2010-12-02 Thursday Morning Notes

Thursday, December 02, 2010
7:06 AM

Stacking and Transfers

- Average stacking numbers
  - 25.87mA/hr
  - 20.8 pbar/Mp
  - 8.02 Tp on target
- Unstacked 531E10 in 65 transfers over 21 sets with an average efficiency of 95.4%.
  - Steve added 5-deg to A:R4MIPS to fix an energy error

Numbers

- Stacking
  - Pbars stacked: 537.64 E10
  - Time stacking: 23.08 Hr
  - Average stacking rate: 23.29 E10/Hr

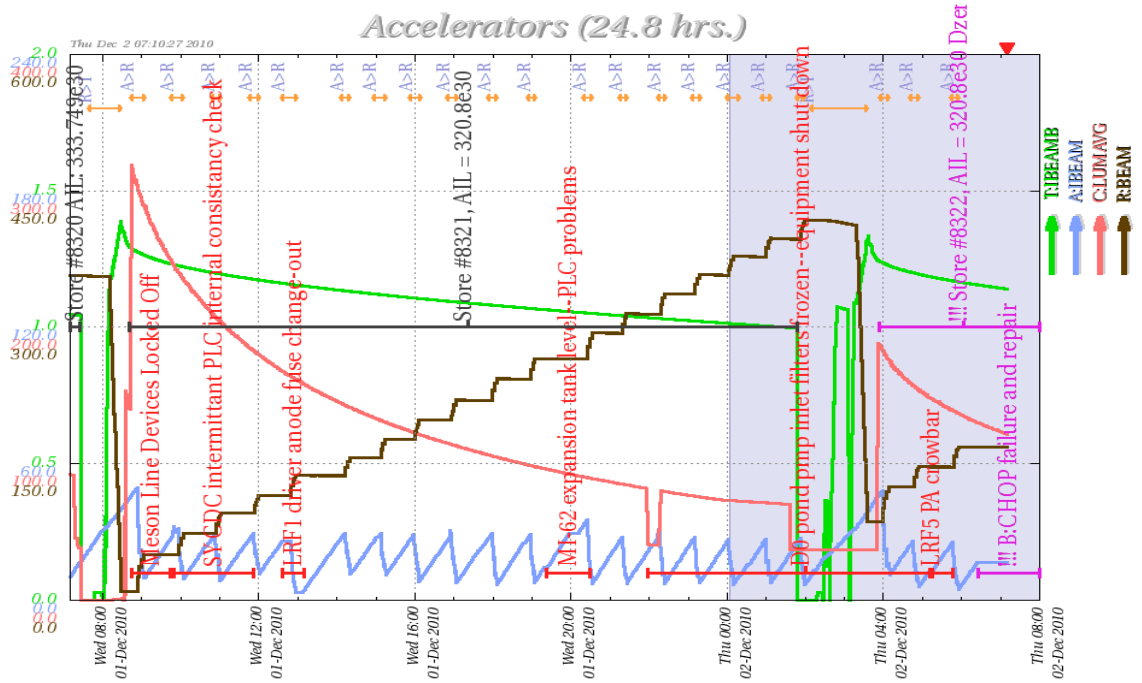
- Uptime
  - Number of pulses while in stacking mode: 34551
  - Number of pulses with beam: 32061
  - Fraction of up pulses was: 92.79%

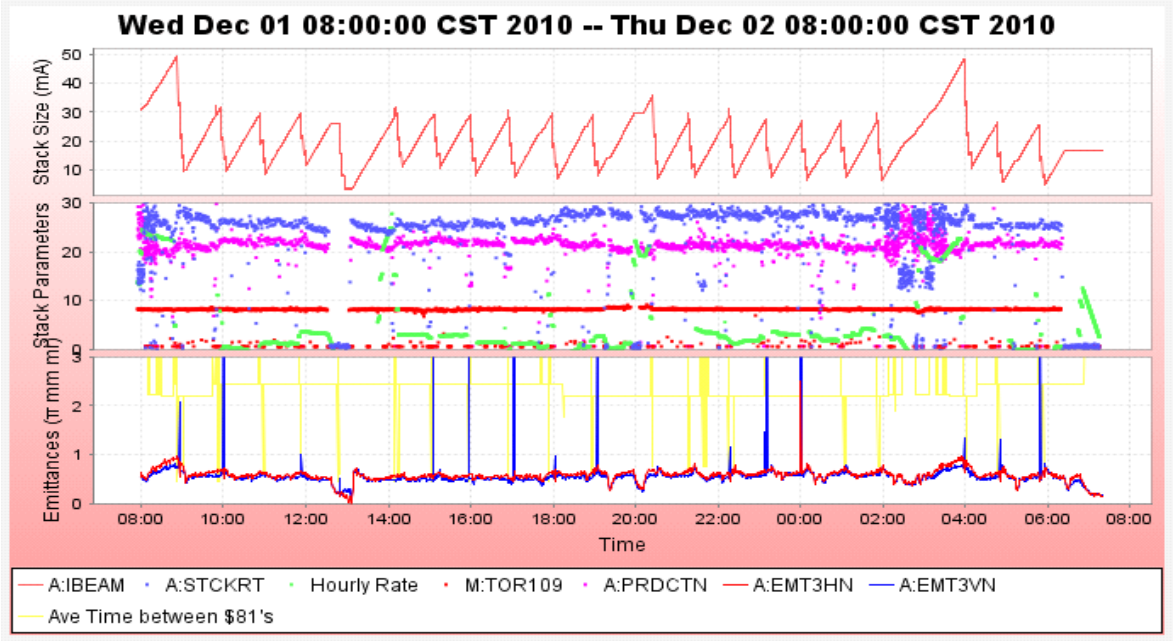
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 21.42 Hr
  - Possible average stacking rate: 25.10 E10/Hr
  - Could have stacked: 579.39 E10/Hr

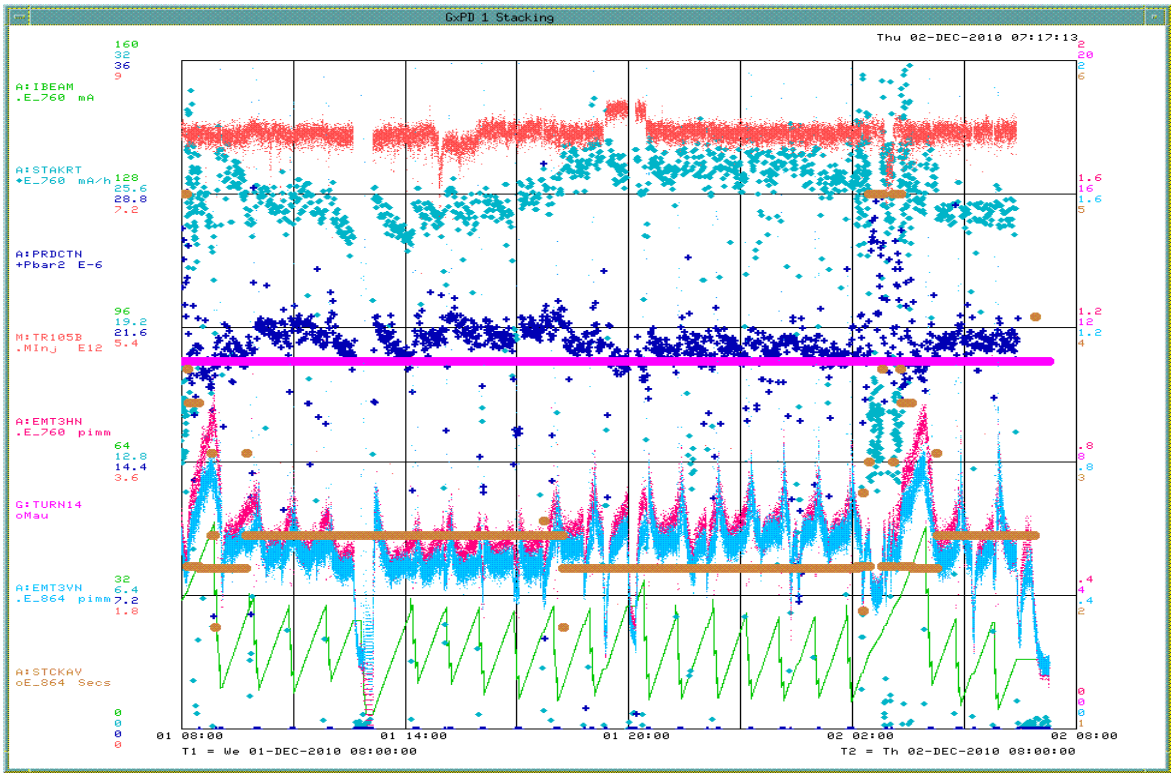
- Recycler Transfers
  - Pbars sent to the Recycler: 530.49 E10
  - Number of transfers : 65
  - Number of transfer sets: 21
  - Average Number of transfer per set: 3.10
  - Time taken to shoot including reverse proton tuneup: 00.23 Hr
  - Transfer efficiency: 95.16%

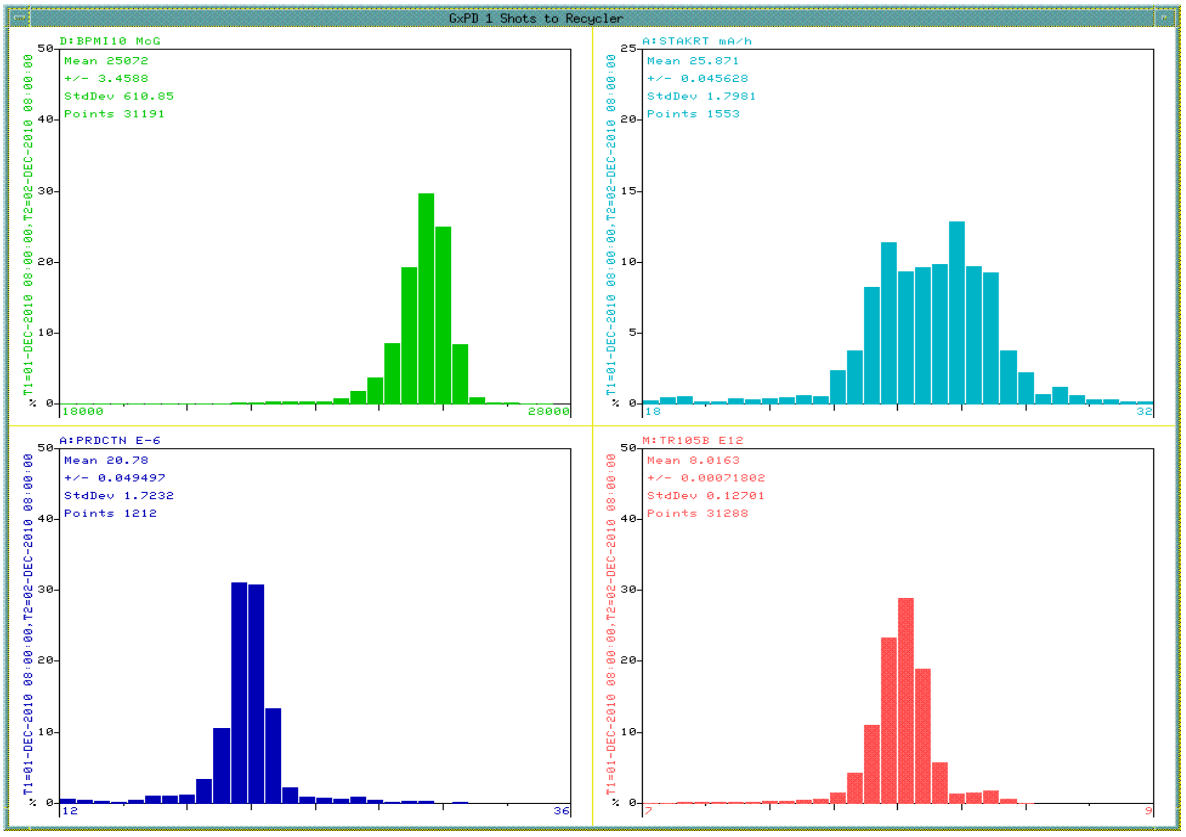
- Other Info
  - Average POT : 8.01 E12
  - Average production: 20.93 pbars/E6 protons

Stacking Plots

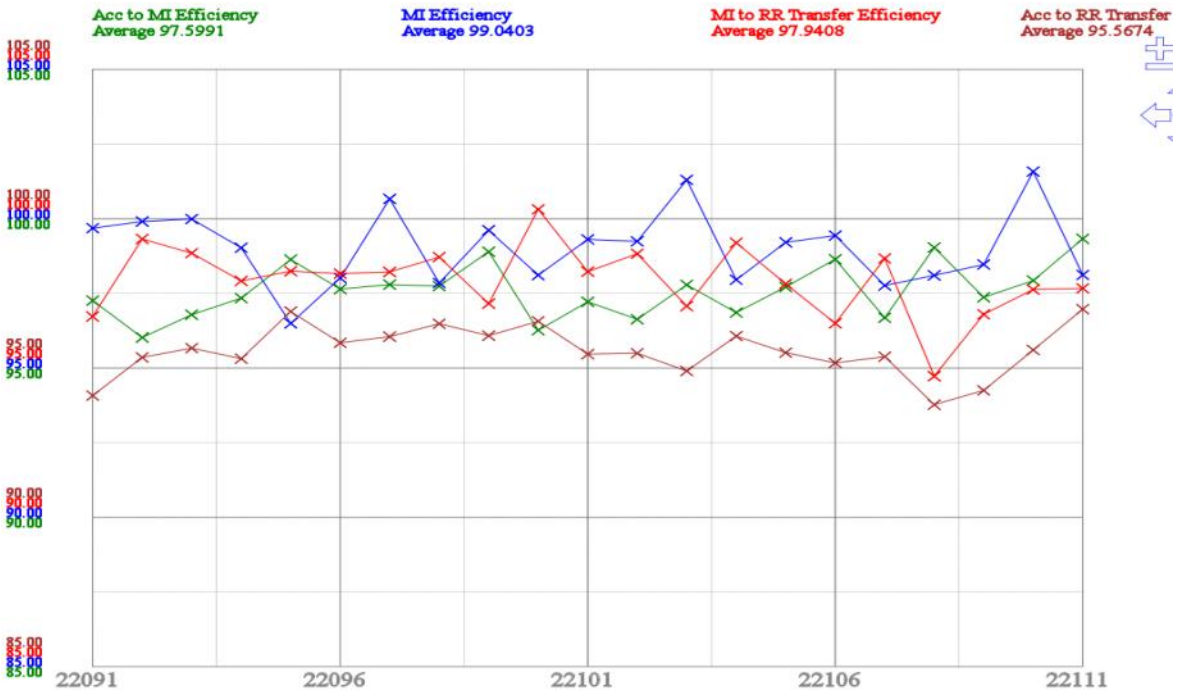

Accelerators (24.8 hrs.)
Thu Dec 2 07:10:27 2010
Store #8320 AIL = 333.749e30
Meson Line Devices Locked Off
SY120 DC intermittant PLC internal consistancy check
LRF1 driver anode fuse change-out
Store #8321, AIL = 320.8e30
MI-62 expansion tank level--PLC problems
D0 pond pmp inlet filters frozen--equipment shutdown
LRF5 PA crowbar
!!! Store #8322, AIL = 320.8e30 Dzero
!!! B:CHOP failure and repair
T:IBEAMB
A:IBEAM
C:UMAVG
R:BEAM
Wed 08:00 01-Dec-2010
Wed 12:00 01-Dec-2010
Wed 16:00 01-Dec-2010
Wed 20:00 01-Dec-2010
Thu 00:00 02-Dec-2010
Thu 04:00 02-Dec-2010
Thu 08:00 02-Dec-2010


Wed Dec 01 08:00:00 CST 2010 -- Thu Dec 02 08:00:00 CST 2010
Stack Size (mA)
Stack Parameters
Emittances (π mm mr)
Time
A:IBEAM
A:STCKRT
Hourly Rate
M:TOR109
A:PRDCTN
A:EMT3HN
A:EMT3VN
Ave Time between $81's

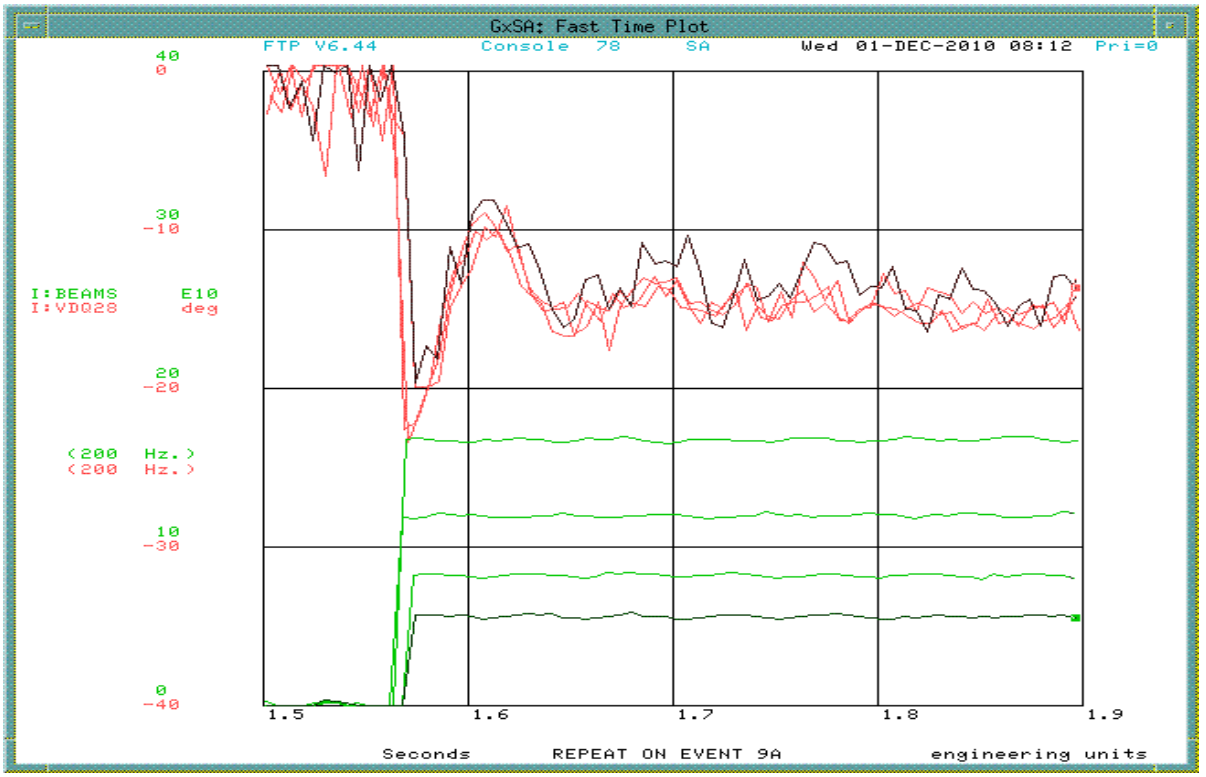




Transfers Plots

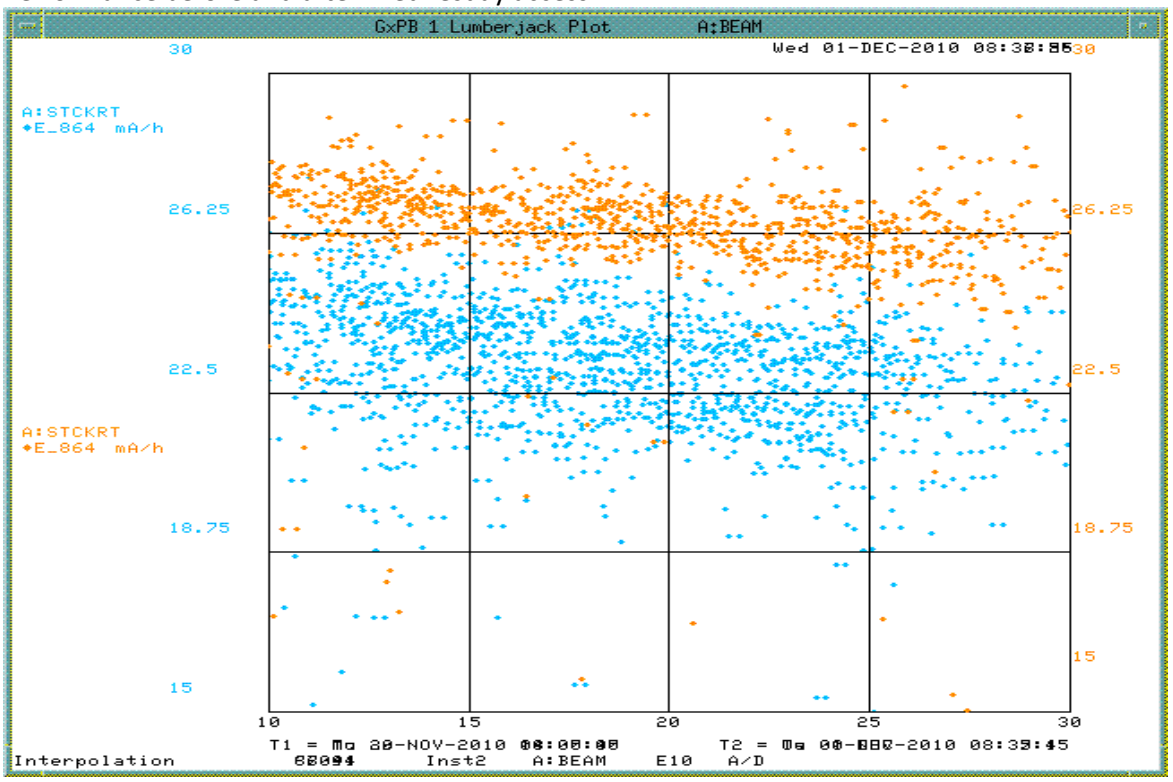


Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:IBEAMB sampled on $91 (A:BEAM7), E10	Column 22 Number_21_A:IBEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Column 23 Number_22_R:BEAMS (R:BEAME0[0]) pre xfer E10	Column 24 Number_23_R:BEAM (R:BEAME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Transfers	Sets	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance
	Totals =>				531.67			507.40	95.43%	97.53%	96.58%	94.19%	65	21	5.7837	5.1104	1.9554
	Daily Average =>				531.67			507.40					65	21			
22111	Thursday, December 02, 2010	5:48	25.52	4.68	23.40	146.50	168.83	22.65	96.80%	98.85%	97.18%	96.07%	3	1	5.248	4.966	1.912
22110	Thursday, December 02, 2010	4:46	26.49	5.70	23.37	124.55	146.75	22.41	95.86%	98.13%	99.01%	97.16%	3	1	5.814	5.124	1.94
22109	Thursday, December 02, 2010	3:58	48.42	10.53	41.95	85.94	124.87	39.40	93.91%	97.07%	95.57%	92.77%	4	1	7.665	6.242	1.983
22108	Thursday, December 02, 2010	1:52	27.18	6.54	23.33	396.72	418.32	21.90	93.83%	98.87%	97.32%	96.22%	3	1	6.158	5.447	1.96
22107	Thursday, December 02, 2010	0:59	26.92	7.52	22.13	377.34	398.10	21.14	95.52%	97.05%	94.80%	92.01%	3	1	6.238	5.56	1.986
22106	Thursday, December 02, 2010	0:02	27.00	6.69	22.83	357.29	378.63	21.77	95.35%	98.34%	98.11%	96.49%	3	1	6.135	5.528	1.981
22105	Wednesday, December 01, 2010	23:10	27.85	7.21	23.34	336.32	358.33	22.26	95.40%	97.80%	97.45%	95.30%	3	1	6.3	5.597	1.98
22104	Wednesday, December 01, 2010	22:17	28.91	7.37	24.12	314.43	337.24	23.18	96.10%	96.70%	94.91%	91.78%	3	1	6.087	5.482	1.932
22103	Wednesday, December 01, 2010	21:18	27.61	7.29	23.04	293.50	315.19	21.88	94.95%	98.23%	98.69%	96.94%	3	1	6.154	5.543	1.981
22102	Wednesday, December 01, 2010	20:25	35.68	6.98	30.79	264.94	294.04	29.39	95.46%	96.80%	96.12%	93.04%	3	1	5.842	5.366	1.871
22101	Wednesday, December 01, 2010	18:57	29.01	7.89	23.90	243.16	265.71	22.83	95.52%	97.09%	95.97%	93.17%	3	1	5.836	5.212	1.93
22100	Wednesday, December 01, 2010	17:58	29.58	6.72	25.30	219.63	243.74	24.39	96.40%	96.28%	94.42%	90.91%	3	1	5.745	5.333	1.952
22099	Wednesday, December 01, 2010	16:56	28.45	7.34	23.04	198.02	220.08	22.20	96.32%	98.92%	98.32%	97.25%	3	1	4.704	3.772	1.922
22098	Wednesday, December 01, 2010	15:59	29.18	8.06	22.94	176.53	198.49	22.12	96.43%	97.69%	95.40%	93.20%	3	1	4.965	4.261	1.918
22097	Wednesday, December 01, 2010	15:07	29.33	10.79	21.15	156.83	176.93	20.34	96.13%	97.86%	98.14%	96.04%	3	1	5.592	4.907	2.019
22096	Wednesday, December 01, 2010	14:12	29.68	10.92	21.26	136.87	157.07	20.36	95.79%	97.50%	95.47%	93.09%	3	1	5.335	4.58	2.033
22095	Wednesday, December 01, 2010	12:49	26.06	3.57	22.55	115.45	137.18	21.82	96.76%	98.25%	95.54%	93.86%	3	1	1.905	2.085	1.858
22094	Wednesday, December 01, 2010	11:52	29.83	11.34	21.04	95.62	115.54	20.07	95.40%	97.48%	96.54%	94.11%	3	1	5.75	5.11	2.031
22093	Wednesday, December 01, 2010	10:53	29.66	8.72	23.52	73.44	95.77	22.50	95.65%	96.96%	97.14%	94.19%	3	1	5.913	5.175	1.979
22092	Wednesday, December 01, 2010	9:56	31.78	9.27	25.11	49.86	73.61	23.93	95.28%	96.24%	95.95%	92.34%	3	1	6.192	5.601	1.978
22091	Wednesday, December 01, 2010	8:53	49.56	9.70	43.55	9.54	50.05	40.88	93.86%	97.15%	97.02%	94.26%	4	1	7.89	6.428	1.917

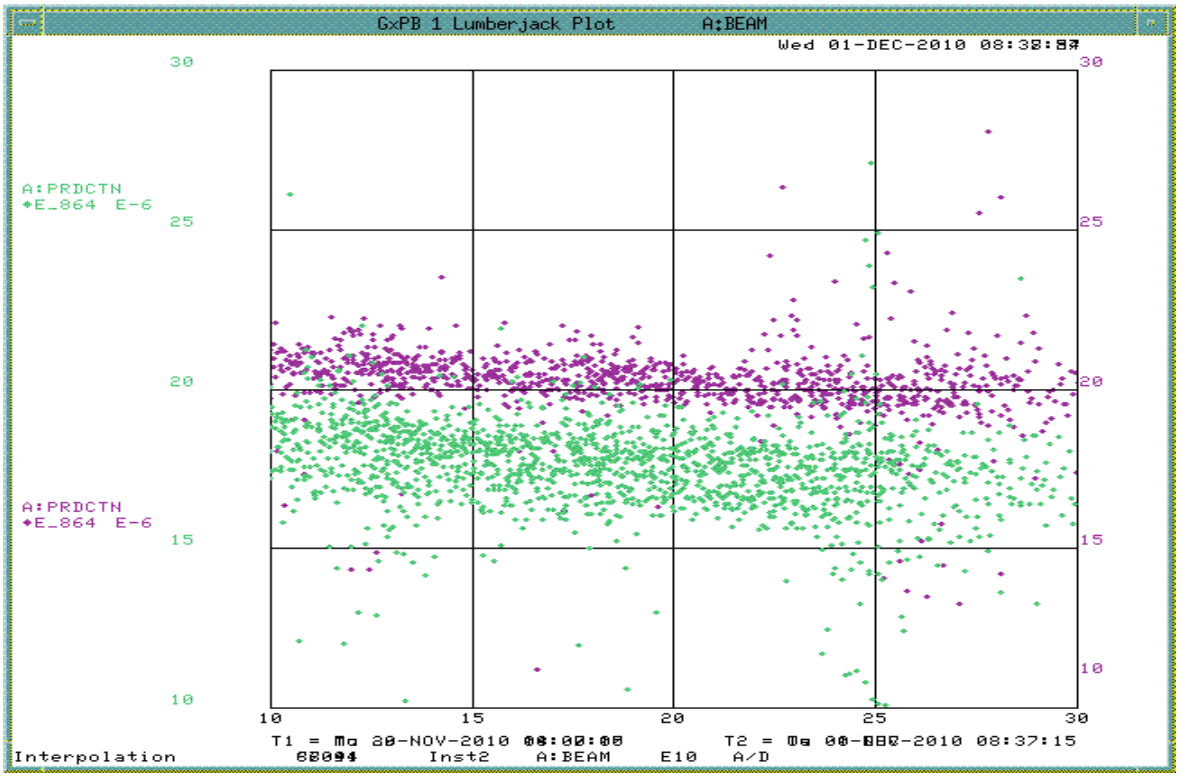


Steve added 5-deg to A:R4MIPS

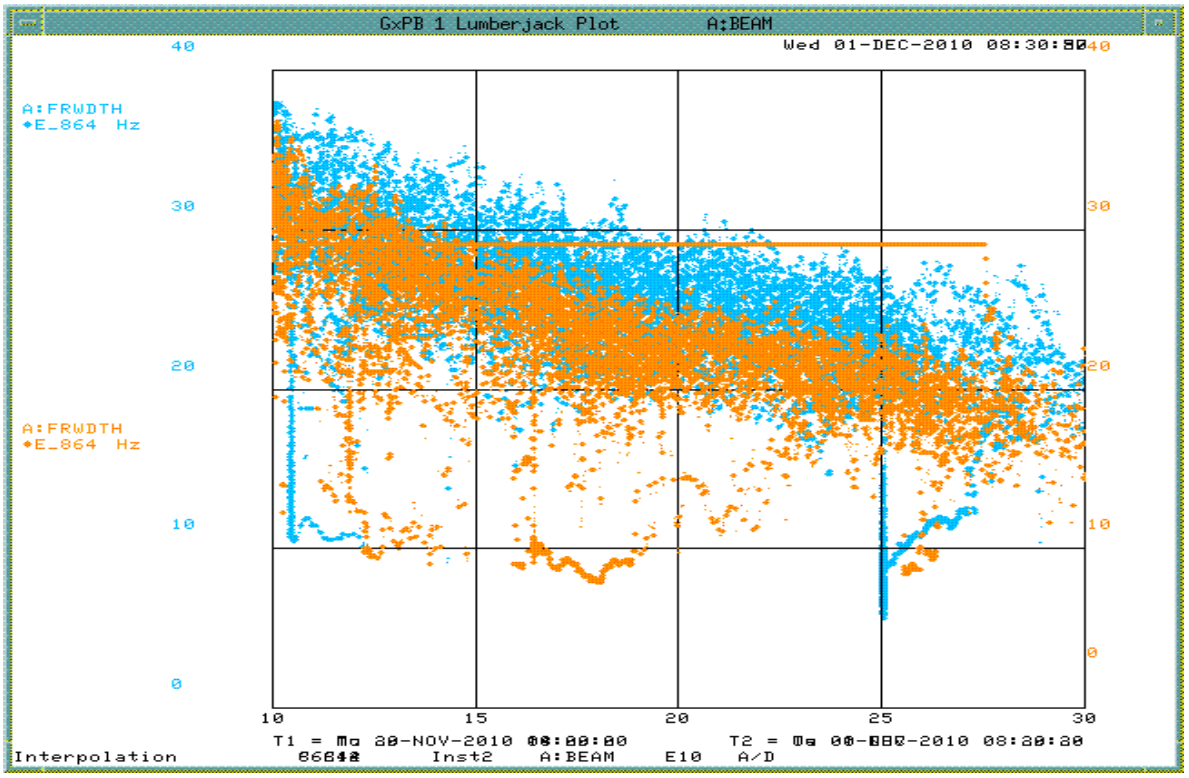
Performance before and after Wednesday access



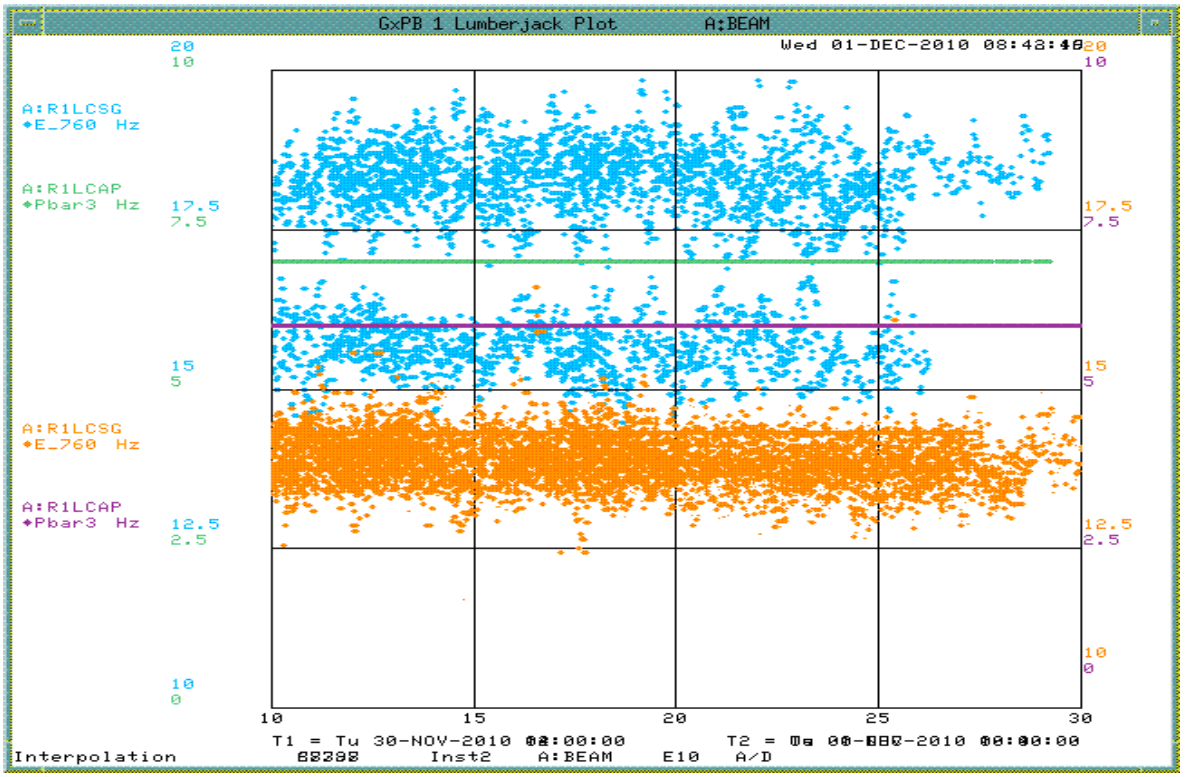
Stacking rate better



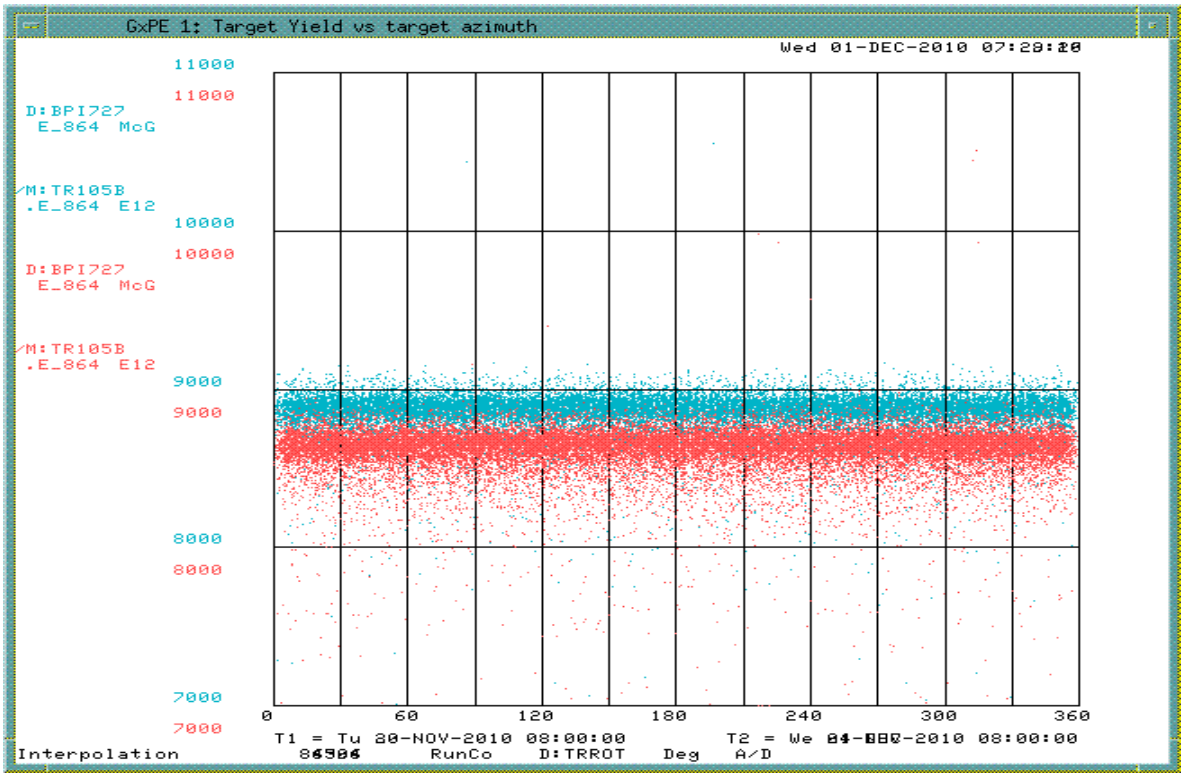
Production better after access

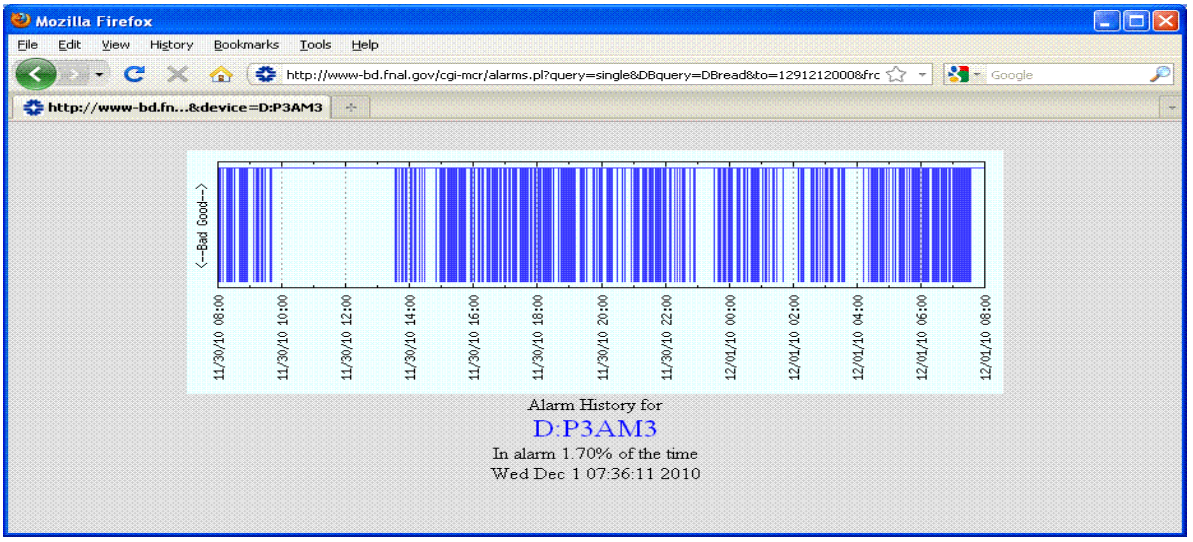


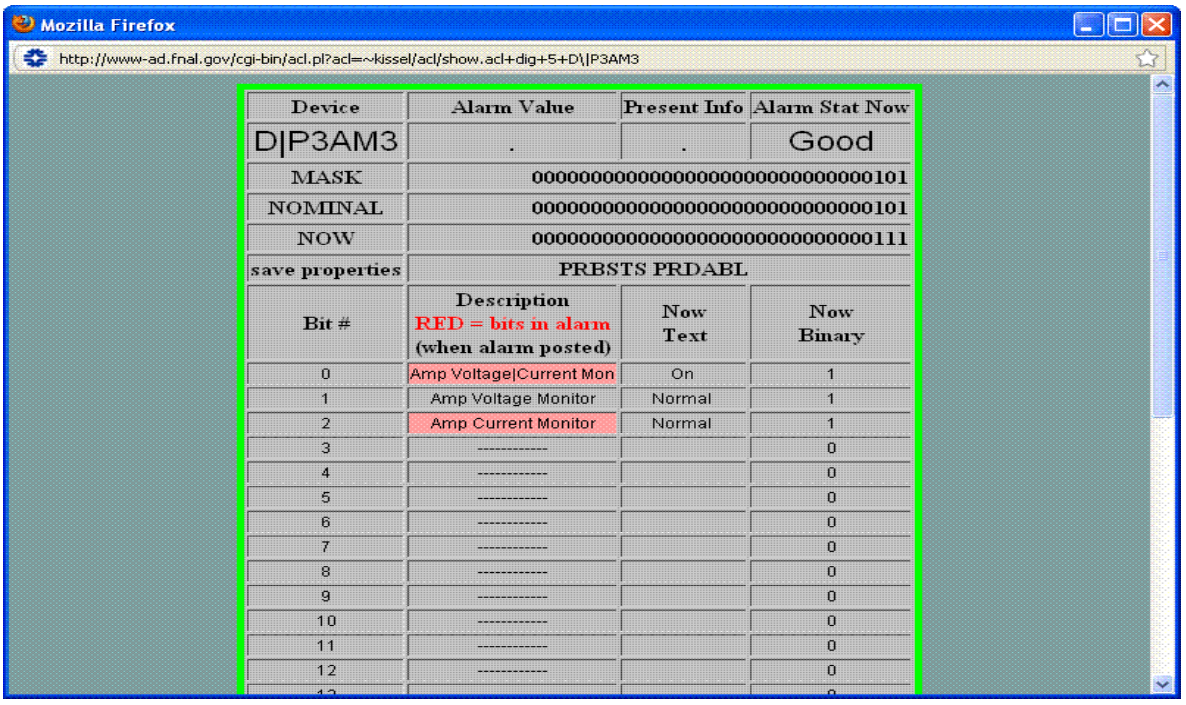
Frequency width of the core narrower after access due to 4-8 Core cooling work



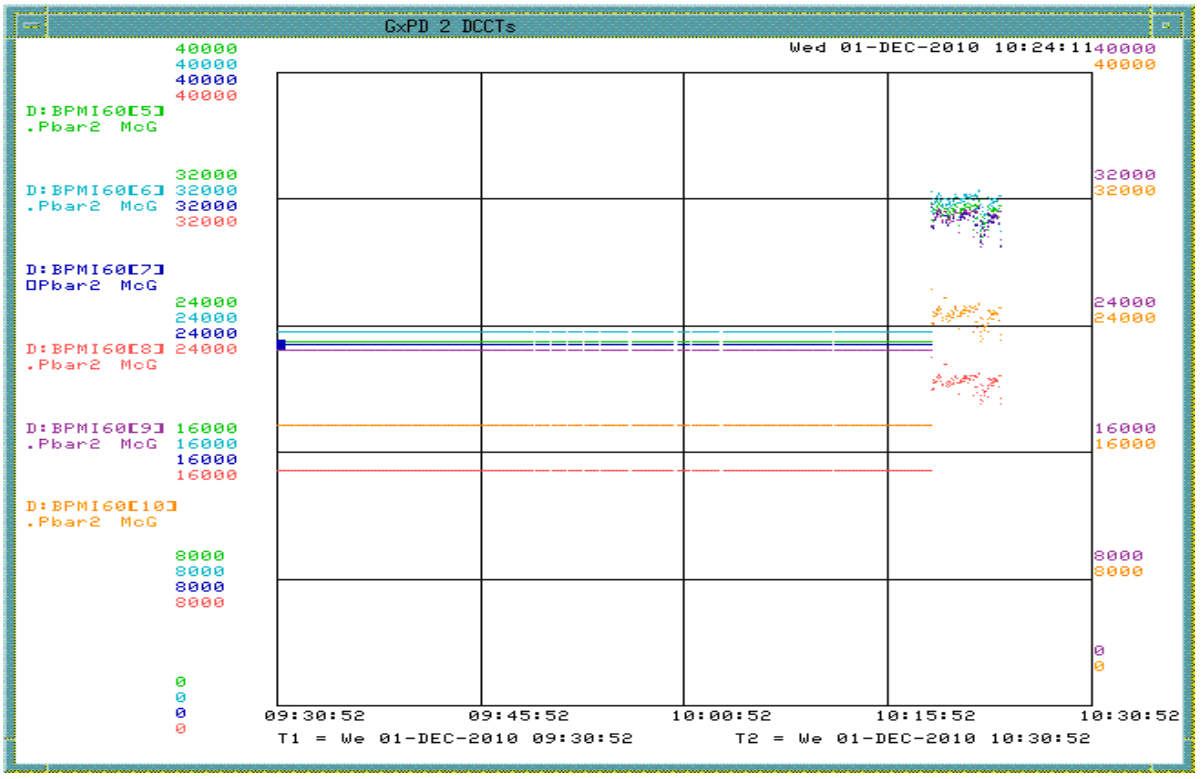
ARF1 calcuated bucket size smaller due to Debuncher momentum optical notch replacement

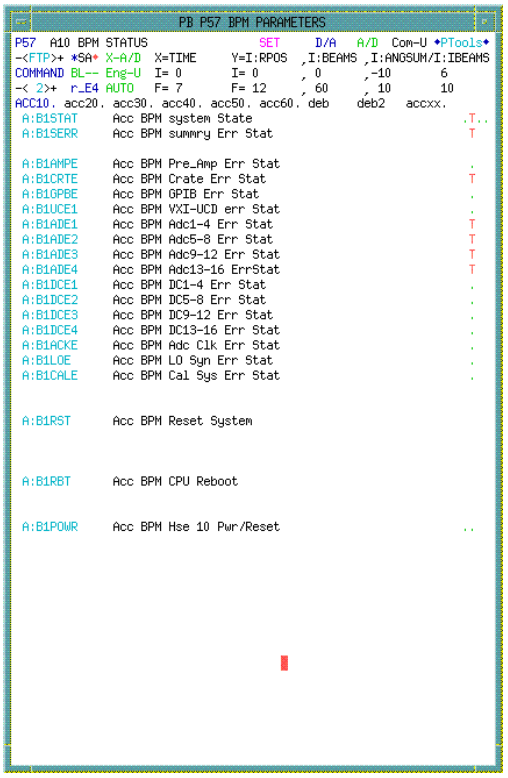


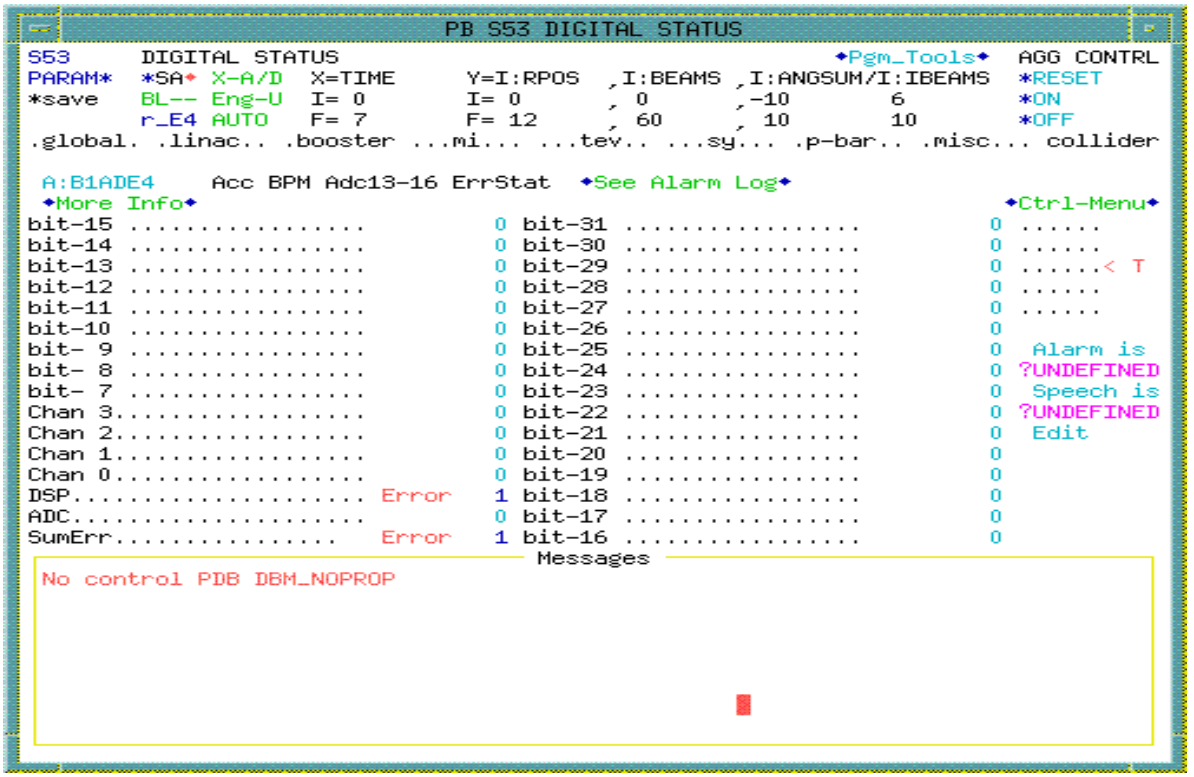


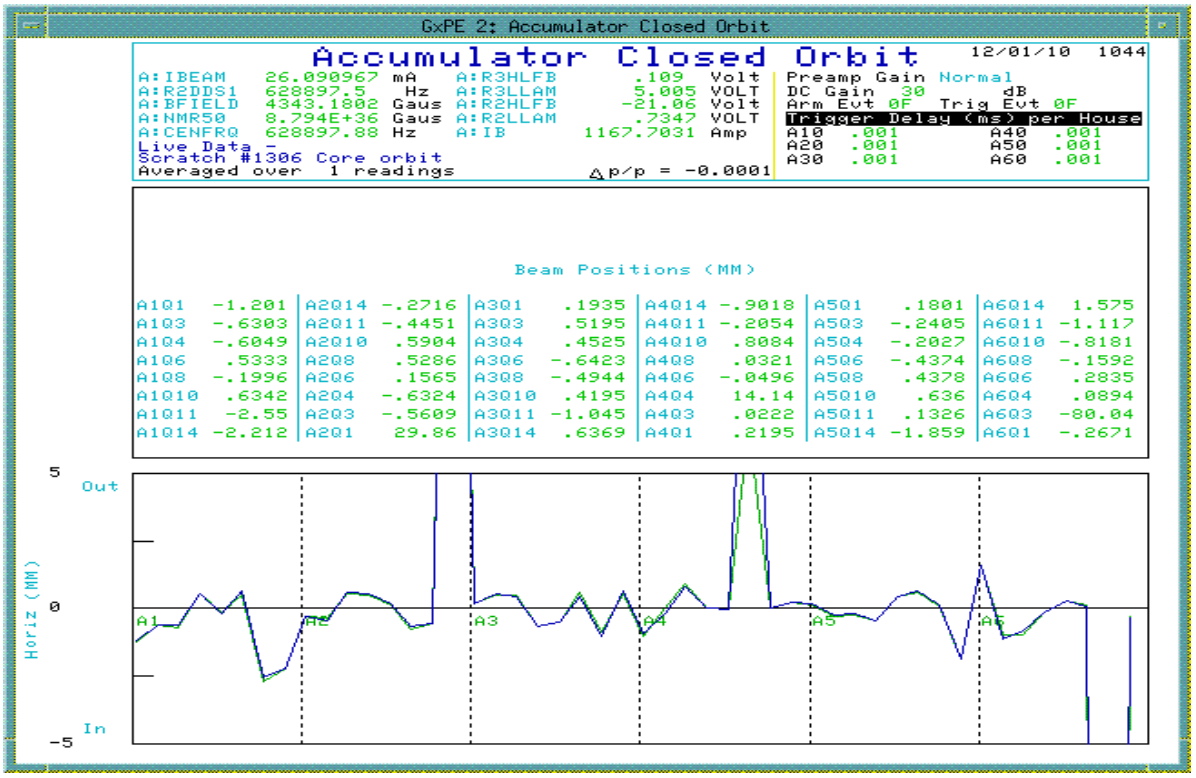


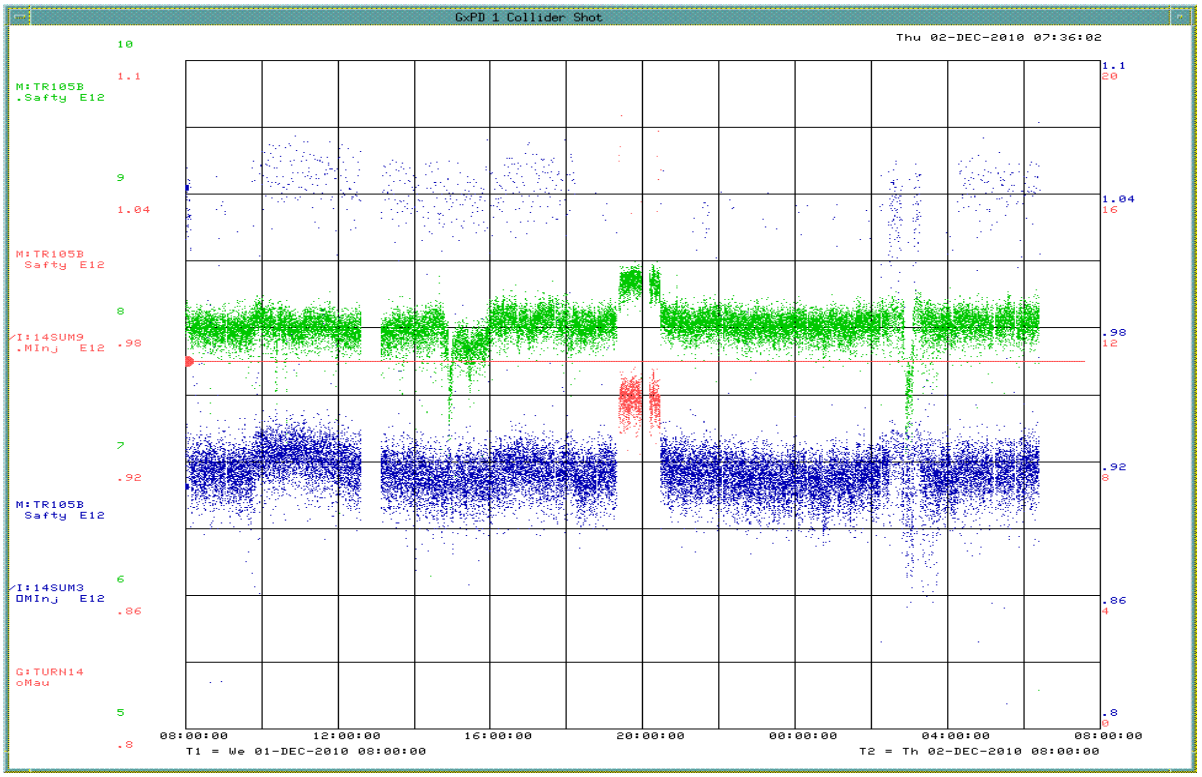
Device	Alarm Value	Present Info	Alarm Stat Now
D|P3AM3	.	.	Good
MASK	00000000000000000000000000000101		
NOMINAL	00000000000000000000000000000101		
NOW	00000000000000000000000000000111		
save properties	PRBSTS PRDABL		
Bit #	Description RED = bits in alarm (when alarm posted)	Now Text	Now Binary
0	Amp Voltage|Current Mon	On	1
1	Amp Voltage Monitor	Normal	1
2	Amp Current Monitor	Normal	1
3	----------		0
4	----------		0
5	----------		0
6	----------		0
7	----------		0
8	----------		0
9	----------		0
10	----------		0
11	----------		0
12	----------		0

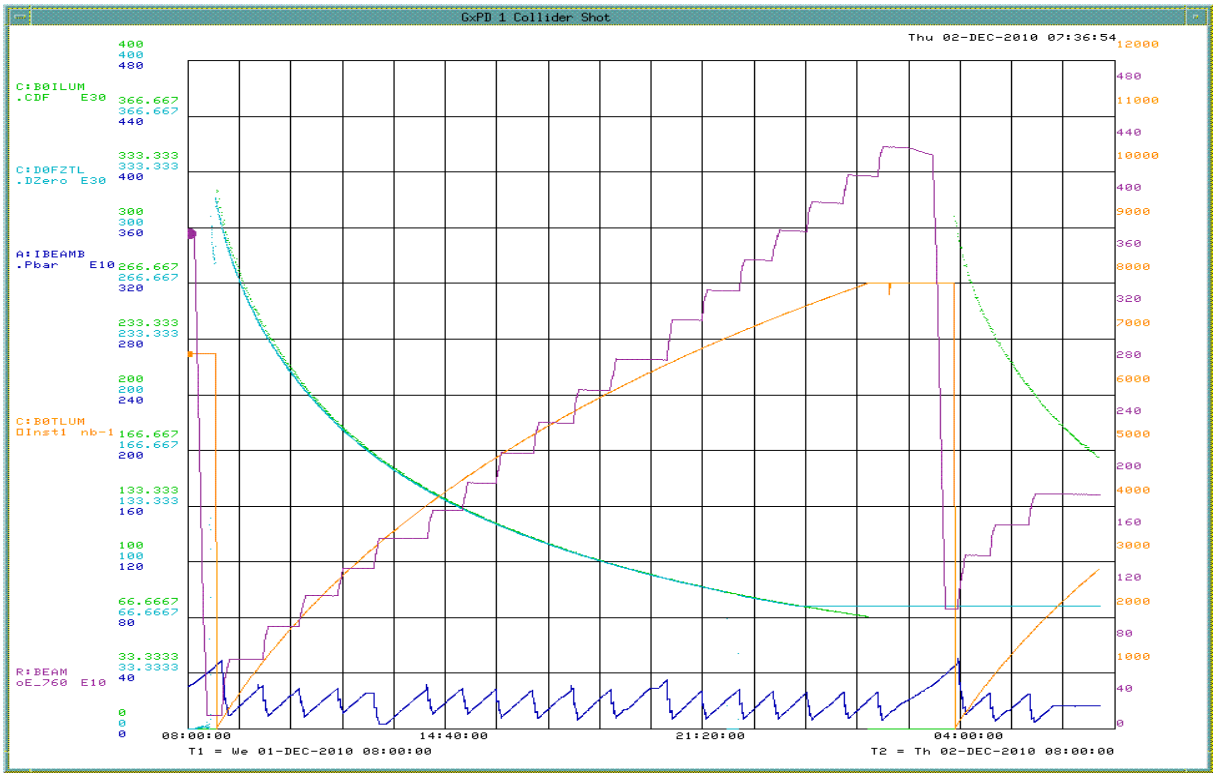

GxPD 2 DCCTs
Wed 01-DEC-2010 10:24:11
D:BPMI60[5] .Pbar2 McG
D:BPMI60[6] .Pbar2 McG
D:BPMI60[7] Pbar2 McG
D:BPMI60[8] .Pbar2 McG
D:BPMI60[9] .Pbar2 McG
D:BPMI60[10] .Pbar2 McG
40000
32000
24000
16000
8000
0
09:30:52
09:45:52
10:00:52
10:15:52
10:30:52
T1 = We 01-DEC-2010 09:30:52
T2 = We 01-DEC-2010 10:30:52


PB P57 BPM PARAMETERS
P57 A10 BPM STATUS SET D/A A/D Com-U ♦PTools♦
-<FTP>+ ♦SA♦ X-A/D X=TIME Y=I:RPOS ,I:BEAMS ,I:ANGSUM/I:IBEAMS
COMMAND BL-- Eng-U I= 0 I= 0 , 0 ,-10 6
-< 2>+ r_E4 AUTO F= 7 F= 12 , 60 , 10 10
ACC10. acc20. acc30. acc40. acc50. acc60. deb deb2 accxx.
A:B1STAT Acc BPM system State .T..
A:B1SERR Acc BPM summry Err Stat T
A:B1AMPE Acc BPM Pre_Amp Err Stat .
A:B1CRTE Acc BPM Crate Err Stat T
A:B1GPBE Acc BPM GPIB Err Stat .
A:B1VCE1 Acc BPM VXI-UCD err Stat .
A:B1ADE1 Acc BPM Adc1-4 Err Stat T
A:B1ADE2 Acc BPM Adc5-8 Err Stat T
A:B1ADE3 Acc BPM Adc9-12 Err Stat T
A:B1ADE4 Acc BPM Adc13-16 ErrStat T
A:B1DCE1 Acc BPM DC1-4 Err Stat .
A:B1DCE2 Acc BPM DC5-8 Err Stat .
A:B1DCE3 Acc BPM DC9-12 Err Stat .
A:B1DCE4 Acc BPM DC13-16 Err Stat .
A:B1ACKE Acc BPM Adc Clk Err Stat .
A:B1LOE Acc BPM LO Syn Err Stat .
A:B1CALE Acc BPM Cal Sys Err Stat .
A:B1RST Acc BPM Reset System
A:B1RBT Acc BPM CPU Reboot
A:B1POWR Acc BPM Hse 10 Pwr/Reset ..


PB S53 DIGITAL STATUS
S53 DIGITAL STATUS
Pgm_Tools
AGG CONTRL
PARAM* *SA X-A/D X=TIME Y=I:RPOS ,I:BEAMS ,I:ANGSUM/I:IBEAMS *RESET
*save BL-- Eng-U I= 0 I= 0 , 0 ,-10 6 *ON
r_E4 AUTO F= 7 F= 12 , 60 , 10 10 *OFF
.global. .linac.. .booster ...mi... ...tev.. ...sy... .p-bar.. .misc... collider
A:B1ADE4 Acc BPM Adc13-16 ErrStat See Alarm Log
More Info
Ctrl-Menu
bit-15 ..... 0 bit-31 ..... 0 .....
bit-14 ..... 0 bit-30 ..... 0 .....
bit-13 ..... 0 bit-29 ..... 0 .....< T
bit-12 ..... 0 bit-28 ..... 0 .....
bit-11 ..... 0 bit-27 ..... 0 .....
bit-10 ..... 0 bit-26 0
bit- 9 ..... 0 bit-25 ..... 0 Alarm is
bit- 8 ..... 0 bit-24 ..... 0 ?UNDEFINED
bit- 7 ..... 0 bit-23 ..... 0 Speech is
Chan 3..... 0 bit-22 ..... 0 ?UNDEFINED
Chan 2..... 0 bit-21 ..... 0 Edit
Chan 1..... 0 bit-20 0
Chan 0..... 0 bit-19 0
DSP..... Error 1 bit-18 0
ADC..... 0 bit-17 0
SumErr..... Error 1 bit-16 0
Messages
No control PDB DBM_NOPROP


GxPE 2: Accumulator Closed Orbit
Accumulator Closed Orbit
12/01/10 1044
A:IBEAM 26.090967 mA A:R3HLFB .109 Volt
A:R2DDS1 628897.5 Hz A:R3LLAM 5.005 VOLT
A:BFIELD 4343.1802 Gaus A:R2HLFB -21.06 Volt
A:NMR50 8.794E+36 Gaus A:R2LLAM .7347 VOLT
A:CENFRQ 628897.88 Hz A:IB 1167.7031 Amp
Live Data -
Scratch #1306 Core orbit
Averaged over 1 readings
Δp/p = -0.0001
Preamp Gain Normal
DC Gain 30 dB
Arm Evt 0F Trig Evt 0F
Trigger Delay (ms) per House
A10 .001 A40 .001
A20 .001 A50 .001
A30 .001 A60 .001
Beam Positions (MM)
A1Q1 -1.201 A2Q14 -.2716 A3Q1 .1935 A4Q14 -.9018 A5Q1 .1801 A6Q14 1.575
A1Q3 -.6303 A2Q11 -.4451 A3Q3 .5195 A4Q11 -.2054 A5Q3 -.2405 A6Q11 -1.117
A1Q4 -.6049 A2Q10 .5904 A3Q4 .4525 A4Q10 .8084 A5Q4 -.2027 A6Q10 -.8181
A1Q6 .5333 A2Q8 .5286 A3Q6 -.6423 A4Q8 .0321 A5Q6 -.4374 A6Q8 -.1592
A1Q8 -.1996 A2Q6 .1565 A3Q8 -.4944 A4Q6 -.0496 A5Q8 .4378 A6Q6 .2835
A1Q10 .6342 A2Q4 -.6324 A3Q10 .4195 A4Q4 14.14 A5Q10 .636 A6Q4 .0894
A1Q11 -2.55 A2Q3 -.5609 A3Q11 -1.045 A4Q3 .0222 A5Q11 .1326 A6Q3 -80.04
A1Q14 -2.212 A2Q1 29.86 A3Q14 .6369 A4Q1 .2195 A5Q14 -1.859 A6Q1 -.2671
5
Out
Horiz (MM)
0
A1
A2
A3
A4
A5
A6
In
-5


GxPD 1 Collider Shot
Thu 02-DEC-2010 07:36:02
M:TR105B .Safty E12
M:TR105B Safty E12
I:14SUM9 .MInj E12
M:TR105B Safty E12
I:14SUM3 MInj E12
G:TURN14 oMau
08:00:00
12:00:00
16:00:00
20:00:00
00:00:00
04:00:00
08:00:00
T1 = We 01-DEC-2010 08:00:00
T2 = Th 02-DEC-2010 08:00:00


GxPD 1 Collider Shot
Thu 02-DEC-2010 07:36:54
C:B0ILUM .CDF E30
C:D0FZTL .DZero E30
A:IBEAMB .Pbar E10
C:B0TLUM Insti nb-1
R:BEAM oE_760 E10
08:00:00
14:40:00
21:20:00
04:00:00
T1 = We 01-DEC-2010 08:00:00
T2 = Th 02-DEC-2010 08:00:00