	1860.30	3.84	1503.000000
66	Cut 065	1983.85	3.86	6123.000000
67	Cut 066	2107.67	3.74	1524.000000
68	Cut 067	2230.82	3.72	1533.000000
69	Cut 068	2354.29	4.20	1513.000000
70	Cut 069	2477.30	4.29	1547.000000
71	Cut 070	2600.01	3.91	1501.000000
72	Cut 071	2722.09	3.91	1480.000000
73	Cut 072	2841.85	3.91	1514.000000
74	Cut 073	2955.41	4.02	1413.000000
75	Cut 074	3059.98	4.02	1523.000000
76	Cut 075	3156.44	3.98	1564.000000
77	Cut 076	3246.59	3.99	1550.000000
78	Cut 077	3332.59	4.04	1523.000000

Dismiss

tele6.et.eneraw.27 orig. voltage

Integration Results

Integrations for spectrum 156

Id	Name	Centroid	FWHM	Area
Summing regions:				
100	Summing Region 100	497.22	3.95	1418.000000
101	Summing Region 101	626.24	3.66	1496.000000
102	Summing Region 102	747.62	4.69	1466.000000
103	Summing Region 103	871.28	3.86	1369.000000
104	Summing Region 104	996.08	3.83	1455.000000
105	Summing Region 105	1120.81	3.95	1479.000000
106	Summing Region 106	1245.74	3.76	1510.000000
107	Summing Region 107	1370.44	3.51	1457.000000
108	Summing Region 108	1494.80	3.97	1320.000000
109	Summing Region 109	1619.16	3.89	1304.000000
110	Summing Region 110	1743.64	4.08	1285.000000
111	Summing Region 111	1867.89	3.71	1388.000000
112	Summing Region 112	1992.33	3.87	5672.000000
113	Summing Region 113	2116.18	3.76	1477.000000
114	Summing Region 114	2239.75	3.72	1523.000000
115	Summing Region 115	2363.37	3.76	1531.000000
116	Summing Region 116	2486.94	3.44	1546.000000
117	Summing Region 117	2610.21	3.74	1524.000000
118	Summing Region 118	2732.61	3.78	1519.000000
119	Summing Region 119	2852.67	3.81	1543.000000
120	Summing Region 120	2966.41	3.72	1533.000000
121	Summing Region 121	3071.35	3.93	1468.000000
122	Summing Region 122	3168.10	3.85	1491.000000
123	Summing Region 123	3258.25	3.74	1394.000000
124	Summing Region 124	3344.52	3.81	1477.000000
Cuts:				

tele 5. eb. eneraw. 27

50V

Integration Results

Integrations for spectrum 124

Id	Name	Centroid	FWHM	Area
Summing regions:				
20	Summing Region 020	705.43	5.29	1096.000000
21	Summing Region 021	763.59	6.26	1176.000000
22	Summing Region 022	820.71	5.39	1260.000000
23	Summing Region 023	881.02	5.14	1279.000000
24	Summing Region 024	944.18	5.23	1312.000000
25	Summing Region 025	1009.81	5.16	1387.000000
26	Summing Region 026	1077.10	5.22	1391.000000
27	Summing Region 027	1145.41	5.20	1469.000000
28	Summing Region 028	1214.09	5.05	1501.000000
29	Summing Region 029	1282.10	5.13	1493.000000
30	Summing Region 030	1349.84	4.88	1530.000000
31	Summing Region 031	1417.31	5.16	1470.000000
32	Summing Region 032	1483.09	5.10	6235.000000
33	Summing Region 033	1548.52	4.94	1574.000000
34	Summing Region 034	1613.40	5.02	1570.000000
35	Summing Region 035	1677.93	4.98	1574.000000
36	Summing Region 036	1741.60	5.07	1576.000000
37	Summing Region 037	1804.49	5.07	1541.000000
38	Summing Region 038	1866.01	5.14	1497.000000
39	Summing Region 039	1923.63	4.89	1543.000000
40	Summing Region 040	1971.05	5.13	1474.000000
41	Summing Region 041	2008.11	5.10	1561.000000
42	Summing Region 042	2038.41	4.90	1541.000000
43	Summing Region 043	2064.43	4.99	1546.000000
44	Summing Region 044	2086.85	5.04	1552.000000

Cuts:

tele 5. eb. eneraw. 27

avg. voltage

Integration Results

Integrations for spectrum 93

Id	Name	Centroid	FWHM	Area
Summing regions:				
125	Summing Region 125	715.38	2.79	1448.000000
126	Summing Region 126	776.71	3.10	1552.000000
127	Summing Region 127	838.83	3.03	1509.000000
128	Summing Region 128	904.02	3.11	1474.000000
129	Summing Region 129	972.04	3.06	1530.000000
130	Summing Region 130	1042.87	3.04	1499.000000
131	Summing Region 131	1115.42	3.00	1547.000000
132	Summing Region 132	1189.14	3.06	1510.000000
133	Summing Region 133	1262.52	3.08	1328.000000
134	Summing Region 134	1336.28	3.08	1333.000000
135	Summing Region 135	1409.86	3.15	1308.000000
136	Summing Region 136	1482.68	3.09	1417.000000
137	Summing Region 137	1555.52	3.08	5799.000000
138	Summing Region 138	1627.15	3.07	1488.000000
139	Summing Region 139	1698.50	3.05	1566.000000
140	Summing Region 140	1768.93	3.26	1567.000000
141	Summing Region 141	1838.93	3.28	1577.000000
142	Summing Region 142	1908.04	3.22	1570.000000
143	Summing Region 143	1976.05	3.22	1566.000000
144	Summing Region 144	2039.02	3.18	1546.000000
145	Summing Region 145	2091.42	3.18	1552.000000
146	Summing Region 146	2132.09	3.26	1483.000000
147	Summing Region 147	2165.34	3.35	1515.000000
148	Summing Region 148	2193.91	3.37	1412.000000
149	Summing Region 149	2219.73	3.28	1534.000000

Cuts:

Dismiss

run 410 ramping of dE (PA15)

Jan 11

run 411

set 2

run

0.0

0.5

att. 5

1.0

10.0

run 412

Pulser ramping set amp. 2.0

30 Hz

ramping from 0.0 to 10.0

21 steps, duration 60 sec

att. 1x

PA15

02, 03, 05, 10, 21, 23, 24, 25, 30, 31 - have low gain or caps contact was bad

run 413 alpha calibration w/o pulser

run 414 a few (4 caps) new caps in new board for dE Amp. box

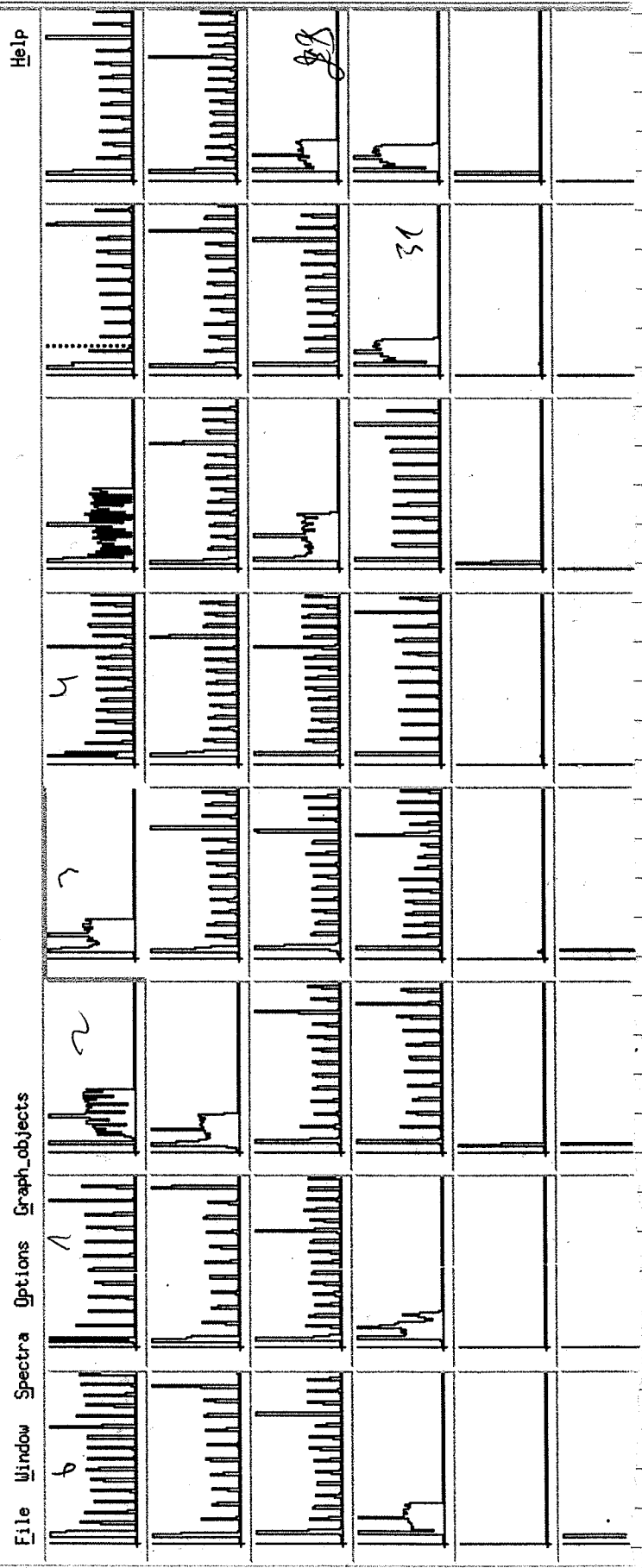
Pulser ramping

Att 5

TELETYPE 08

- 07

10 7 00



TL
run 415

ramping of one channel ϕ (DAQ)

amp 2.0, att. 5

min 0, max 10.0 V, 60 sec

run 416

ramping of 32 channels (other board)

Att. 1, min ϕ max 10.0 V 60 sec

run 417

att 1

ramping of 32 channels

run 418

2 calibration

more than 2.5 h

3h48

11/4/05

ramping of PA15 (DE-17) again

run # 419

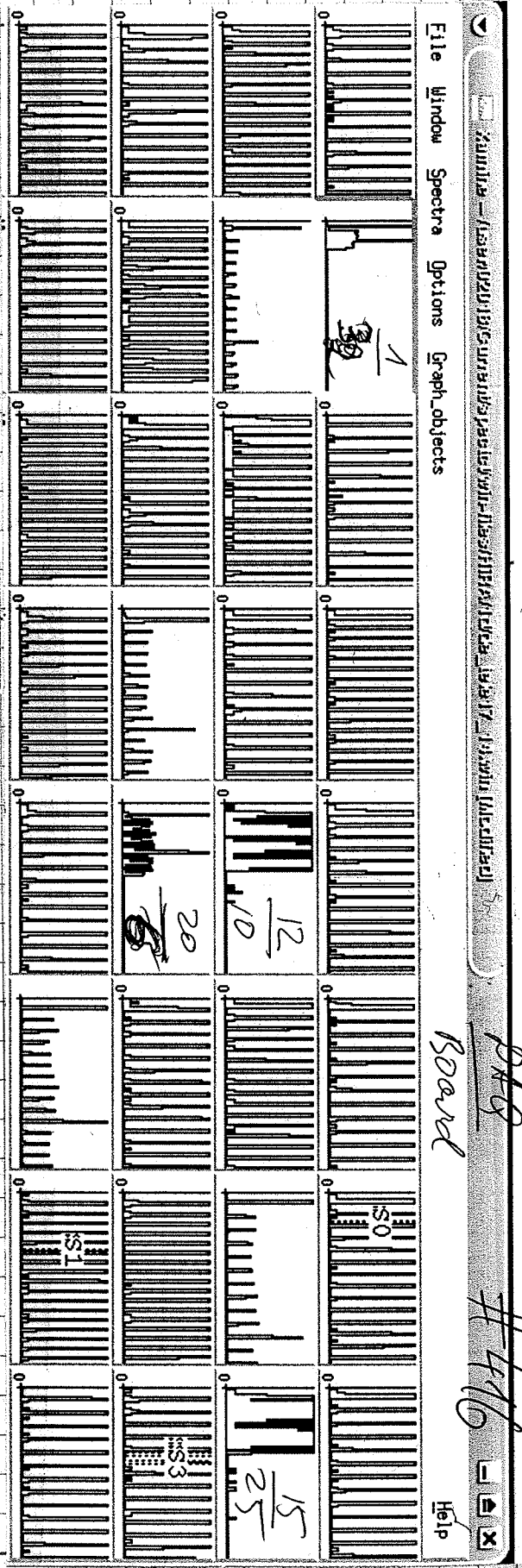
att. 1

30kHz

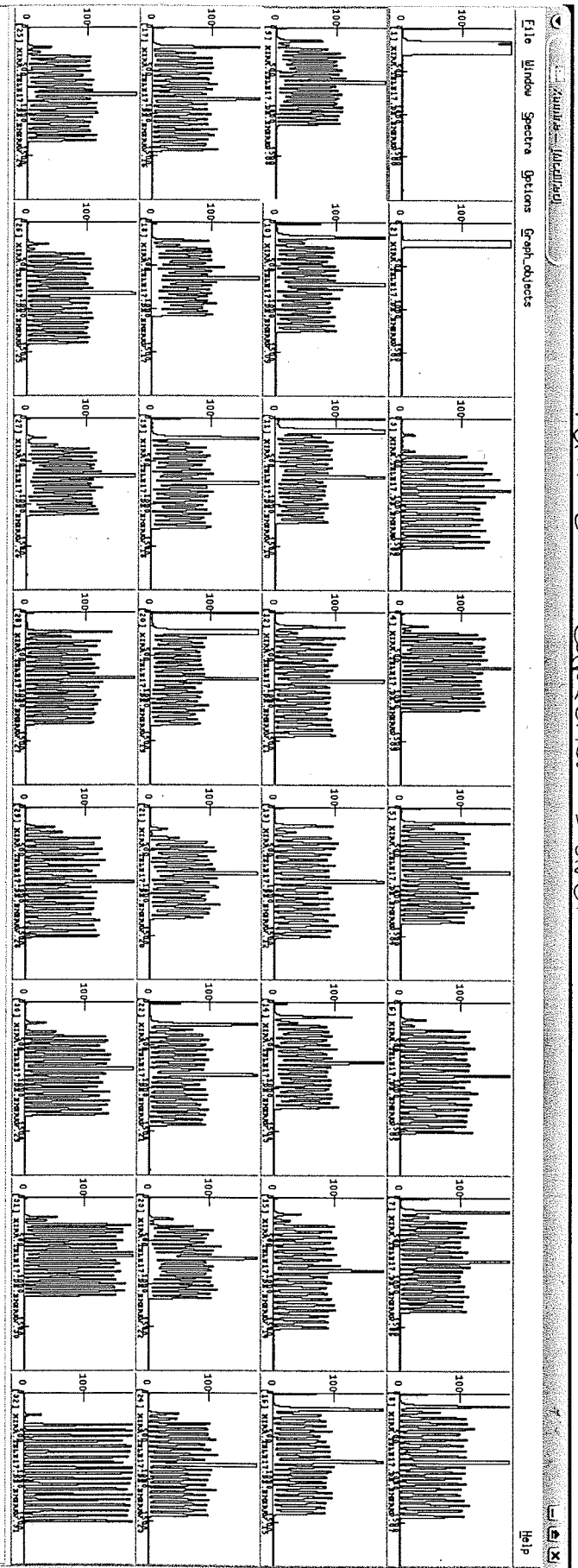
min 0 to 10.0

21 steps, 60 sec

ramping was not finished



run 420 - capacitor board 1



run # 420

managing att. 5 other conditions
are same as previous
Bill finds the threshold is about 300uV

we found that SX attenuator and X1 attenuator work well

there are some problem channels in the first capacitor board

stay at channel ϕ , 1, 16, 28, 30
^{in day}
 board 16 32 3 2 1

run # 421

new board installed

att. 5 min ϕ max 10.0
21 steps, 60 sec

after group meeting

run # 422

first board

att. 5

1.5V peak has large!
5.0 - largest yield

✓

run # 423

again same conditions

att. 5

run # 424

Det 17 (PA 15) still

att. 1

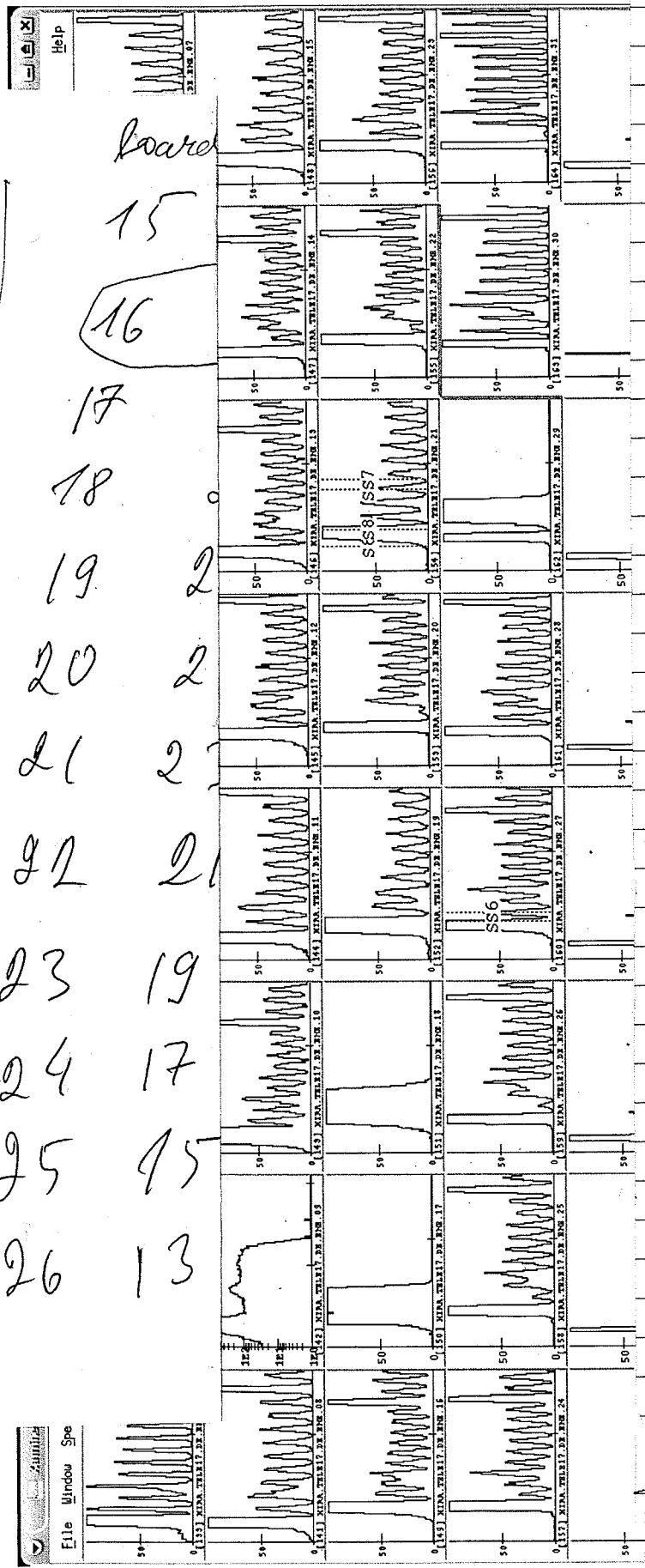
DAQ problem!

✓

run # 425 same as 424

Chip board	DAQ
1	30
2	28
3	26
4	24
5	22
6	20
7	18
8	16
9	14
10	12
11	10
12	8
13	6
14	4

Board
15
16
17
18
19
20
21
21
23
24
25
26



File Window Spe

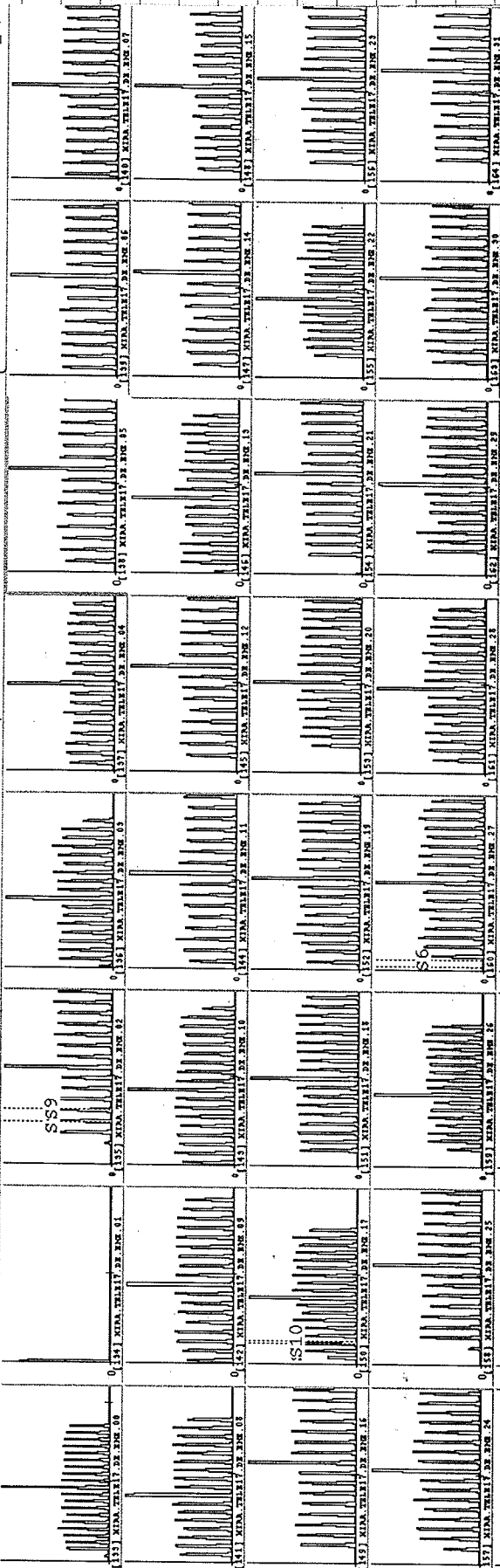


Help

425

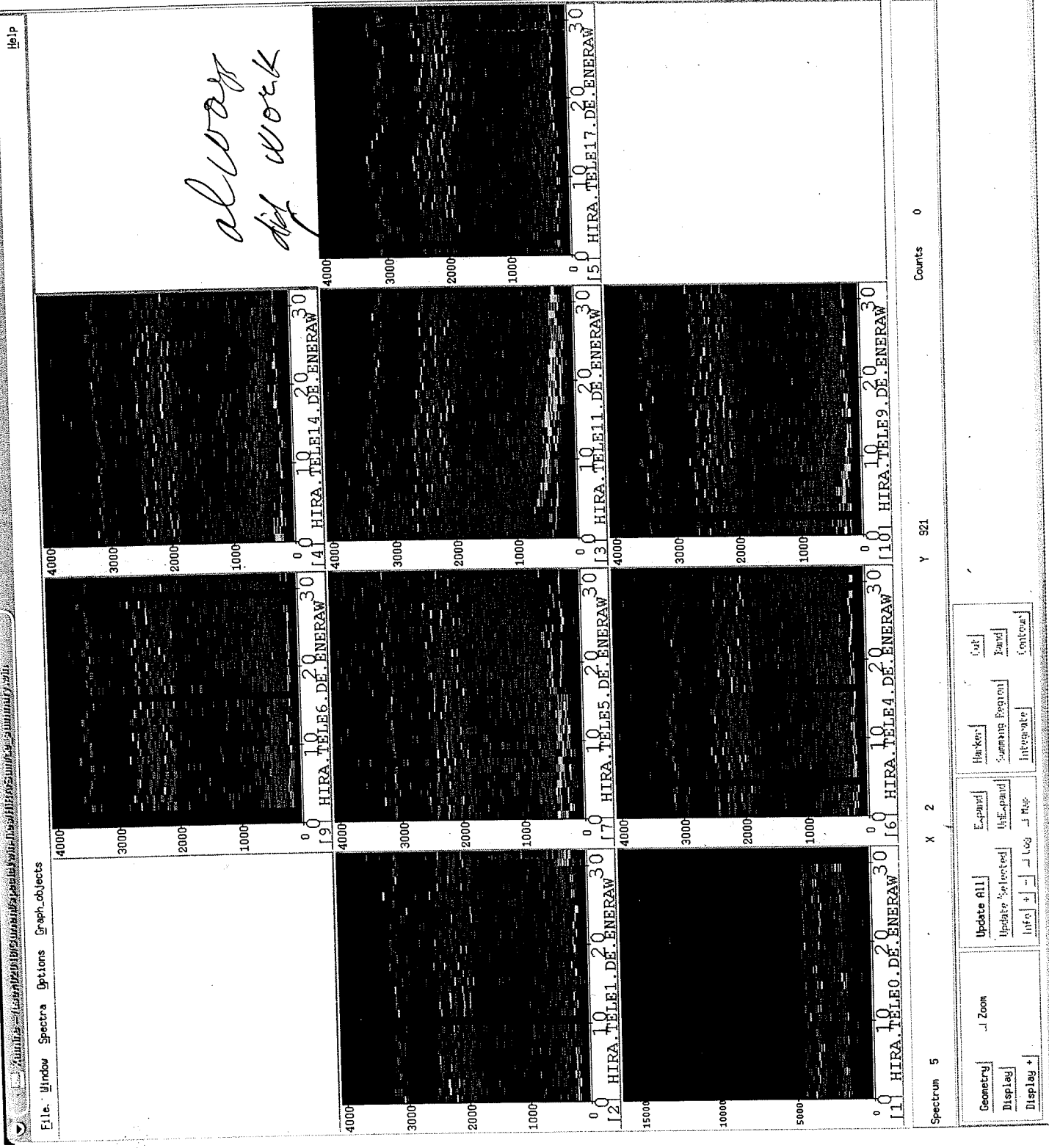
007-5

File Window Spectra Options Graph_objects



Kun 520

always
did work



#430

att. 1

dE 14 (PA 13)

pulser ~~map~~ ramping

#431

att 5

dE 14 (PA 13)

#432

att 5

dE 11 (PA 12)

downscaler is 001 now

it was 900

So, this run ramping & downscaler was not finished

#433

att 5

dE 11 (PA 12)

downscaler factor is 900

#434

att. 1

dE 11 (PA 12)

downscaler is 900

#435

dE 11 (PA 12)

downscaler 1

as Mem # 432

#436

dE 9 (PA 11)

downsc. 1

att. 5

#437

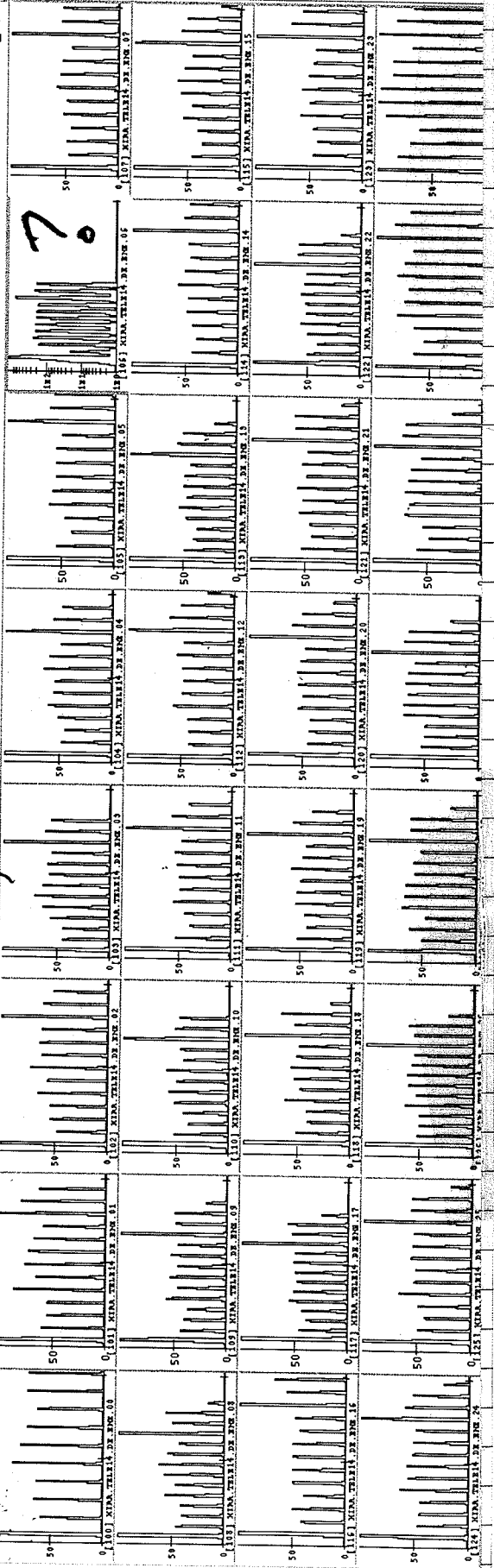
dE 9 (PA 11)

downsc. 900

att. 5

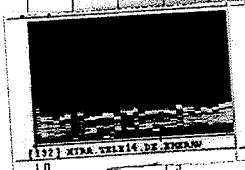
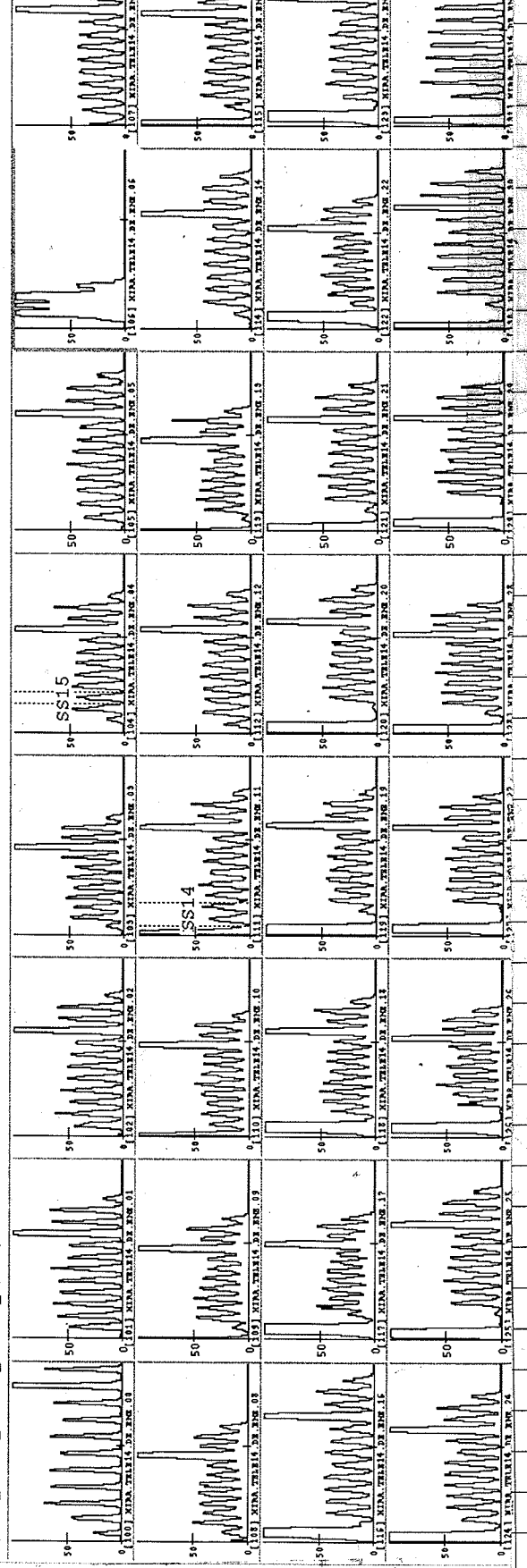
#430 att 1

att 14 (P115)



att 5 Run 481

att 14 (P115)



File Window Spectra Options Graph_Objects Help

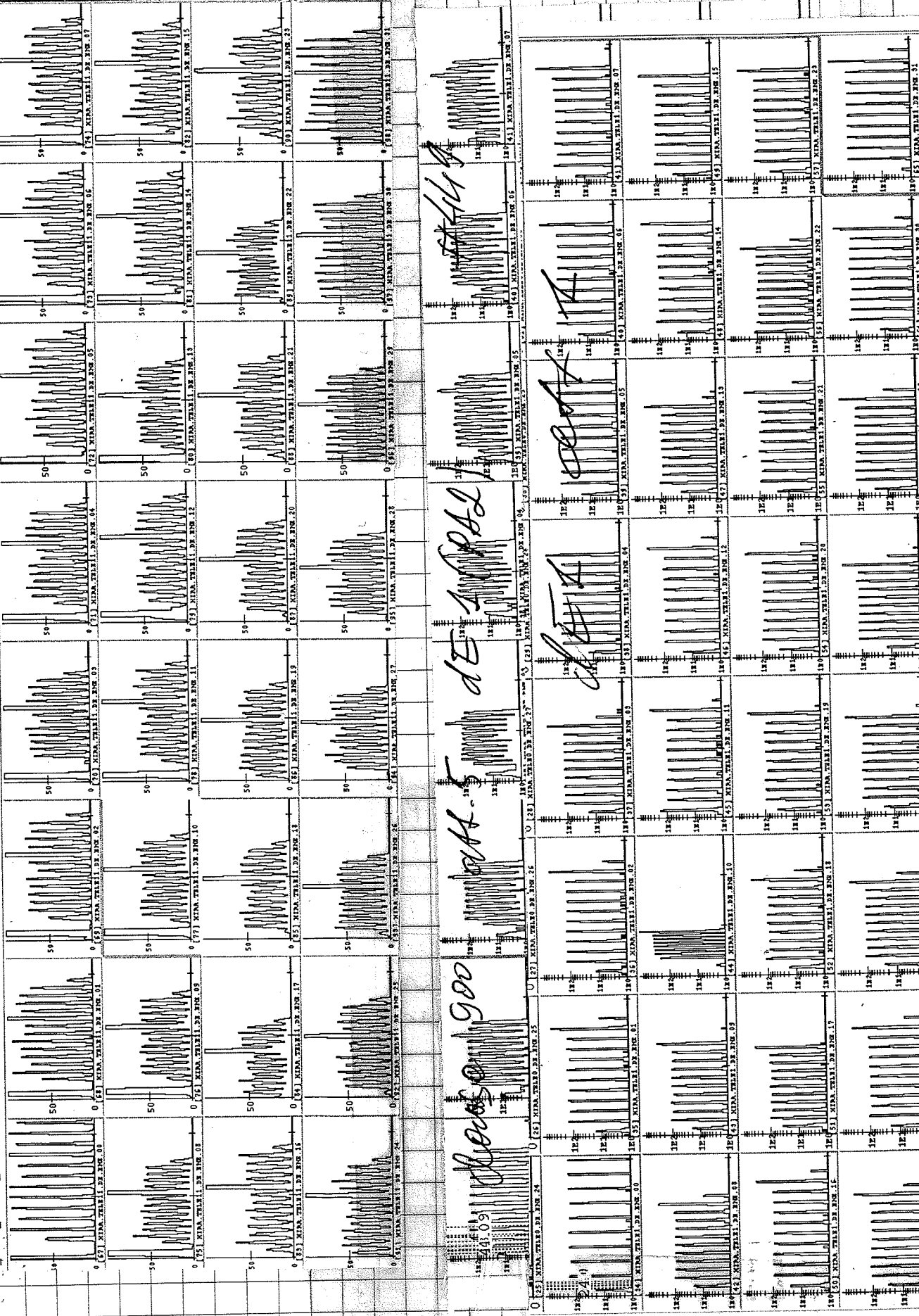
File Window Spectra Options Graph_Objects Help

#438	DE9 (PA11) att. 1	downsc. 900
#439	DE6 (PA10) att. 5	downsc. 1
#440	DE6 (PA10) att. 5	downsc. 900
#441	DE6 (PA10) att. 1	downsc. 900
#442	DE5 (PA6) att. 5	downsc. 1
#443	DE5 (PA6) att. 5	downsc. 900
#444	DE5 (PA6) att. 1	downsc. 900
#445	DE4 (PA7) att. 5	downsc. 1
#446	DE4 (PA7) att. 5	downsc. 900
#447	DE4 (PA7) att. 1	downsc. 900
#448	DE1 (PA2) att. 5	downsc. 1
#449	DE1 (PA2) att. 5	downscaler 900
#450	att. 1	downscaler 900
	DE1 (PA2)	

DE 11 24 Feb 83

DE 5 24 Feb 83

File Window Spectra Options Graph objects



DE 900

DE 5

DE 1000

DE 1000

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452 alpha

453 DE 17 (PA15) downscale 1
att. 5

454 stop at 4.5 volt downscale 900

455 DE 14 (PA) downscale 1

457 DE ϕ (PA8) downscale 900
att. 5

458 DE ϕ (PA8) downscale 900
att. 1

459 DE ϕ (PA8) downscale ~~1~~ 1
att. 5

460 pin source (Telc #12, 16, 17)
no pulses, DE downscale to 900
DPA crashed

461 same as #460

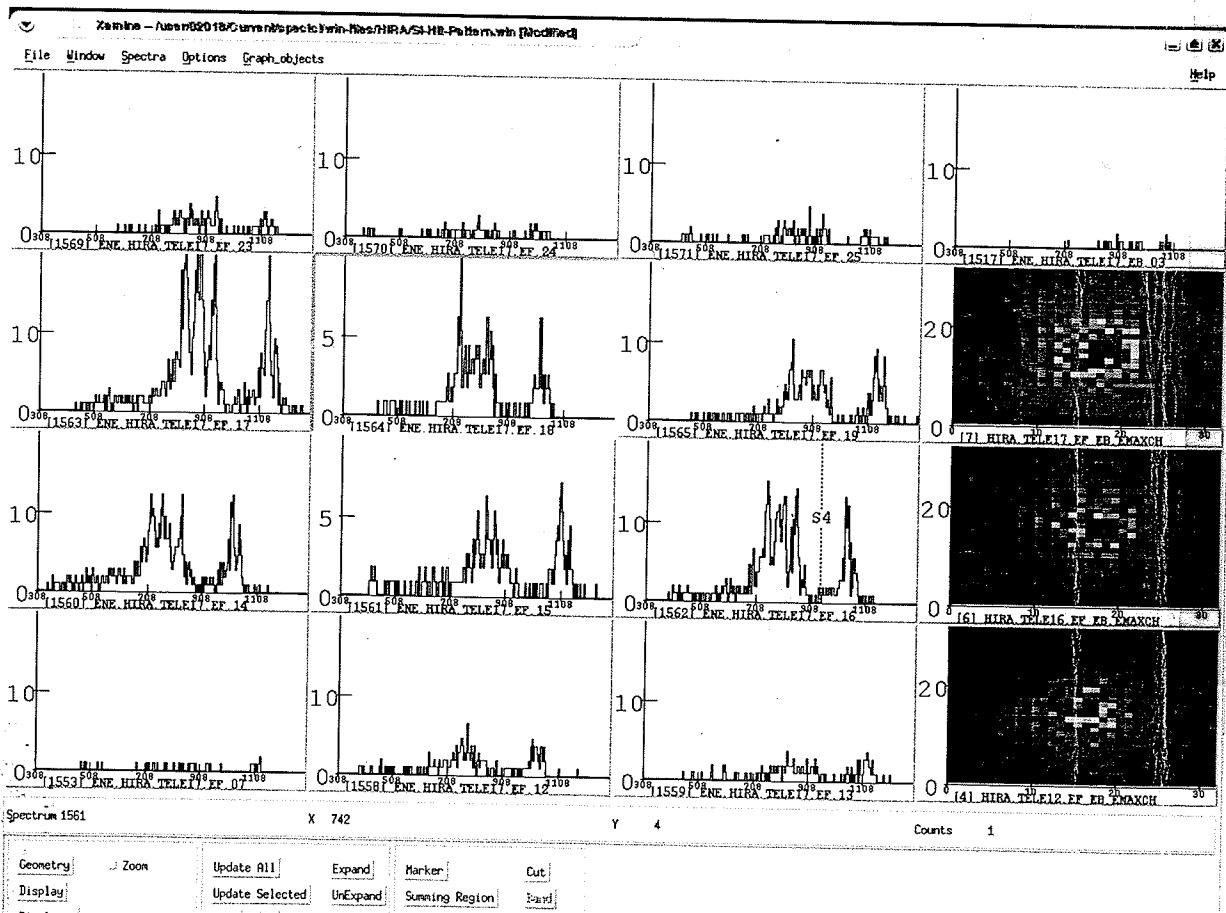
run 462 pin source calibration tele 17, 16, 12, DE
do downscaled 900

run 463 toggling of pulses

run 464 downscaler 900, toggle at
2 and 6 volts 2Hz
pin source for 17, 16, 12

07³⁰ run 465 ~~DOE~~ crashed

run 466 pin source + toggle



7 November

#469 Pin source + toggle

#470 } the same as before
temperature of TOWERS is
in require

#471

#472

#473

Mapping of dE det.

det 0 (P48)

30Hz

run #474 downscaler 1, dtt 5, 21 steps

TELEP_01

now

#459

cd current/step/s

1686

1756.6

1808.6

1858.2

1908.9

1957.9

2007.12

1255

1807

1856

run 475 downscaler is good, att 5

run 476 —||— good, att. 1

run 480 with pulser toggling

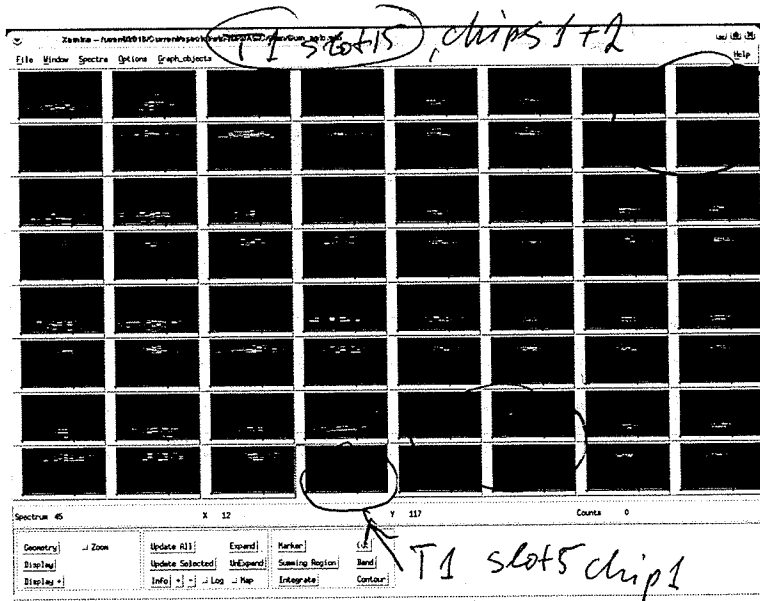
12 November Pin sources for E's

run 481 Pin source w/o pulser

There's no pin source for Tele 19, a problem for TELE 6 (E's - no signals) TELE 8 (- very low counting rate)

Name	Voltage	Current	Power	Status
PinSource15	200.00 V	1.00 mA	20.00 W	0.74 Hz On
PinSource12	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource13	200.00 V	1.00 mA	20.00 W	0.74 Hz On
PinSource14	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource10	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource11	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource9	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource8	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource7	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource6	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource5	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource4	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource3	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource2	200.00 V	1.00 mA	20.00 W	1.00 Hz On
PinSource1	200.00 V	1.00 mA	20.00 W	1.00 Hz On
Tele19	200.00 V	1.00 mA	20.00 W	0.00 Hz Off

482 same conditions as for # 481



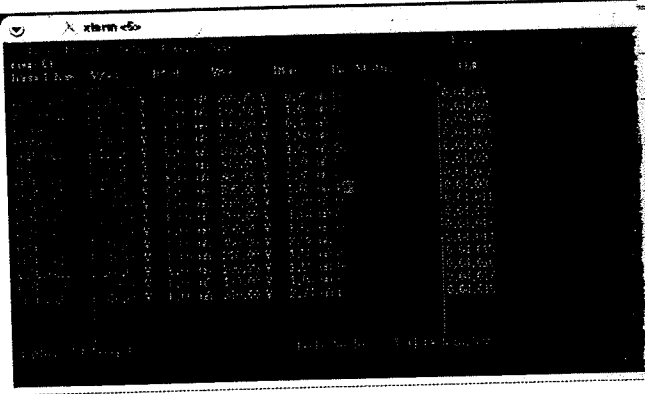
Current for tower 1 is $3.72 \mu\text{A}$!

Maybe these chips are broken
 (T1 slot 15 chips 1+2
 T1 slot 5 chip 1
 T2 slots 2 and 3).

483 Same conditions: pin sources w/o pulser

484 with pulser 1 Hz, 2 and 6 volts
 for 15 min for 60 sec

485 pin sources again w/o pulser



#486 pin sources without pulser

#487 same and again

#488 pin source + toggle pulser

19³⁰ pin sources are out
dE calibration

run #489 $\approx 1 \text{ event/strip/min}$
for 8h we should have
 $480 \approx 8 \times 600$ events per strip

now 53% life

run 490

#491 noise from dE detectors

#492 became less, life est now 85%

#493 counting rate is just 58 rev/c^{-1}

494 same as before
crashed (XLM problem)

03¹⁰

495 Junk

496 ~~Junk~~ Good

VME and SPdag restarted

497

good runs

498

499

Sts

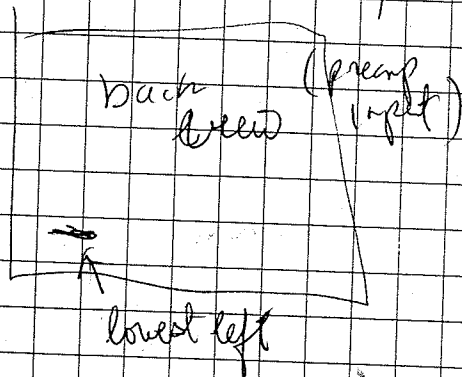
500-503 →

source runs using blown &
source maker.

Stop and blinds down. It took as if the 31st

Strip on DE for label is breaking down, also we

want to remove the ~~the~~ capacitors from preamp 15



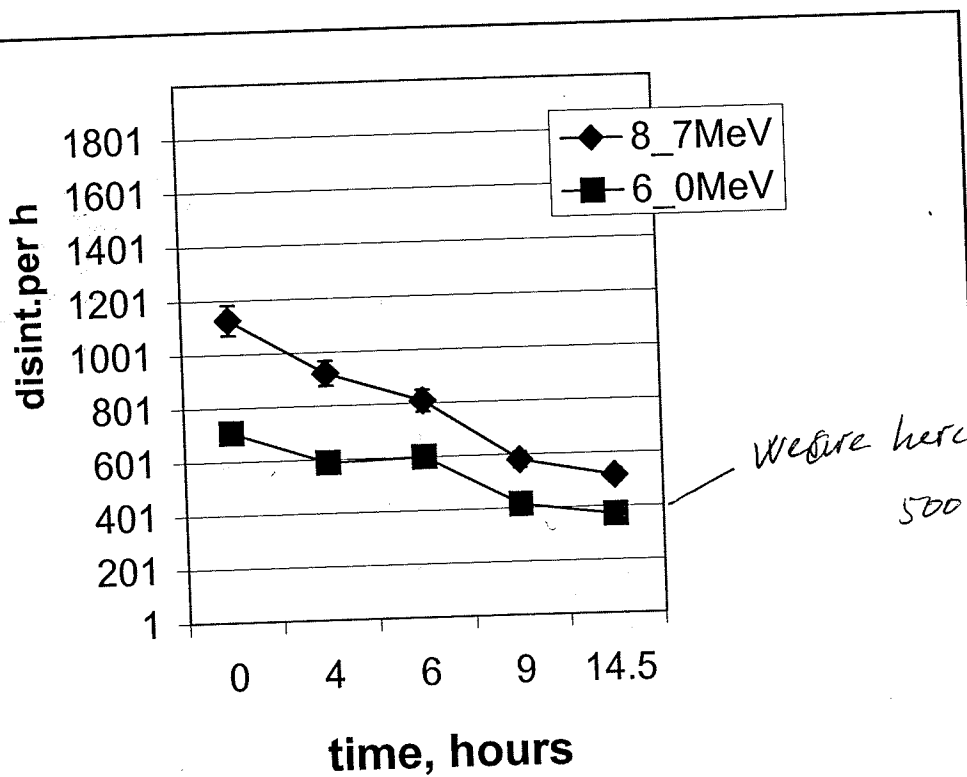
Cable label
tel. #3 del 17

12¹⁵ we check signals from PA2 (DE1)
 Dad did not find a visible problem

504 again ✓

505

506



we are here
 $500 \text{ ev} / 32.9 \sim 1.7 \text{ events per strip per h}$

502 noise increased to $\sim 200 \text{ cps}$
 value of rate

there is fluctuation of rate from
 10 to 200 cps

#509 same as ordinary

#510 - " - " - "

#511 - " - " - "

1/4 not covered

#512 ramping of TELE 17 0 - 10.0 V
21 step 30 sec

#513 same with 50V on TELE 19
EF

#514 ramping of TELE 17 0 - 10V
att. 1 21 step for 30 sec
+ 1 toggle 2 and 6

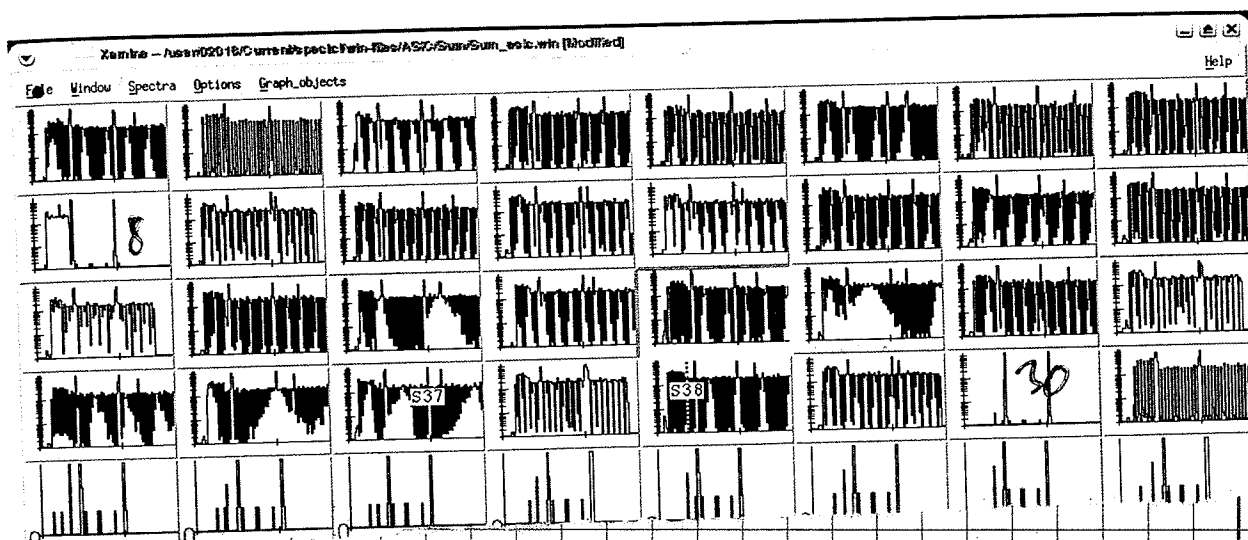
#515 ramping + toggling of TELE 19
0 to 8V 81 steps, 30 sec

#516 ramping + toggling of TELE 12
0 to 8V 81 steps

run #517 without toggling of TELE 12
EF - ramping only

0,1 ; 0,2 ; 0,3 ...

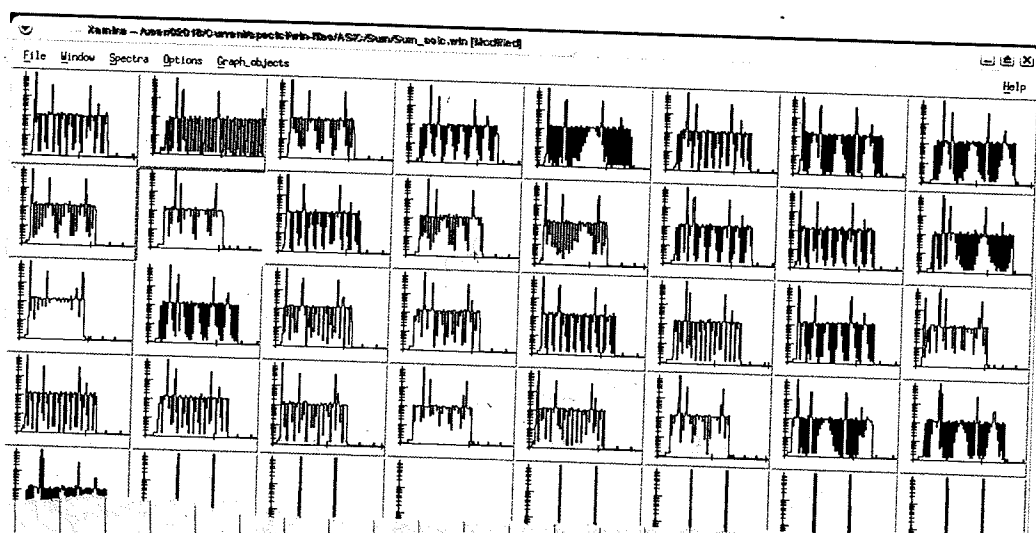
0 - 8 Volt 81 steps



Run 518 tele 16 toggle + ramping

Run 519 same toggle + ramping

15 November



Run 520 tele 17 again as yesterday

Run 521 tele 19 again as yesterday

Run 522 tele 12 toggle + ramping

Run 523 tele 11 again to check

Run 524 stability

at 0.0

BNC PB-5 Control BLUE

Disconnect Exit Pulse Off

Current State: Ramping in Progress...

Voltage is now at 0.0 Volts. Step: 0
 Polarity Set At: Positive
 Voltage is now at 0.1 Volts. Step: 1
 Voltage is now at 0.2 Volts. Step: 2
 Voltage is now at 0.3 Volts. Step: 3
 Voltage is now at 0.4 Volts. Step: 4
 Voltage is now at 0.5 Volts. Step: 5
 Voltage is now at 0.6 Volts. Step: 6
 Voltage is now at 0.7 Volts. Step: 7

Set Amplitude	4	Volts
Set Frequency	30	Hz
Set Attenuation	2 X	Factor
Stop Ramping	0. 6. 81 30	
Set Negative	Min. Max. (V) Num. Time (s)	
Auto Flip	0. 10. 30	
Toggle Pulsar	Num. Interval OffTime	

BNC PB-5 Control WHITE

Disconnect Exit Pulse On

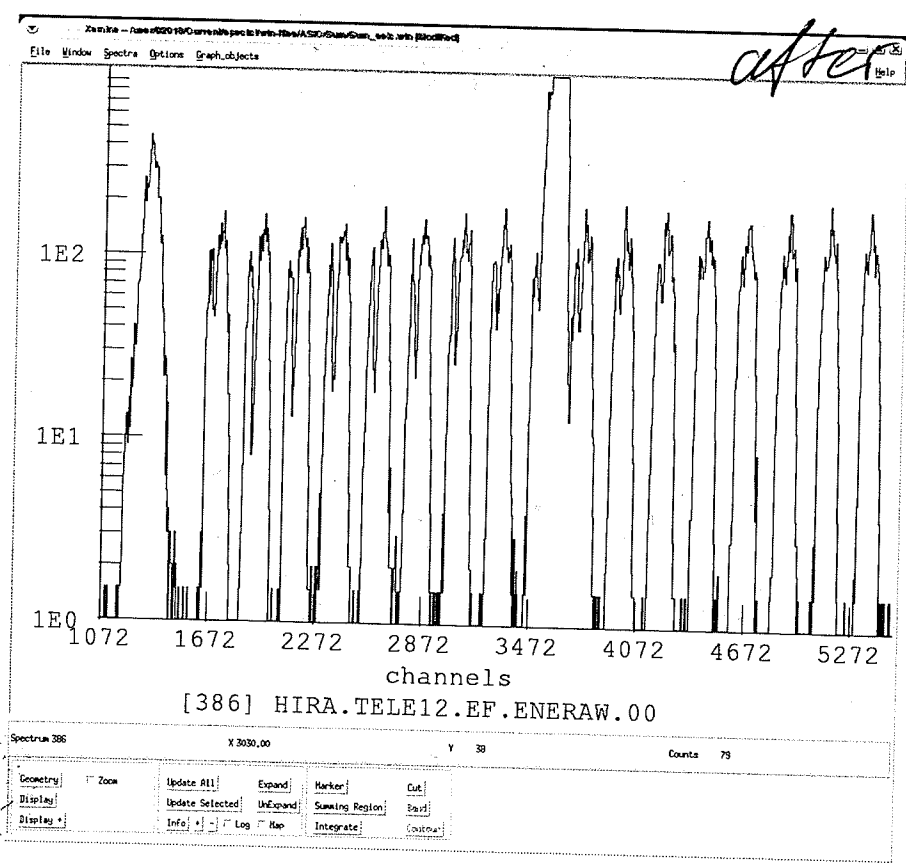
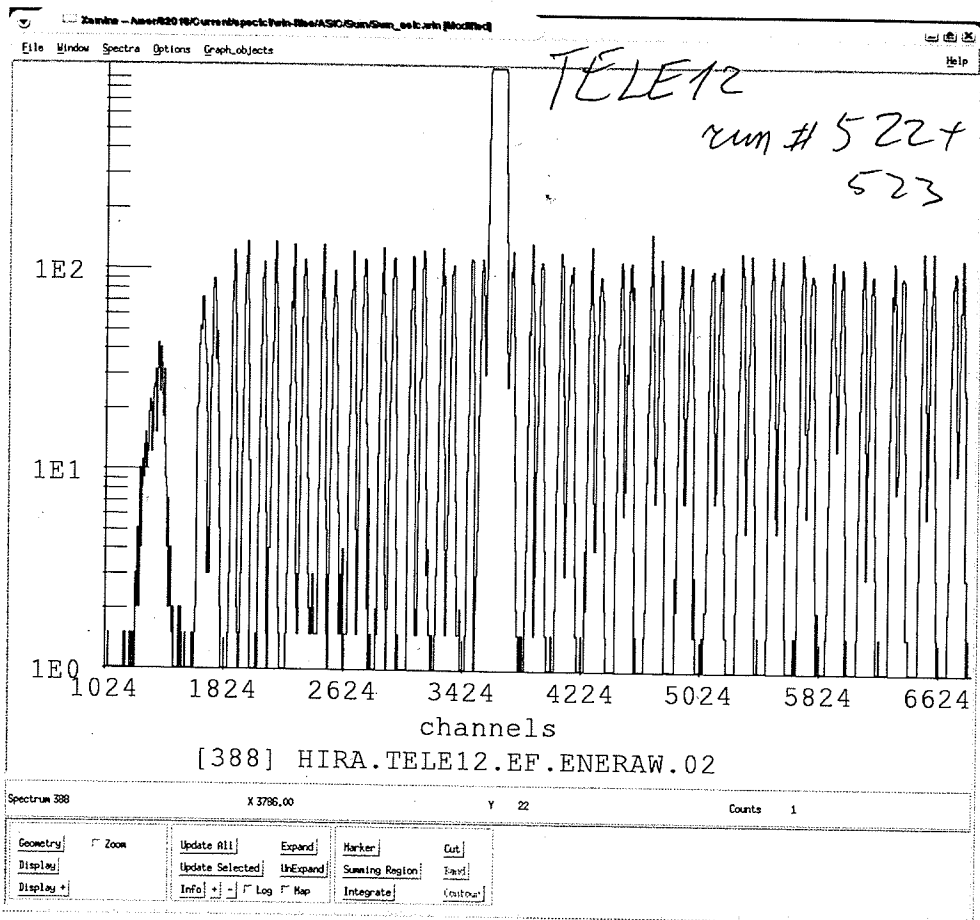
Current State: Toggling in Progress...

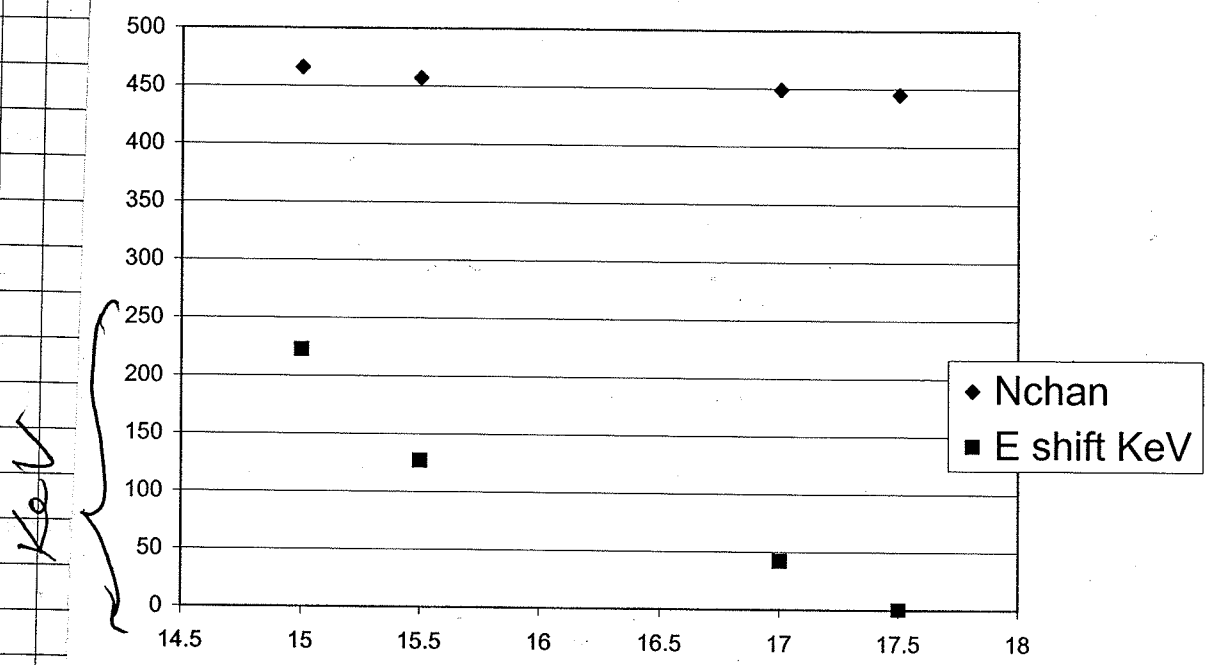
Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.

Set Amplitude	2.	Volts
Set Frequency	10	Hz
Set Attenuation	1 X	Factor
Ramp Pulsar	2. 6. 60	
Set Negative	Min. Max. (V) Num. Time (s)	
Auto Flip		
Stop Toggling	Num. Interval OffTime	

526 stability check for TELE #12

527 ramping was not completed



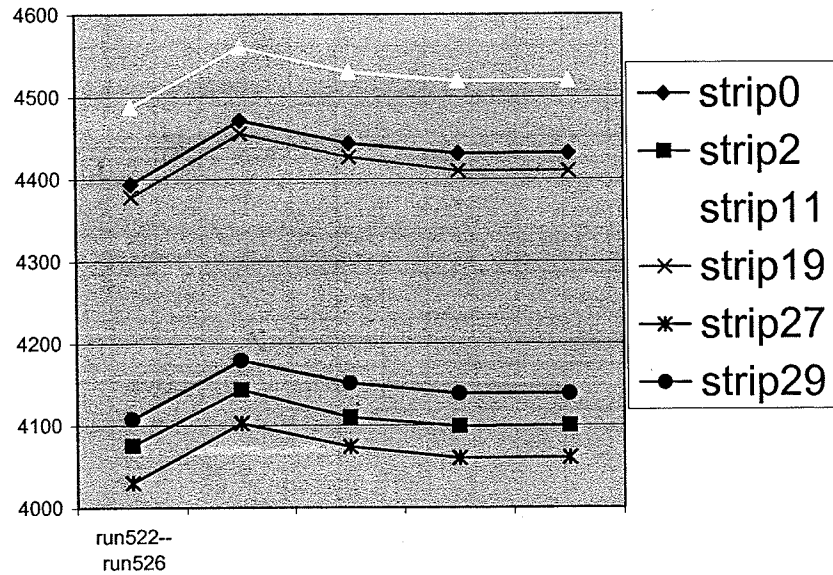


Num 528 foggle and ramp of TELE 19
like in num # 521

Num 529 same as in 528

Num 530 tele #17 foggle + ramp
531 TELE 16

1.5volt



16 November

Ramping of EB (Towers)

run 532

TELE19

EB

#533

TELE19

EB

again

Integration Results

Run 532

Integrations for spectrum 322

Id	Name	Centroid	FWHM	Area
Summing regions:				
65	Summing Region 065	2448.00	36.40	584.000000
66	Summing Region 066	2652.00	26.12	765.000000
67	Summing Region 067	2828.00	29.57	762.000000
68	Summing Region 068	3004.00	26.51	801.000000
69	Summing Region 069	3188.00	26.53	792.000000
70	Summing Region 070	4564.00	66.06	21771.000000
Cuts:				

TELE 19. ER. ENERAV 02

Integration Results

Run 533

Integrations for spectrum 322

Id	Name	Centroid	FWHM	Area
Summing regions:				
65	Summing Region 065	2448.00	36.68	265.000000
66	Summing Region 066	2656.00	25.32	772.000000
67	Summing Region 067	2828.00	27.15	802.000000
68	Summing Region 068	3008.00	25.86	780.000000
69	Summing Region 069	3188.00	28.72	783.000000
70	Summing Region 070	4596.00	33.18	4478.000000
Cuts:				

run 534 same

TELE 17 ER

Run # 535

Integrations for spectrum 419

TELE 17 ER - 01

Id	Name	Centroid	FWHM	Area
Summing regions:				
71	Summing Region 071	2648.00	25.76	800.000000
72	Summing Region 072	2816.00	25.36	774.000000
73	Summing Region 073	2992.00	23.42	762.000000
74	Summing Region 074	3160.00	25.17	790.000000
75	Summing Region 075	3332.00	25.56	798.000000
76	Summing Region 076	3500.00	24.78	780.000000
77	Summing Region 077	3668.00	24.65	780.000000
78	Summing Region 078	3832.00	24.66	784.000000
79	Summing Region 079	4000.00	26.21	807.000000
80	Summing Region 080	4084.00	25.73	10061.000000
Cuts:				

EB

105

BNC PE-5 Control WHITE

Disconnect Exit Pulse Off

Current State: Toggling in Progress...

Pulser set at 2.
Pulser set at 6.
Pulser set at 2.
Pulser set at 6.
Pulser set at 2.
Pulser set at 6.
Pulser set at 2.
Pulser set at 6.
Pulser set at 2.
Pulser set at 6.

Set Amplitude Volts

Set Frequency Hz

Set Attenuation 1 X Factor

Ramp Pulser 2 6 60

Set Positive Min. Max. (V) Num. Time (s)

Auto Flip

Stop Toggling Num. Interval OffTime

BNC PE-5 Control BLUE

Disconnect Exit Pulse Off

Current State: Ramping in Progress...

Voltage is now at 0.2 Volts. Step: 2
Voltage is now at 0.3 Volts. Step: 3
Voltage is now at 0.4 Volts. Step: 4
Voltage is now at 0.5 Volts. Step: 5
Voltage is now at 0.6 Volts. Step: 6
Voltage is now at 0.7 Volts. Step: 7
Voltage is now at 0.8 Volts. Step: 8
Voltage is now at 0.9 Volts. Step: 9
Voltage is now at 1.0 Volts. Step: 10

Set Amplitude Volts

Set Frequency Hz

Set Attenuation 2 X Factor

Stop Ramping 0 8 81 30

Set Positive Min. Max. (V) Num. Time (s)

Auto Flip

Toggle Pulser Num. Interval OffTime

TELETYPE EB 01

Integration Results

Integrations for spectrum 419

Id	Name	Centroid	FWHM	Area
Summing regions:				
81	Summing Region 081	2648.00	23.64	779.000000
82	Summing Region 082	2808.00 -8	24.20	793.000000
83	Summing Region 083	2976.00 16	24.47	811.000000
84	Summing Region 084	3140.00 20	25.81	812.000000
85	Summing Region 085	3304.00 28	24.22	789.000000
86	Summing Region 086	3472.00 28	22.98	790.000000
87	Summing Region 087	3636.00 32	23.19	813.000000
88	Summing Region 088	3800.00 32	23.75	813.000000
89	Summing Region 089	3960.00	22.84	788.000000
Cuts:				

UM 536

urn 074

same as in 535 and 536

Integrations for spectrum 419

Id	Name	Centroid	FWHM	Area
Summing regions:				
81	Summing Region 081	2644.00	23.97	
82	Summing Region 082	2808.00	24.20	789.000000
83	Summing Region 083	2972.00	23.55	797.000000
84	Summing Region 084	3140.00	24.41	801.000000
85	Summing Region 085	3308.00	24.41	794.000000
86	Summing Region 086	3472.00	24.67	794.000000
87	Summing Region 087	3636.00	23.27	801.000000
88	Summing Region 088	3800.00	22.86	817.000000
89	Summing Region 089	3964.00	24.76	781.000000
Cuts:				
			26.50	795.000000

stabilised!

manipulation was not completed due to this beam is similar to 536

TELE 16 ER
run 538

Integrations for spectrum 451

Id	Name	Centroid	FWHM	Area
Summing regions:				
90	Summing Region 090	3080.00	22.37	348.000000
91	Summing Region 091	3252.00	22.14	686.000000
92	Summing Region 092	3424.00	23.51	691.000000
93	Summing Region 093	3596.00	22.71	728.000000
94	Summing Region 094	3768.00	23.07	697.000000
95	Summing Region 095	3936.00	23.64	725.000000
Cuts:				

TELE 16 ER 01

539

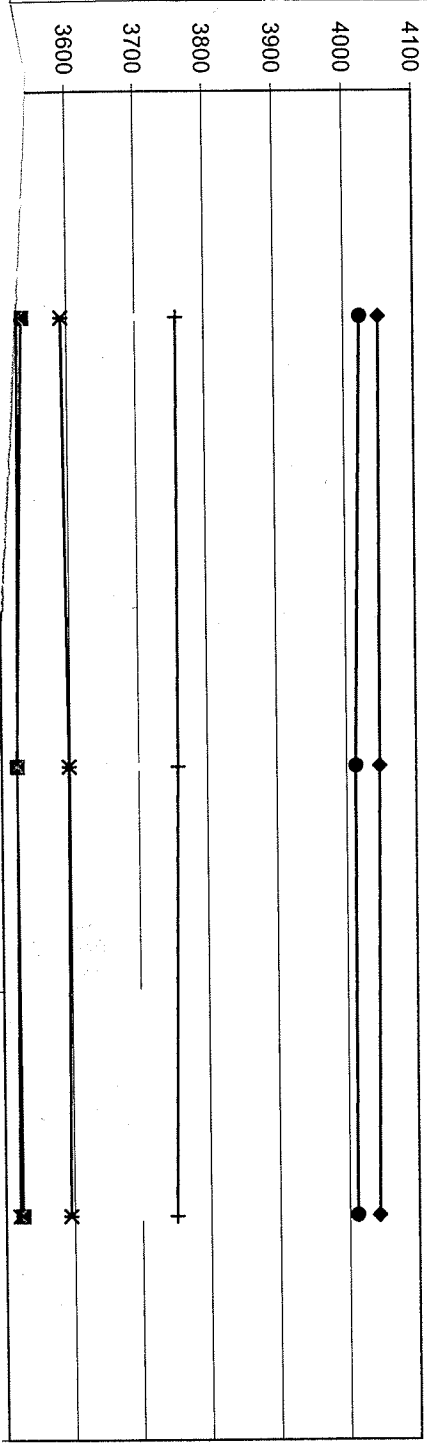
Integrations for spectrum 451

Id	Name	Centroid	FWHM	Area
Summing regions:				
90	Summing Region 090	3072.00	23.09	248.000000
91	Summing Region 091	3240.00	23.14	693.000000
92	Summing Region 092	3412.00	22.68	711.000000
93	Summing Region 093	3584.00	23.67	705.000000
94	Summing Region 094	3756.00	22.43	707.000000
95	Summing Region 095	3924.00	22.78	437.000000
Cuts:				

TELE 16 ER 01

rather good

1 volt, tele19 eb



- ◆— strip 0
- strip 5
- strip 10
- ×— strip 15
- *— strip 20
- strip 25
- +— strip 31

TELE 12

EB

540

TEL 12 EB - 04

Integrations for spectrum 486

Id	Name	Centroid	FWHM	Area
Summing regions:				
96	Summing Region 096	3340.00	20.48	693.000000
97	Summing Region 097	3484.00	24.09	701.000000
98	Summing Region 098	3620.00	20.86	702.000000
99	Summing Region 099	3760.00	21.46	721.000000
100	Summing Region 100	4036.00	21.40	720.000000
101	Summing Region 101	4176.00	20.67	694.000000
102	Summing Region 102	4312.00	22.60	716.000000
103	Summing Region 103	4448.00	21.71	719.000000
104	Summing Region 104	4580.00	20.40	695.000000
Cuts:				

541

source

stability checking

TELE 12 EB - 04

Integration Results

Integrations for spectrum 486

Id	Name	Centroid	FWHM	Area
Summing regions:				
105	Summing Region 105	3380.00 40	20.31	723.000000
106	Summing Region 106	3520.00 36	20.53	712.000000
107	Summing Region 107	3656.00 36	20.58	703.000000
108	Summing Region 108	3792.00 32	21.04	729.000000
109	Summing Region 109	4068.00 32	24.36	713.000000
110	Summing Region 110	4200.00 34	21.12	701.000000
111	Summing Region 111	4336.00 24	20.70	713.000000
Cuts:				

542

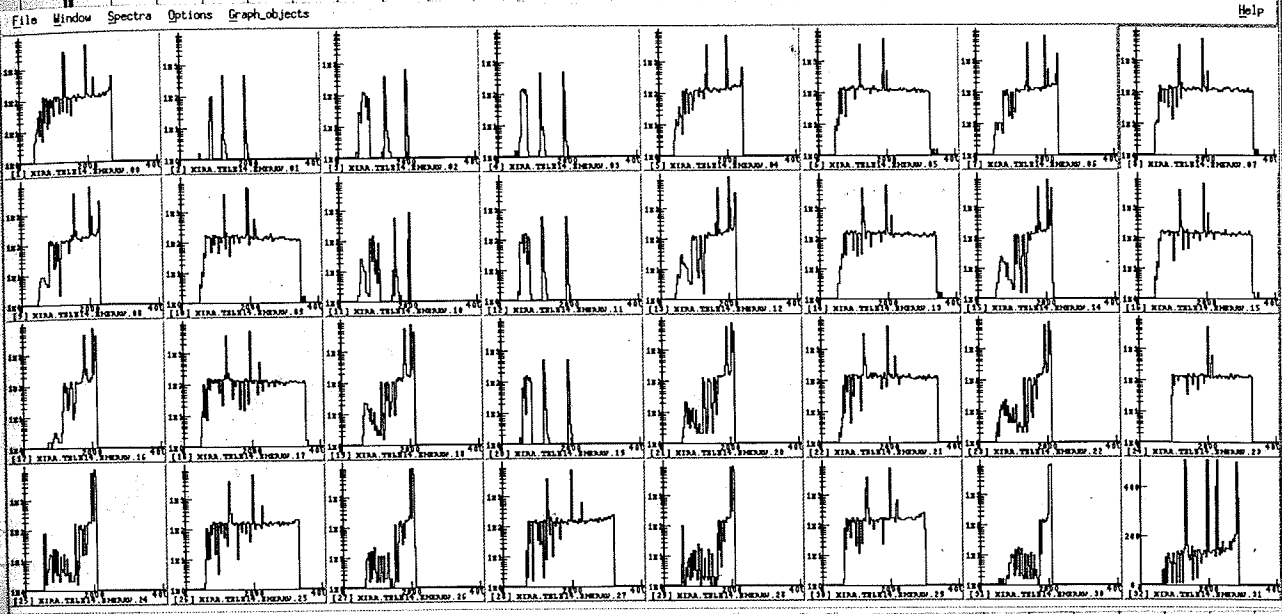
TELE 12 EB - 04

Integrations for spectrum 486

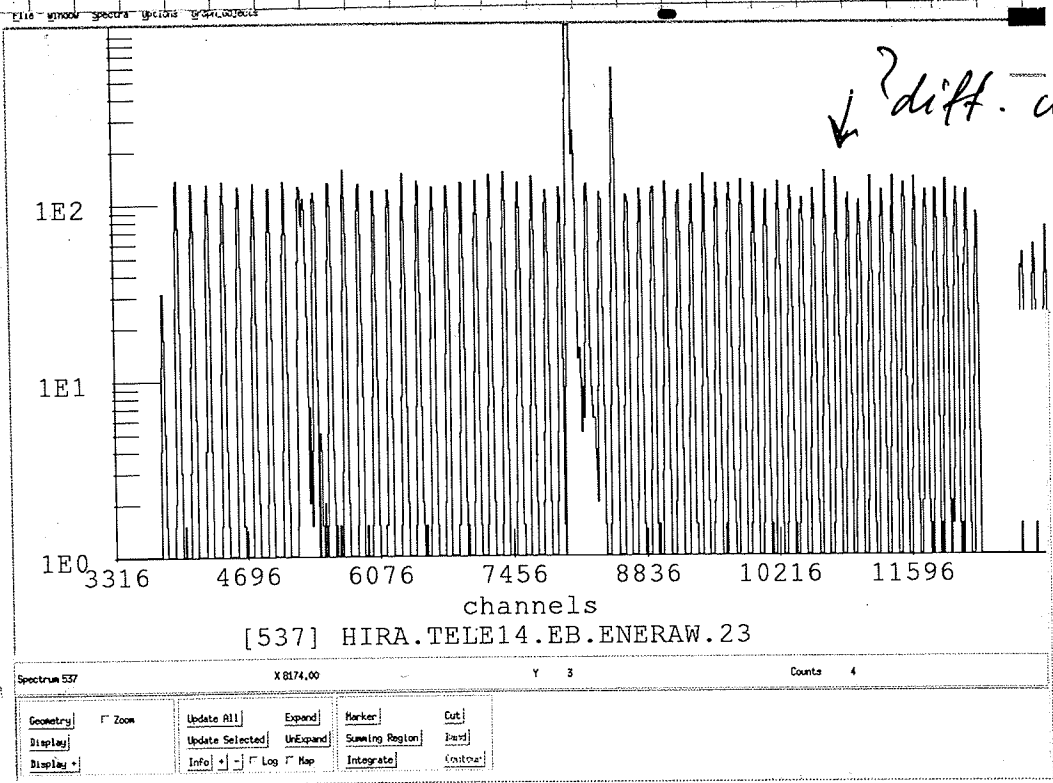
Id	Name	Centroid	FWHM	Area
Summing regions:				
112	Summing Region 112	3360.00 - 20	20.84	698.000000
113	Summing Region 113	3500.00 - 20	21.19	701.000000
114	Summing Region 114	3636.00 - 20	21.75	709.000000
115	Summing Region 115	3776.00 - 20	22.39	704.000000
116	Summing Region 116	4048.00 - 10	24.40	700.000000
117	Summing Region 117	4184.00 - 16	21.12	680.000000
Cuts:				

17 Nov EB

TELE14 mapping and logys
Motherboard is turned off.



run 543

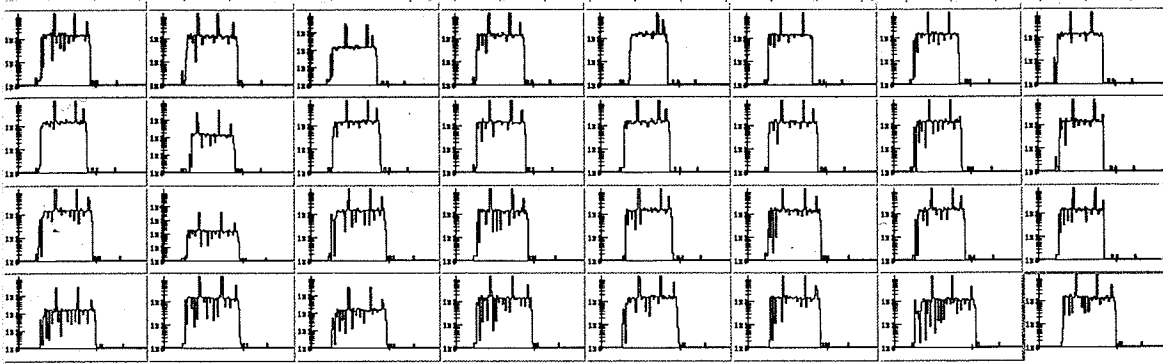


? diff. nonlinearity?

Very bad!

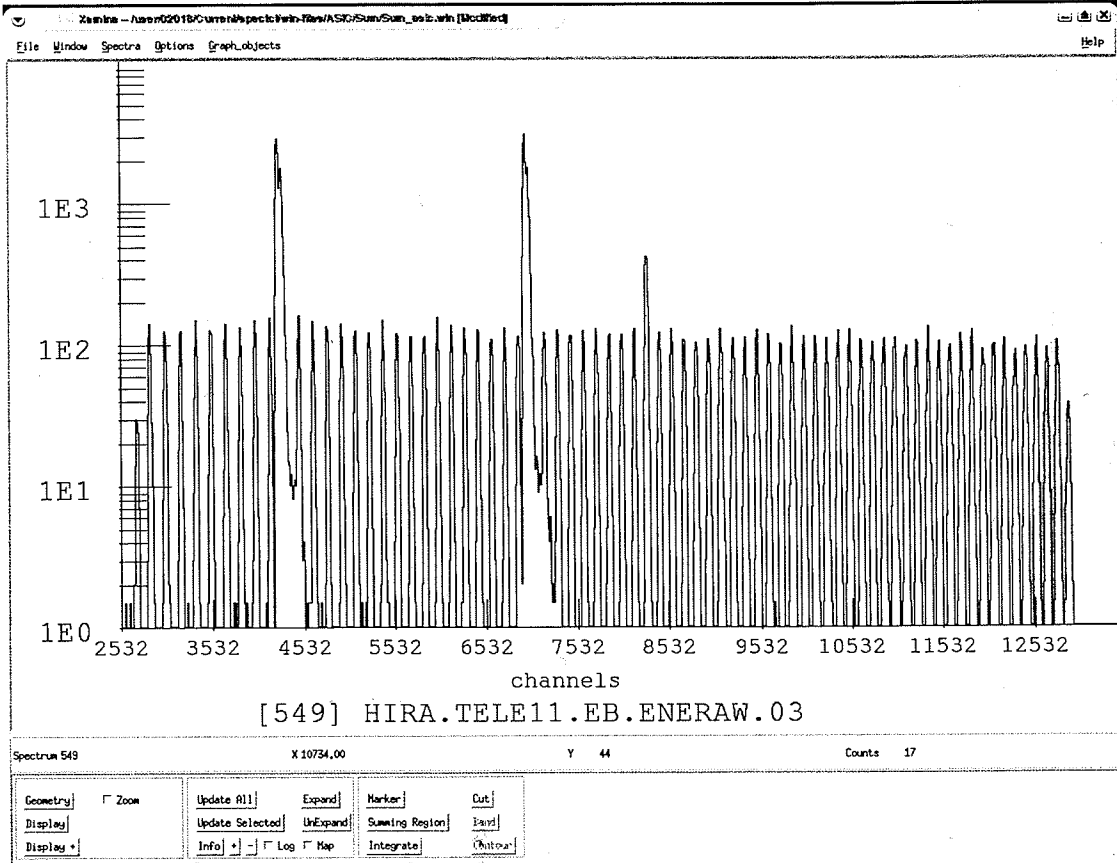
TELE 11 EB

run # 544

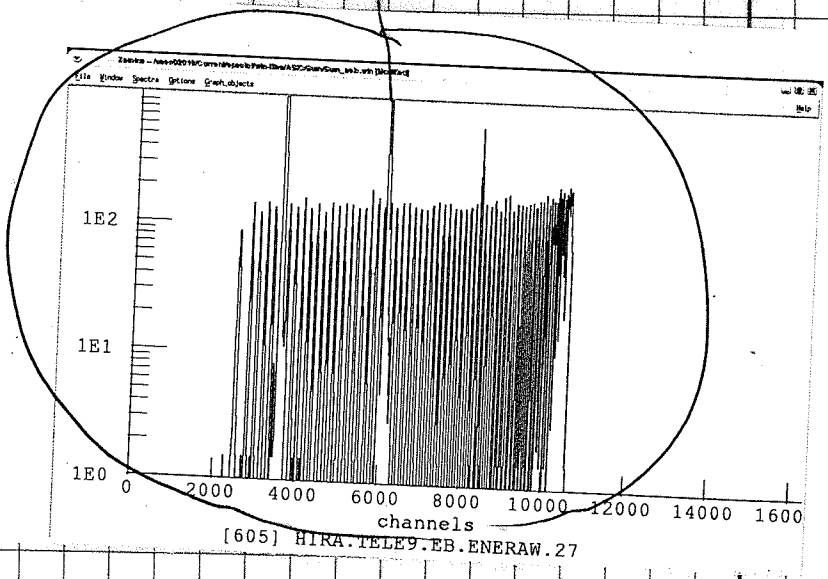
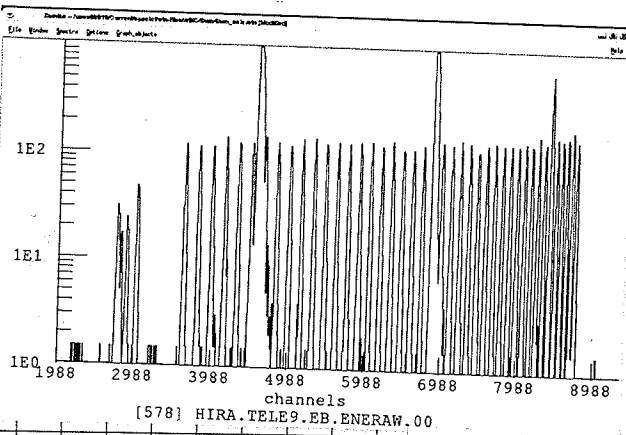
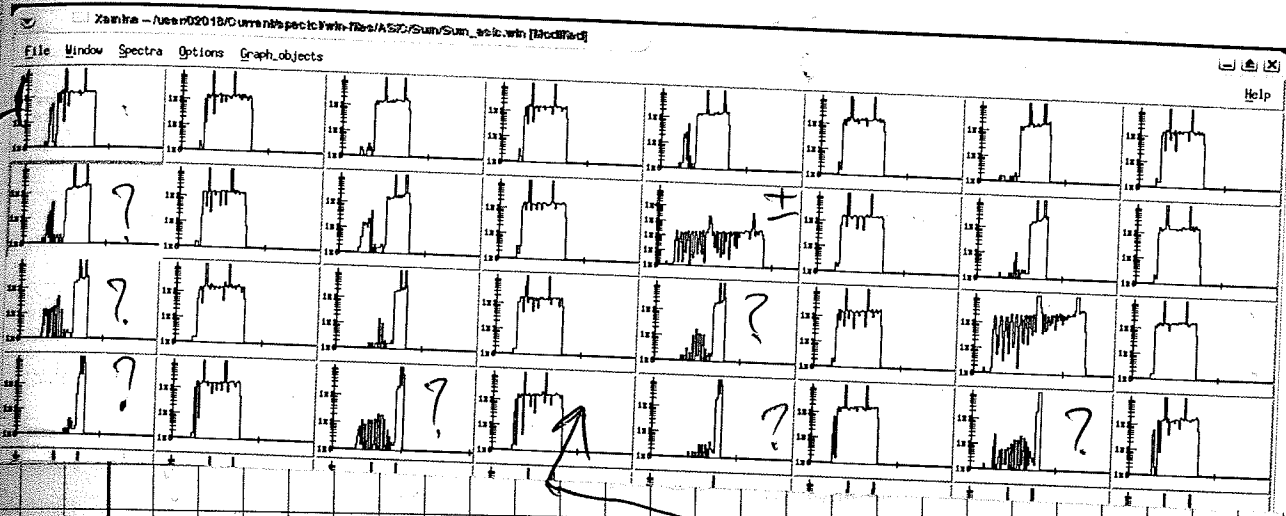


Spectrum 588 X 3202.00 Y 512 Counts 0

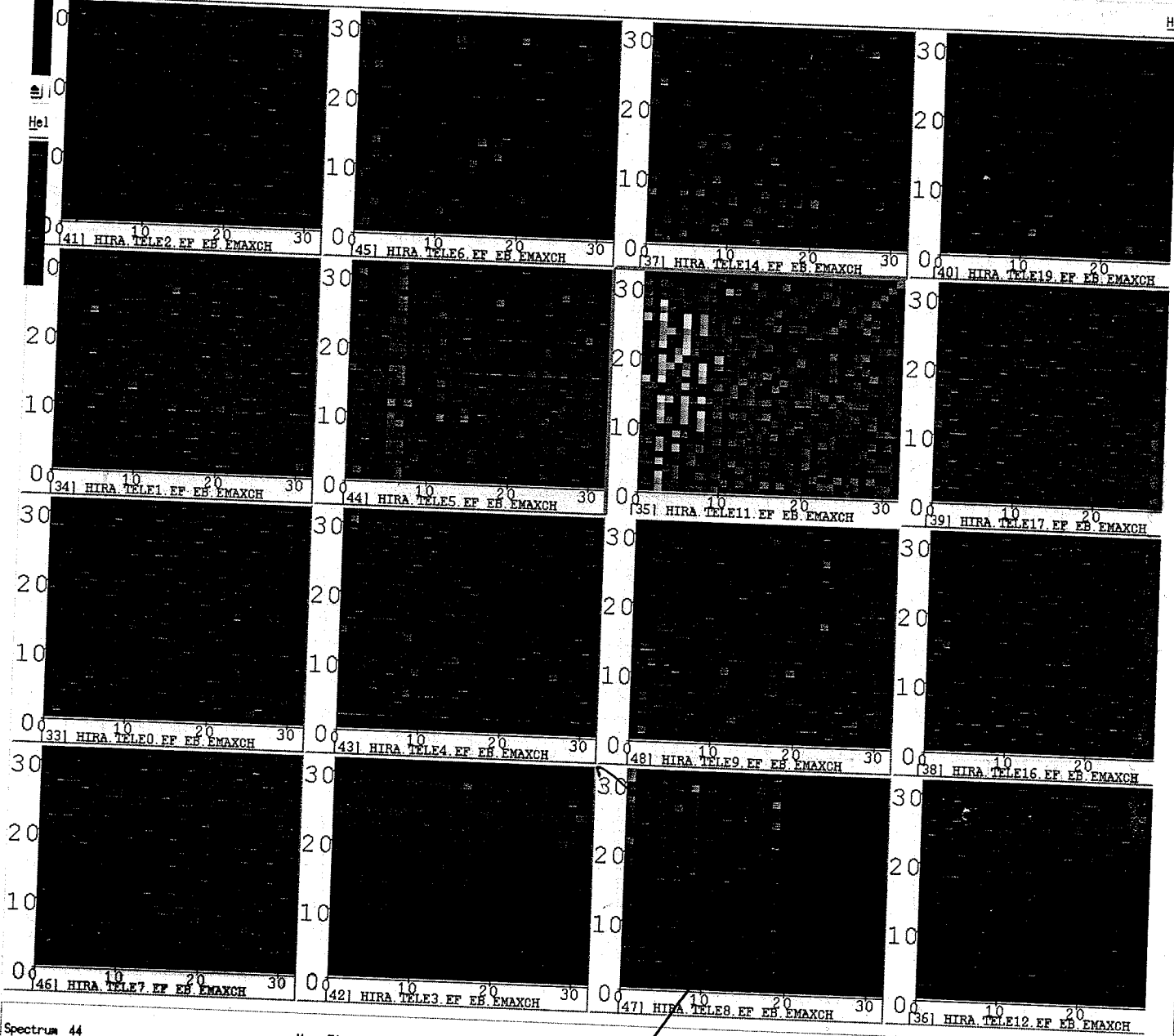
Geometry	<input type="checkbox"/> Zoom	Update All	Expand	Marker	Cut
Display		Update Selected	UnExpand	Summing Region	Band
Display *		Info	<input type="checkbox"/> Log <input type="checkbox"/> Map	Integrate	Outline



TELE 9 ER
Run 545



File Window Spectra Options Graph_objects



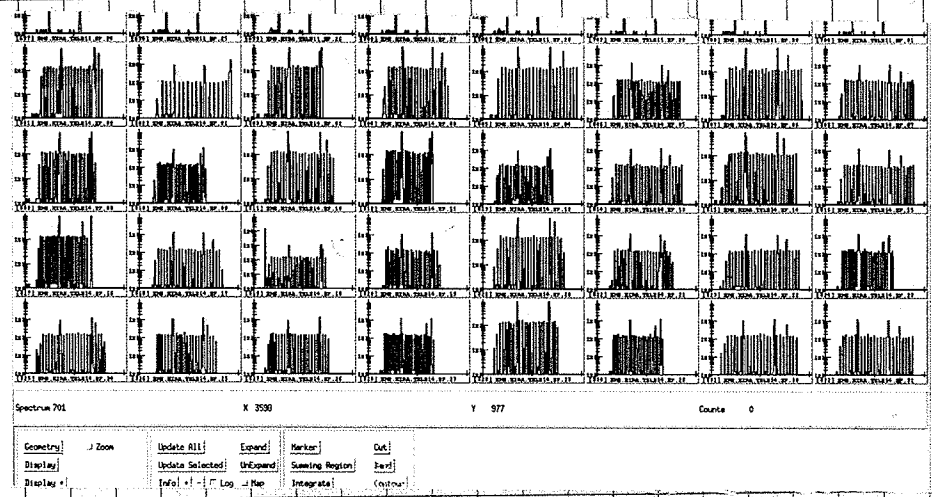
Spectrum 44 X 30 Y 5 Counts 5

Geometry	Zoom	Update All	Expand	Marker	Out
Display		Update Selected	UnExpand	Summing Region	Band
Display +		Info + -	Log Map	Integrate	Contour

TELE 14 E f

#546 41 steps now for 30ced
from 0 to 8V

E f for this TELE 14 is looking O.K.
except for ER (see page 21)

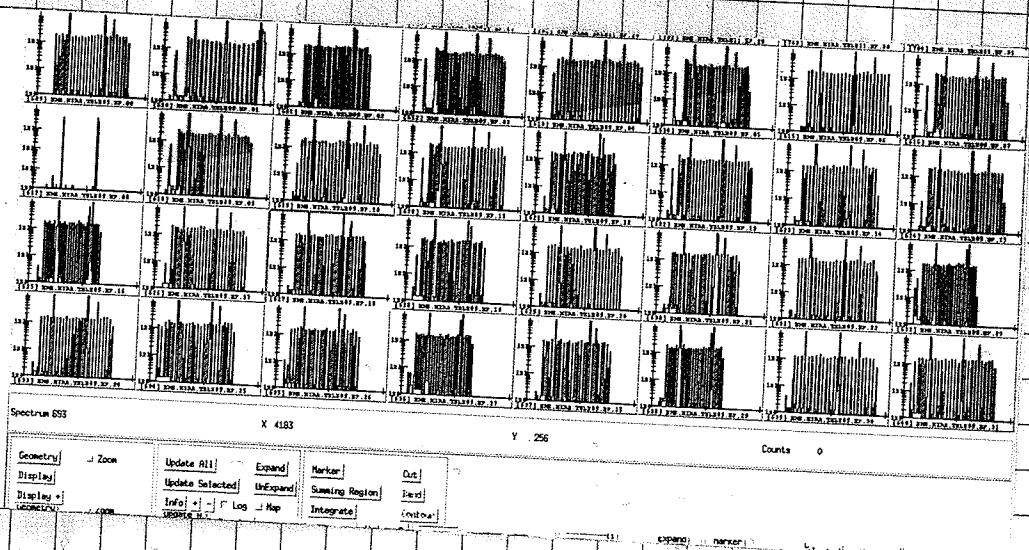


TELE 11 E f

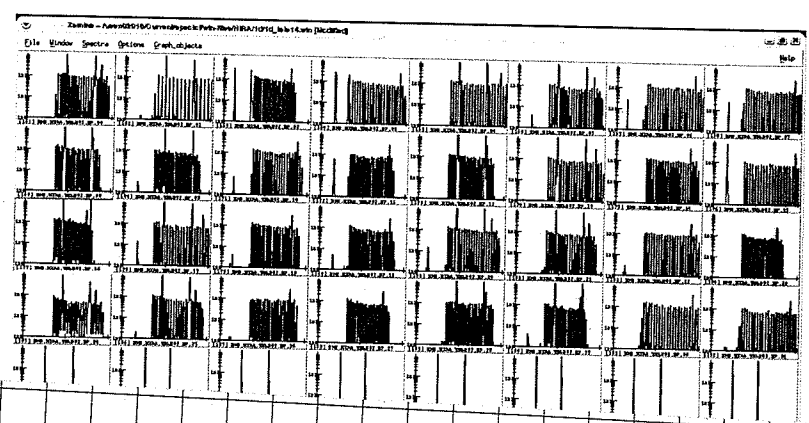
#547

good

TELE 9 EA
run 548



TELE 2 EF
GNV run 549 toggling + ramping



Back side was not fixed

TELE 2 EF again

run 550 toggling + ramping

TELE 2 EF

run 551

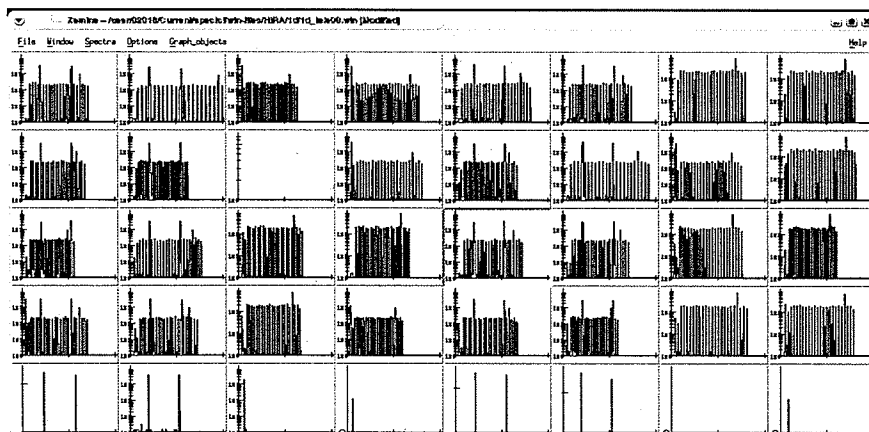
toggling + ramping

TELE 0 EF

run #552

TELE 7 EF

run #553

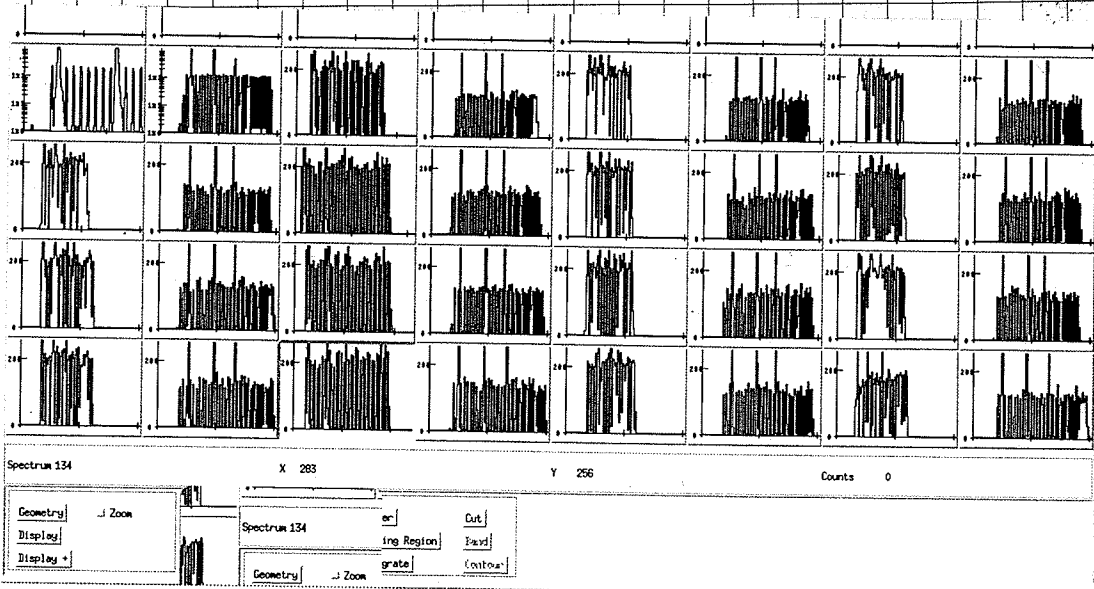


TELE 2 EB

run 554

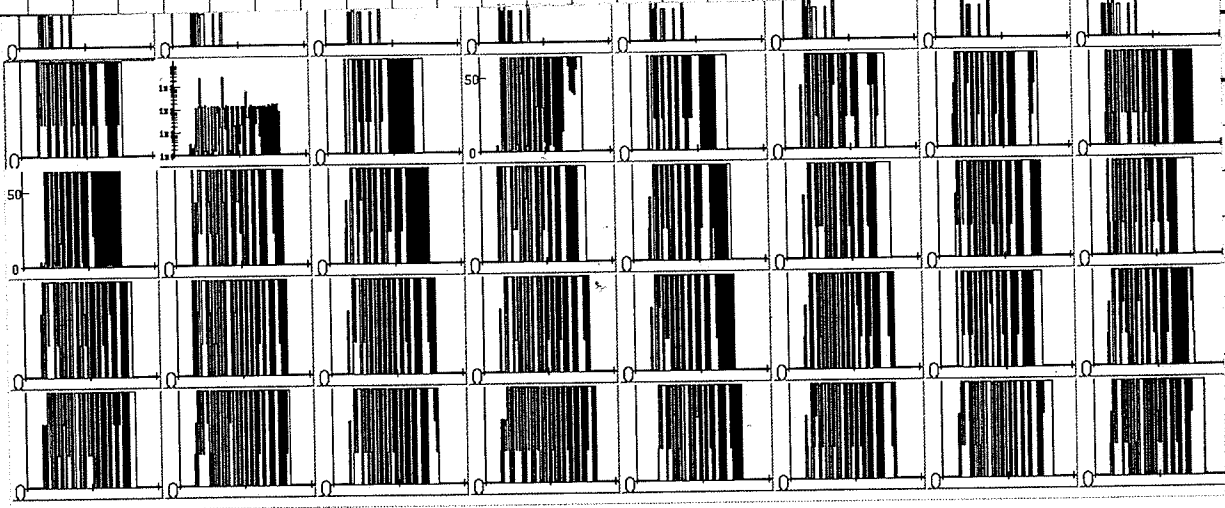
! Probably in this run att for ramping was changed to 1 instead of 2

18 No number



TELE1 EB
 4um 555 Junk
 556
Good

TELE~~Q~~ EB
 4um 557

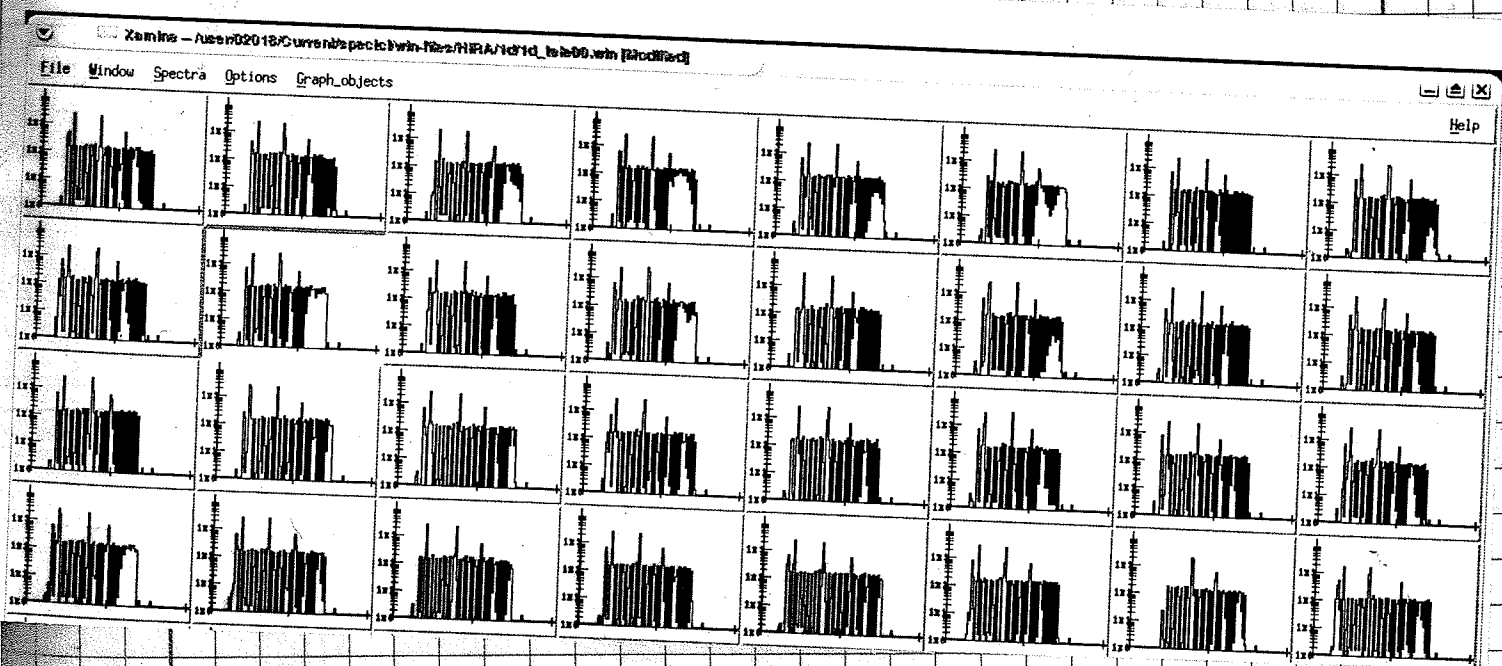


Spectrum 6 X 409 Y 0 Counts 0

Geometry	Zoom	Update All	Expand	Marker	Out
Display		Update Selected	UnExpand	Summing Region	Save
Print		Info	Mac	Integrate	Quit

TELE φ - ER

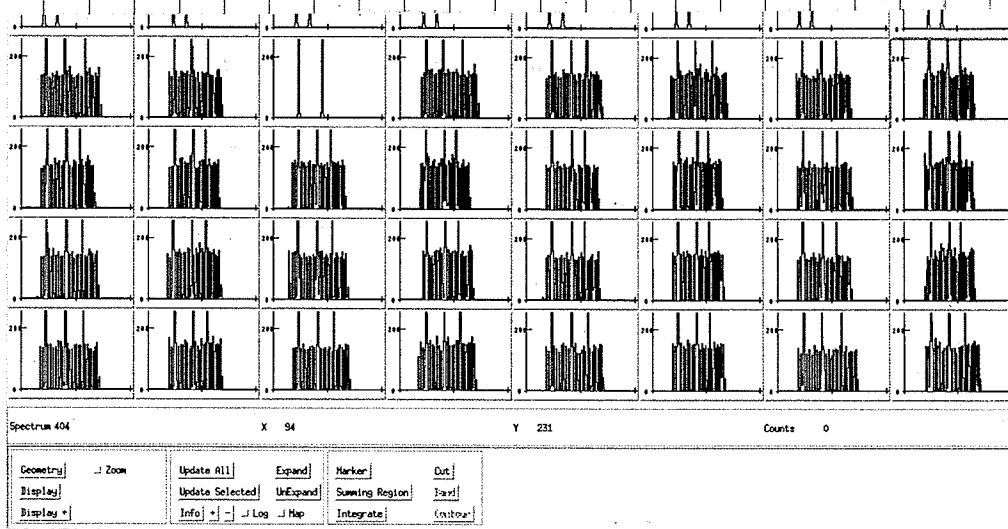
Munsh 558
TELE 7 ER



Man

559

TELE 6 EB
toggle + rompling



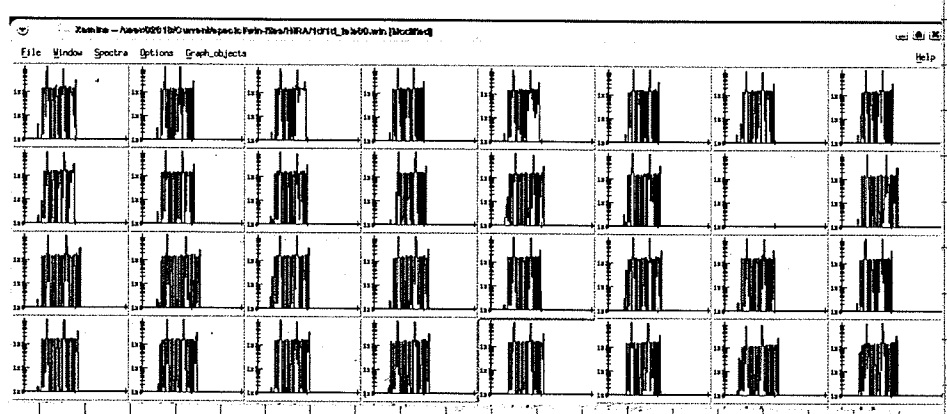
DAD - problem

Man 560

same

TELE 05 EB

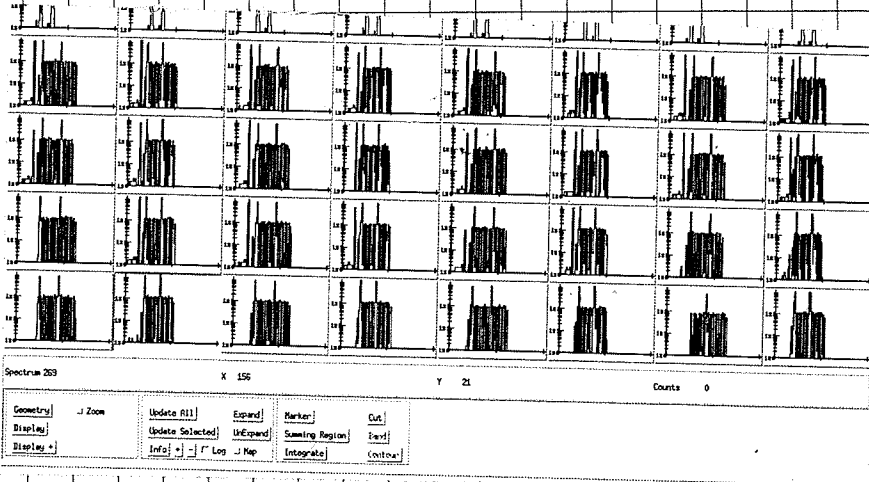
Man 561



TELE 4 EF

run 562

toggle + ramping



TELE 6 EF

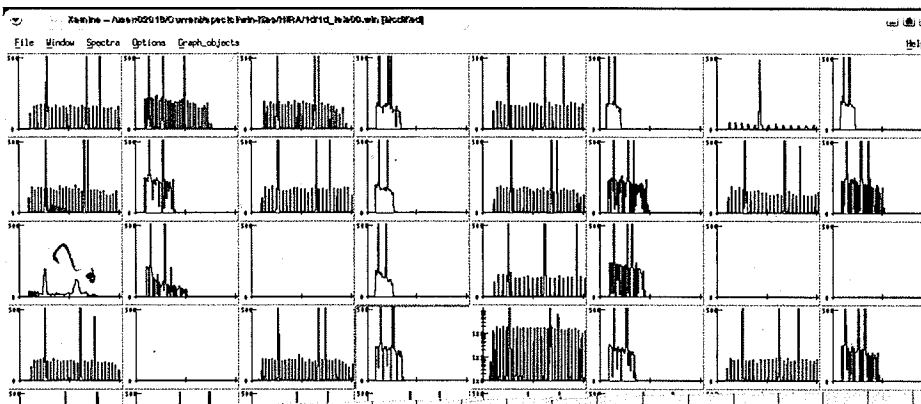
~~run~~

toggle + ramping
does not work

keyboard for TELE6 EF
is always dead after run 473
see page 56!

run 563

TELE5 EF



82

1ELK 7

EF

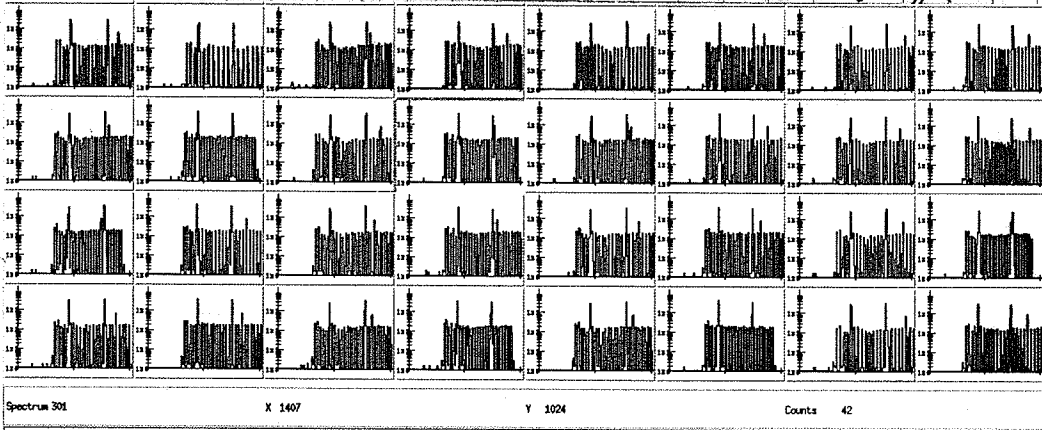
run 564

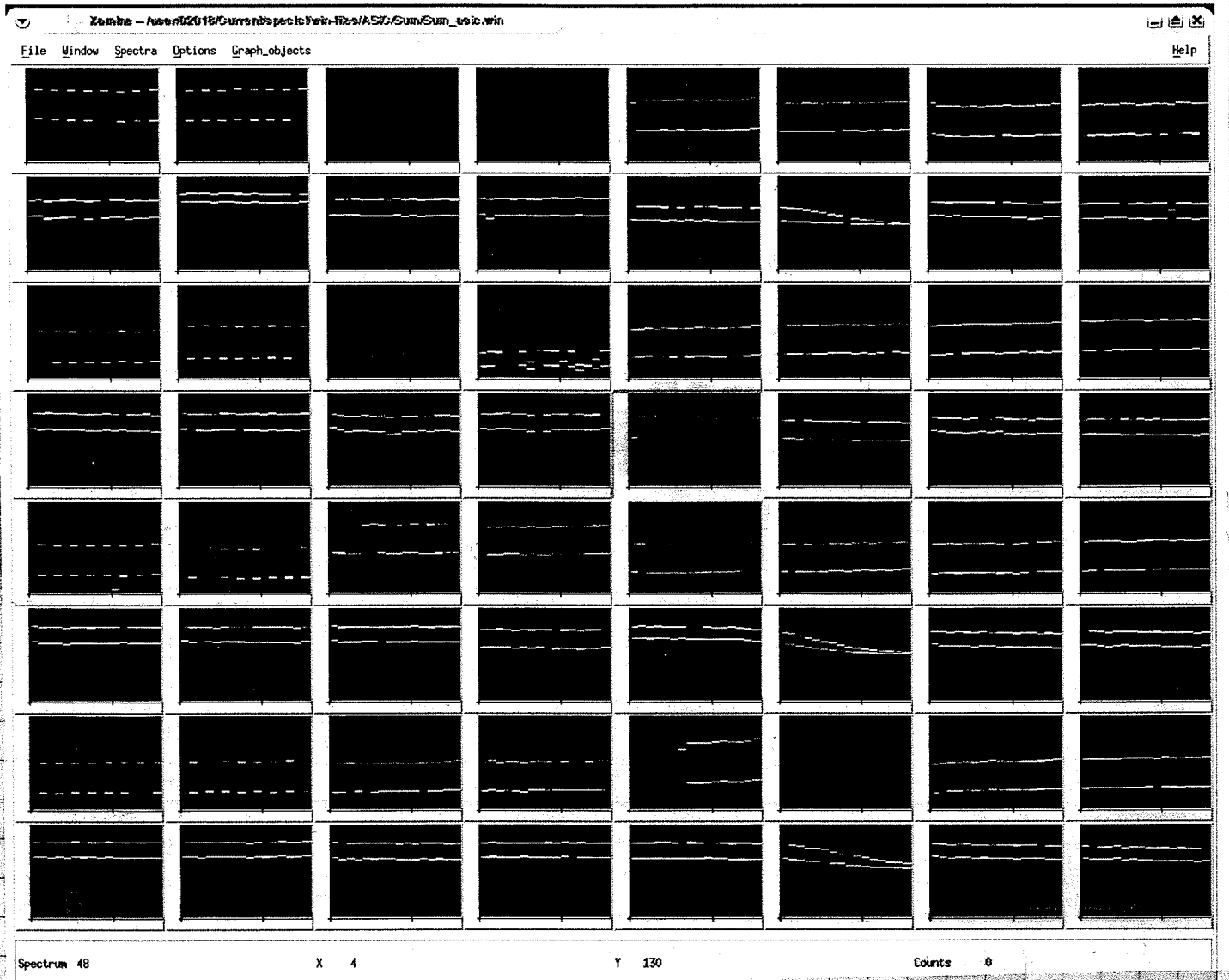
tagging + romping

att. 1

565

TELE FR att. 2



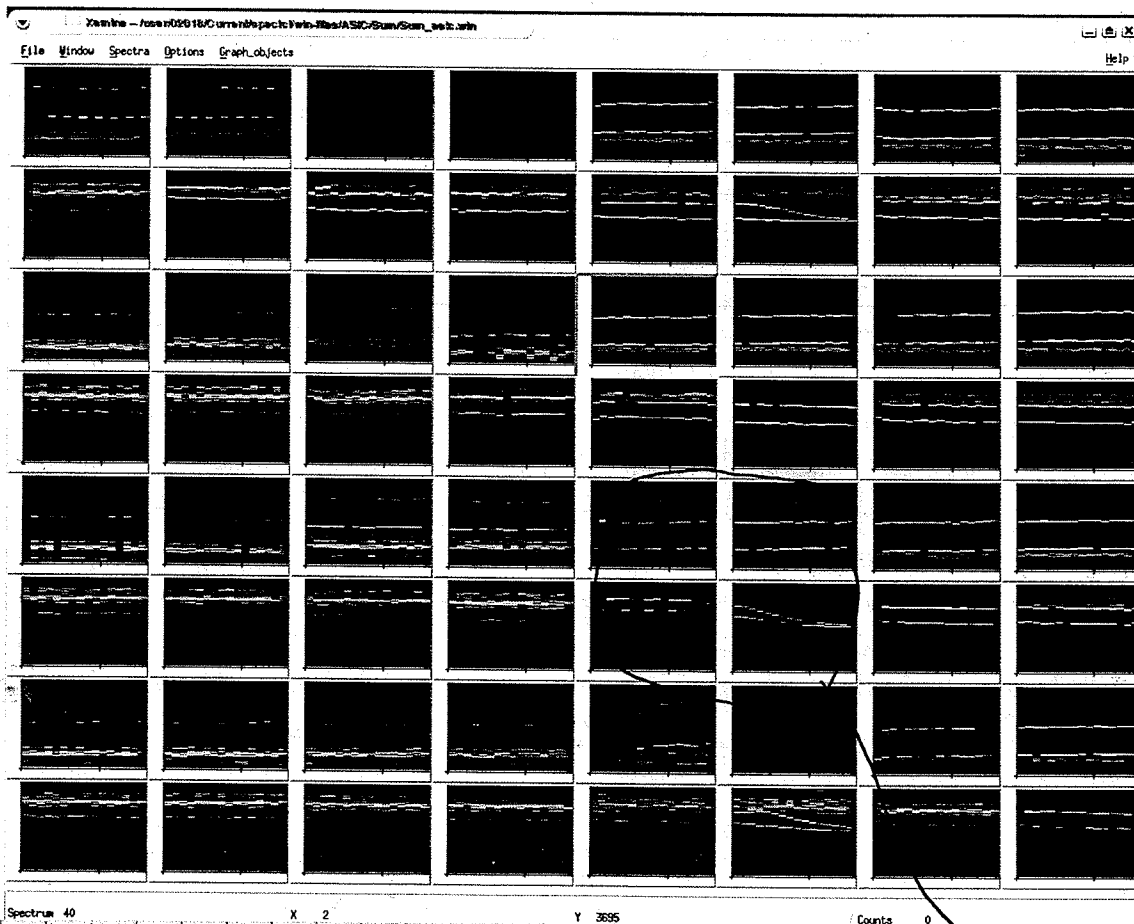


Group 01	Channel Name	WFO4	1004	WFO4	1004	WFO4	1004	Time
1		101	23.00 V	0.70 10				0.04.000
1		101	23.15 V	0.72 10				0.04.001
1		101	23.00 V	0.40 10				0.04.002
1		101	23.00 V	0.69 10				0.04.003
1		101	23.15 V	0.44 10				0.04.005
1		101	23.15 V	0.30 10				0.04.006
1		101	23.15 V	0.34 10				0.04.007
1		101	23.15 V	0.71 10				0.04.008
1		101	23.15 V	0.60 10				0.04.011
1		101	23.15 V	0.30 10				0.04.012
1		101	23.15 V	0.30 10				0.04.013
1		101	23.15 V	0.30 10				0.04.014
1		101	23.15 V	0.30 10				0.04.015
1		101	23.15 V	0.34 10				0.04.016
1		101	23.15 V	0.30 10				0.04.017
1		101	23.15 V	0.34 10				0.04.018

4um 566

α source

E's



Back side for T₂ is absent

TELE₂ has big
emission

TELE 11

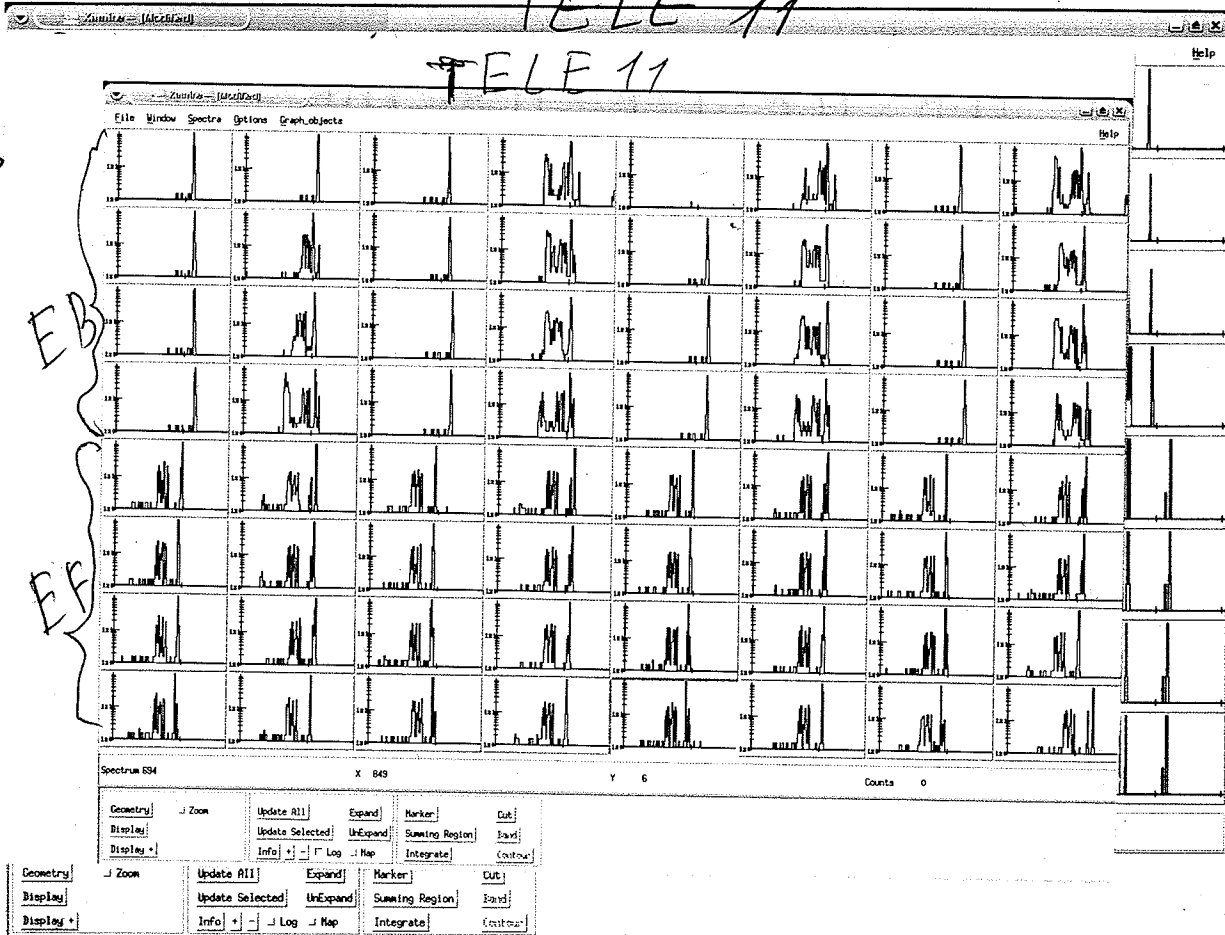
TELE 11

EB

EB

EF

EF



Problems:

TELE9 - no signal EF and EB

TELE11 - EB - Bad
EF - O.K

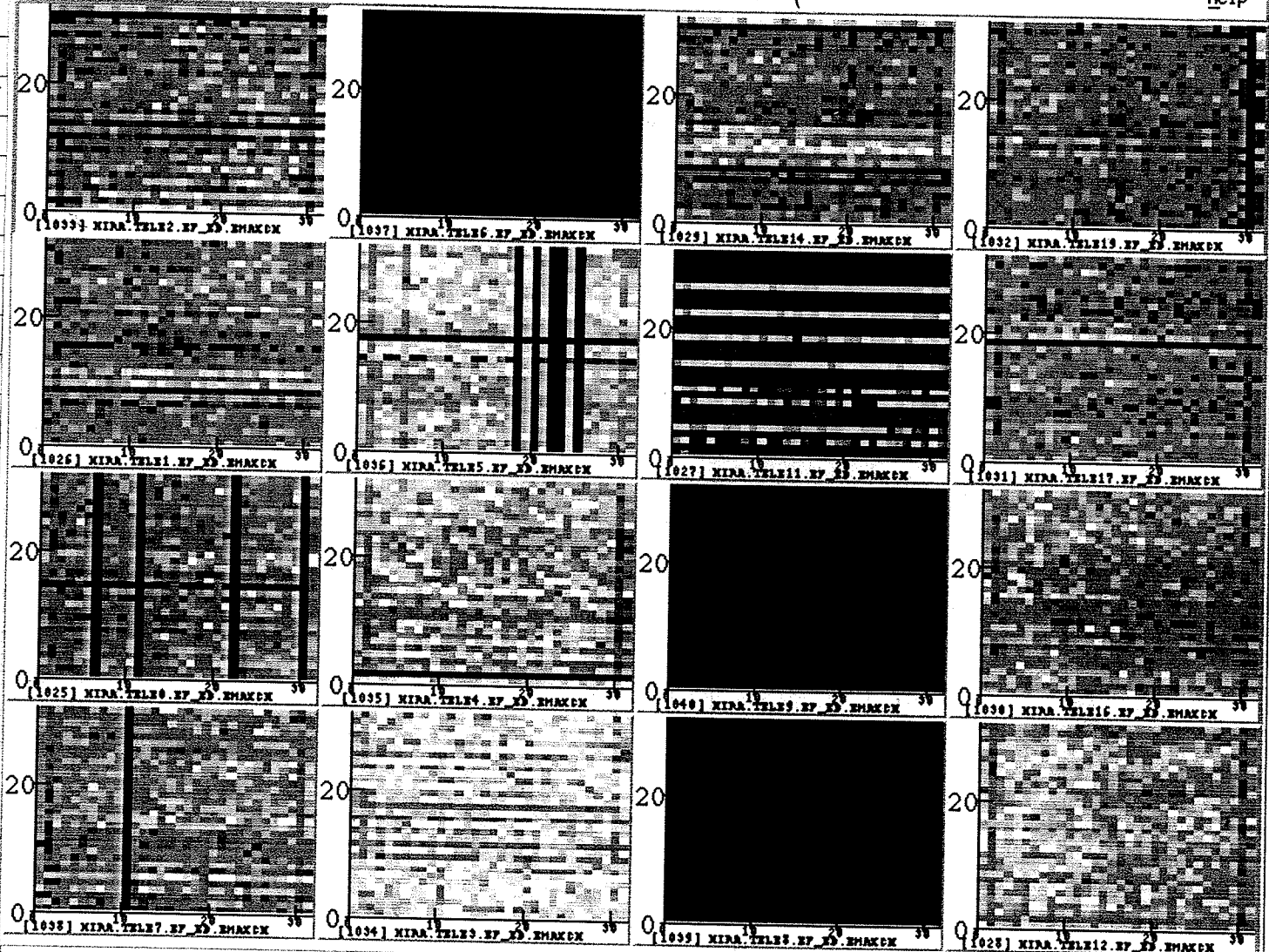
run 567 ✓ source

run 568 ✓ source

run 569

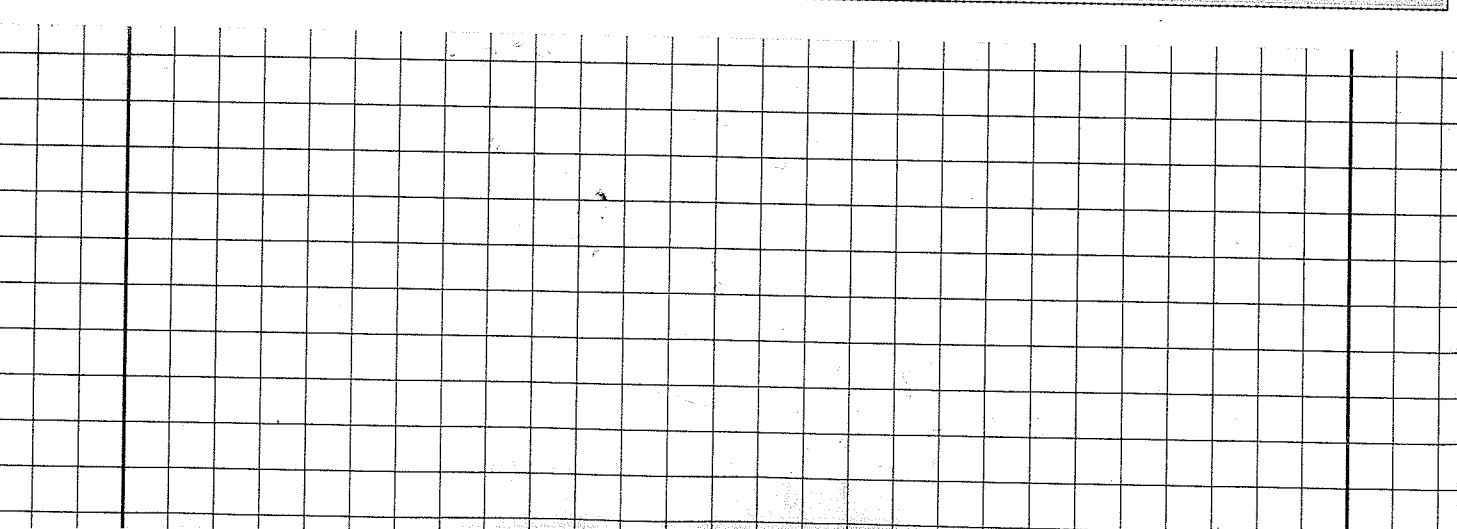
run 570 the source for EB

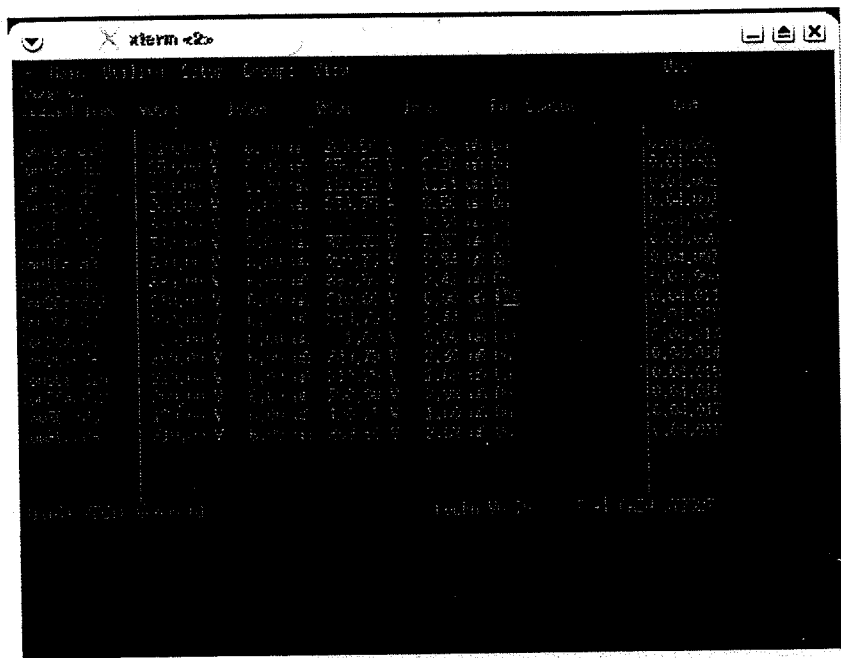
broken;
Cooler not keeping set temperature.



Spectrum 1040 X 24 Y 14 Counts 0

Geometry	<input type="checkbox"/> Zoom	Update All	Expand	Marker	<input type="checkbox"/> Out
Display		Update Selected	UnExpand	Summing Region	Band
Display +		Info	<input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> Log <input type="checkbox"/> Map	Integrate	Contour





We wanted the chamber to be able
fix TELE9.

We could not fix it and as we
find now, TELE 14 was not able to
fixed. Cable connecting is not correct!

Room 572 with old chiller system
& toggle

573

574

575

576

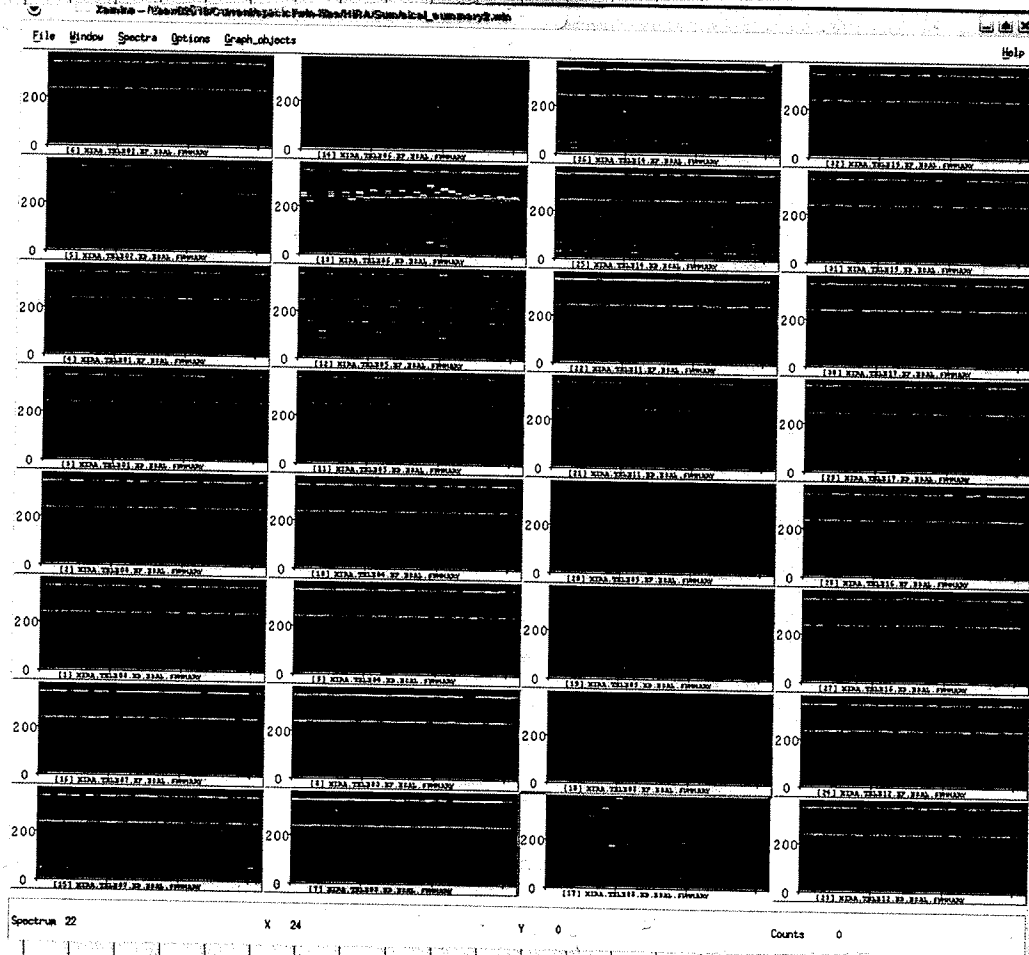
577

578

21 November

foil summa

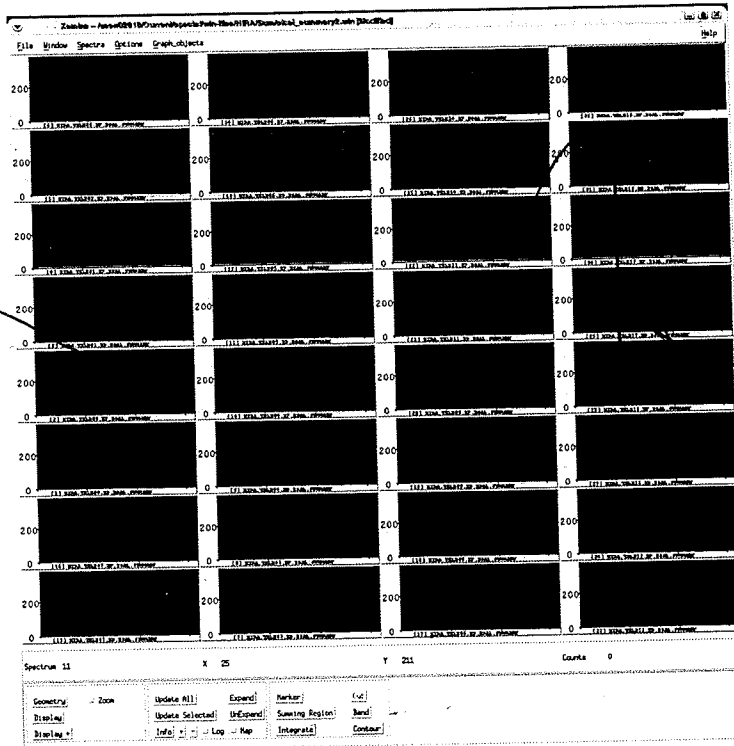
run # 580, 581, 582



Run 581

Name	Value	Units	Comment
I252IG	-0.081		chart MSC ion gauge
RA_TOW0_R	5.12	V	Tower 0 Regulator
RA_TOW1_R	5.11	V	Tower 1 Regulator
RA_TOW2_R	5.06	V	Tower 2 Regulator
RA_TOW3_R	5.08	V	Tower 3 Regulator
RA_TOW4_R	5.03	V	Tower 4 Regulator
RA_TOW5_R			Tower 5 Regulator
IA_TOW0_L			
IA_TOW1_L			
IA_TOW2_L			
IA_TOW3_L			
IA_TOW4_L			
IA_TOW5_L			
RA_TOW0_T	43.22	degC	chart Tower 0 Temperature
RA_TOW0_T	21.49	degC	
RA_TOW0_T	25.15	degC	
RA_TOW0_T	19.66	degC	
RA_TOW1_T	48.84	degC	chart Tower 1 Temp
RA_TOW1_T	22.47	degC	
RA_TOW1_T	23.44	degC	
RA_TOW1_T	19.17	degC	
RA_TOW2_T	36.26	degC	chart Tower 2 Temp
RA_TOW2_T	18.93	degC	
RA_TOW2_T	32.11	degC	
RA_TOW2_T	19.54	degC	
RA_TOW3_T	36.02	degC	chart Tower 3 Temp
RA_TOW3_T	21.00	degC	

Run 583 suddenly I found no events!



1h⁰⁰ Reboot VMG

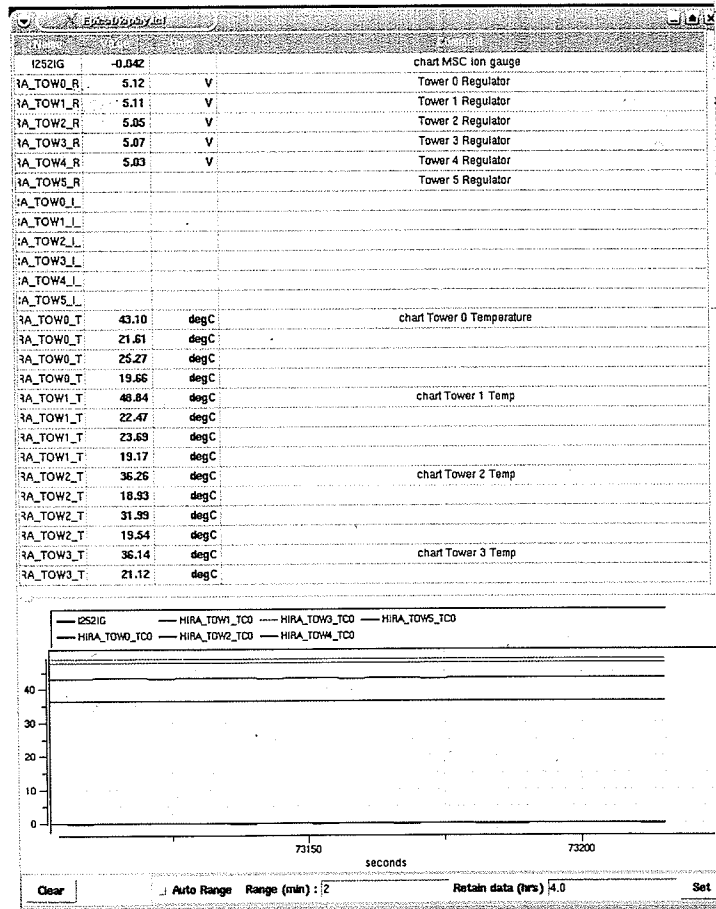
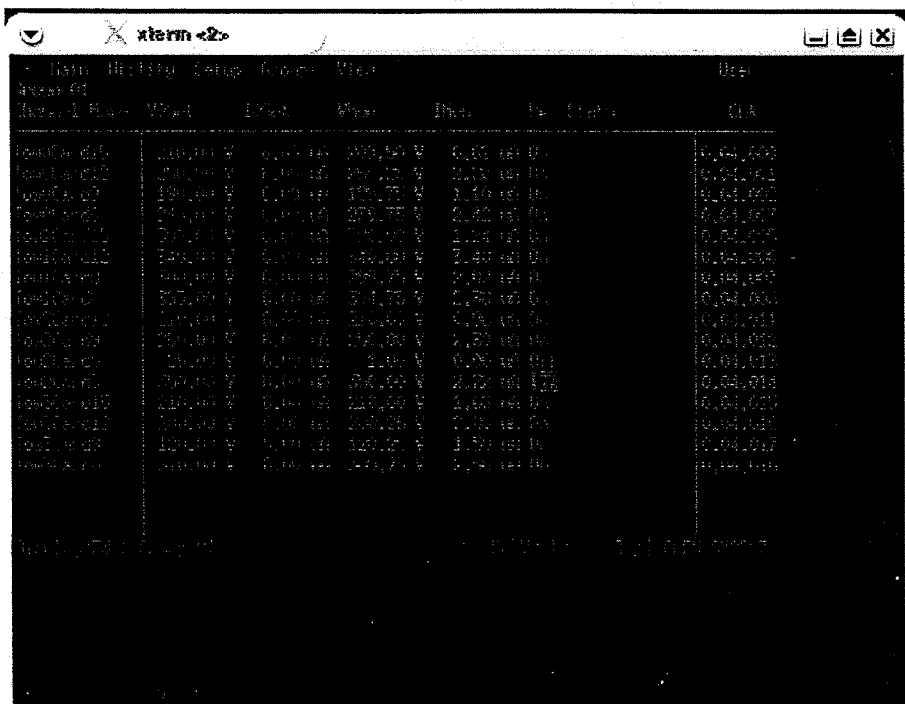
Run 583 again

Run 584 junk

I reboot everything VMGs and SPD

Run 585 again

586



Run 587

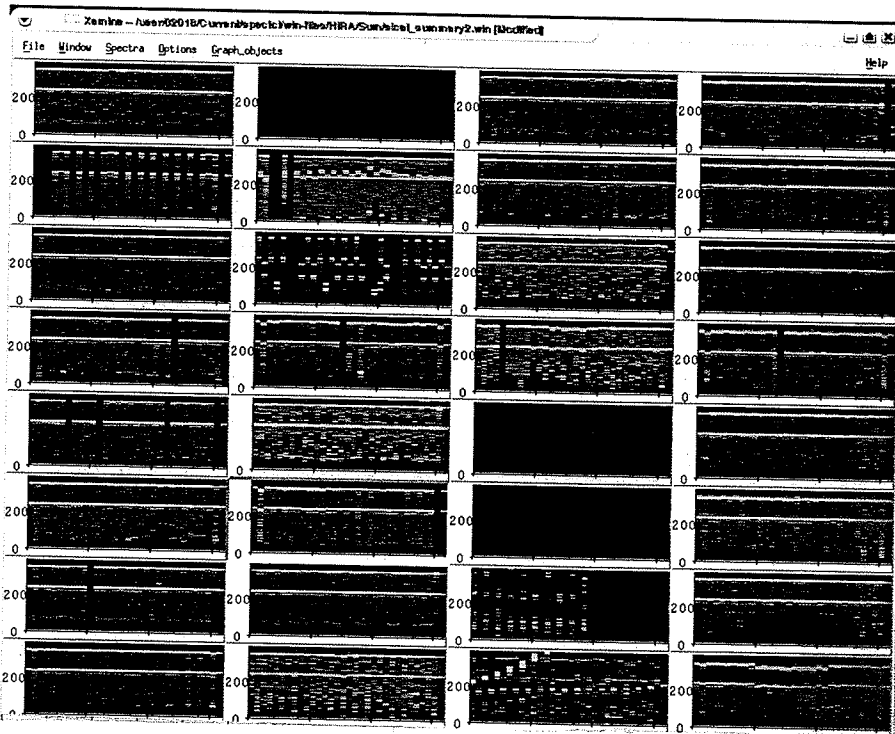
foil source with 2 Hz toggling pulser

Run 588

foil source with 2 Hz toggling pulser

Run 589

foil source with 2 Hz toggling pulser



BNC P8-5 Control BLUE

Disconnect Exit Pulse Off

Current State: Toggling in Progress...

Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.
 Pulser set at 2.
 Pulser set at 6.

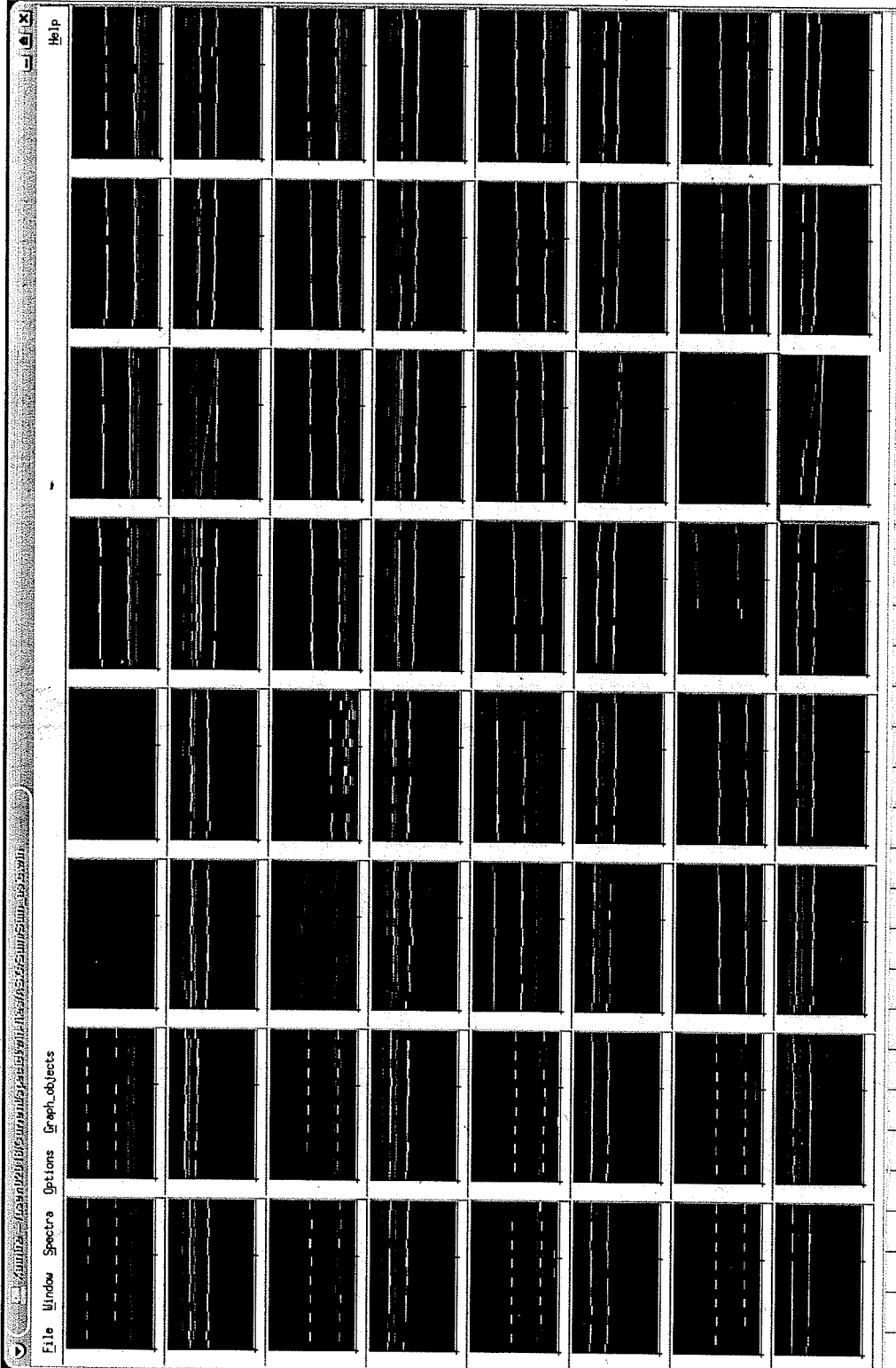
Set Amplitude
 Set Frequency
 Set Attenuation
 Ramp Pulser
 Set Positive
 Auto Flip
 Stop Toggling

Volts
 Hz
 Factor

2 2 X 6. 60

Min. Max. (V) Num. Time (s)

Num. Interval OffTime



#590

2 - foil + boggle

#591

2 - foil source + boggling

Boer Tower ① 8.3 μ A

1 —

2 7.27

3. 11.59 μ A —?

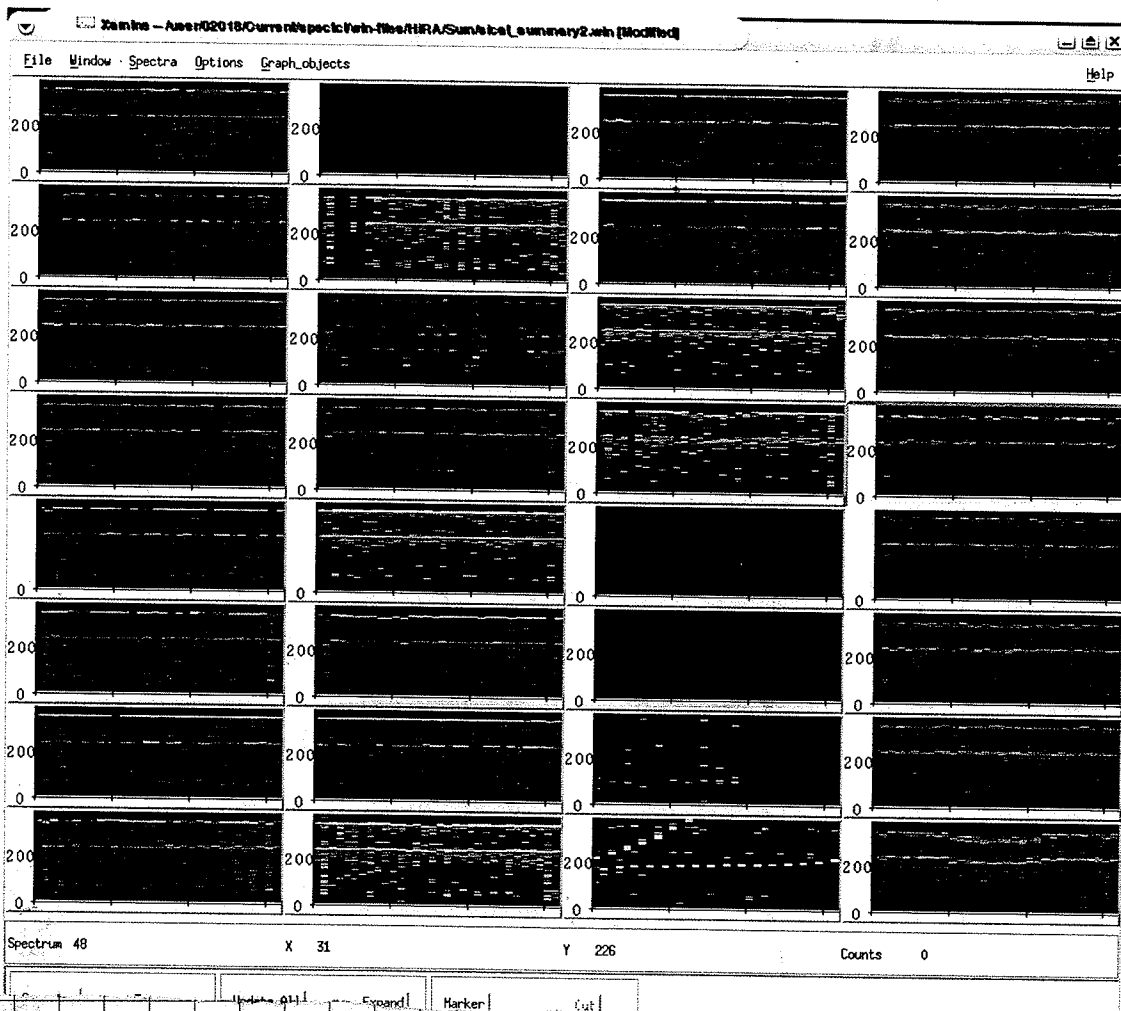
Xterm

— Main Utility Setup Groups View User

Group 01

Channel Name	Unit	Min	Max	Unit	Min	Max	Unit
TouTLe05	V	0.00	200.00	V	0.00	100.00	0.01,000
TouTLe01	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe02	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe03	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe04	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe06	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe07	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe08	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe09	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe10	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe11	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe12	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe13	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe14	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe15	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe16	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe17	V	0.00	100.00	V	0.00	100.00	0.01,000
TouTLe18	V	0.00	100.00	V	0.00	100.00	0.01,000

Display: Rows: 20, Columns: 8



resolution became worse
and current 11.59 eV ??