

2010-05-18 Tuesday Morning Notes

Tuesday, May 18, 2010

7:00 AM

Stacking

- Jim Morgan changed the c204 limits on I:V714 to tighten them up a bit and better center them around the operating current. The min/max went from 2,010 and 2,110A to 2,060 and 2,140A. The power supply nominally puts out 2,102A at transfer time on the stacking cycles.
Pasted from <<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=last&frame=2&anchor=&hilite=&load=>>
- Pulsed Magnet had a number of external interlocks trip. This was traced to a faulty flow meter. This meter has been replaced before. Experts will investigate.
- PRL31 dropped low, as a step function. The level controller box was unplugged. Reconnected to re-routed extension cord.
- Stacking VSA stopped updating, but SA1136 was still running. Killed and restated SA1136 to restore functionality.
- Tried turning up DRF1-4 a bit to see if we could squeeze out a little more DRF1 voltage. After this the station started dropping out and had to be lowered down again. Actually, it is not tripping. The last quarter or so of the waveform shorts out, which decreases cavity output. The RF is shorting out in the driver amp, the Helix feeding the PA or the RF input stage of the PA in the tunnel. All of this was hi-potted at 1.5KV during the last access and passed. DRF1 fanback is 5.16 MV.
- Stacking Numbers
 - <stacking rate> = 26.2 mA/hr
 - <production> = 19.7 pbar/Mp
 - <beam on target> = 8.3 Tp / 7.7 Tp

Transfers

- Unstacked 550 E10 in 70 transfers over 23 sets with an average overall efficiency of 96%

Studies

- Stacktail Phasing with 30e10 - looking for opportunistic non-stacking time
- Stacktail tank moving - parasitic
- Jim Morgan would like to change beamline C204 limits based on calculations using the model. We will be doing one plane of one beamline at a time.

Access & Maintenance

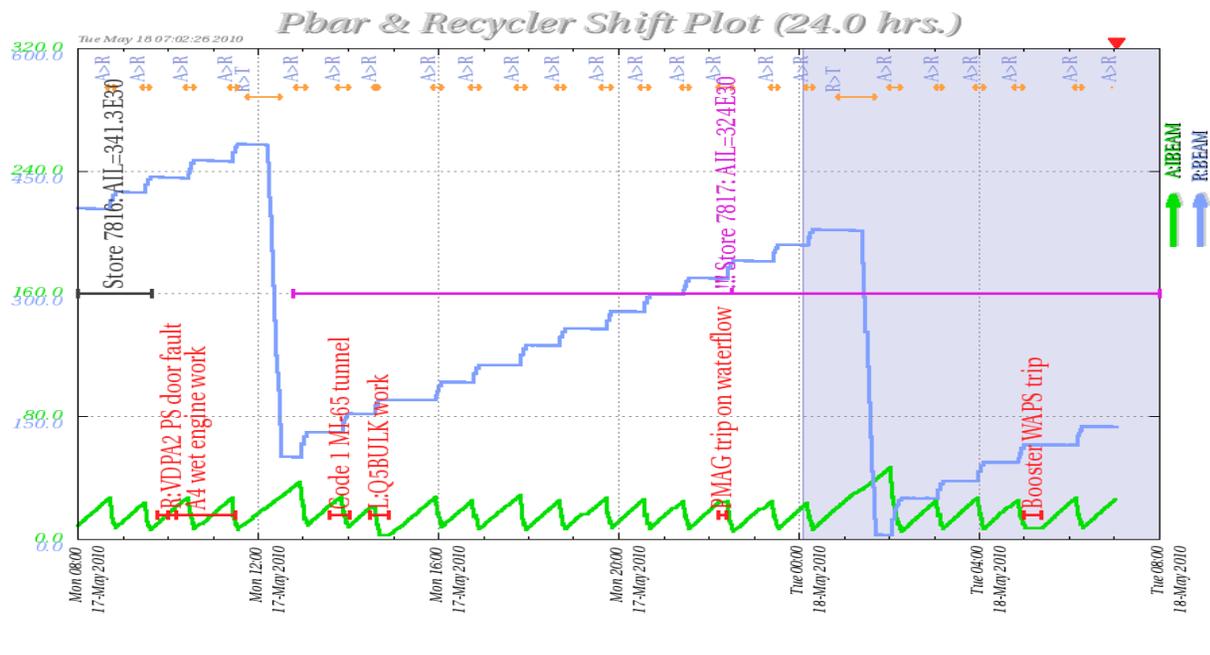
- Pbar Dry Engine maintenance - transparent
- Increase power in 4-8 GHz TWTs by 10 W each. Requires tunnel measurements.
- Repair D:POTMF
- D:H1AL1 regulator replacement (http://www-bd.fnal.gov/cgi-worklist/worklist_form.pl?id=11905)
- Ralph, Wes and Pete not available until after Thursday.

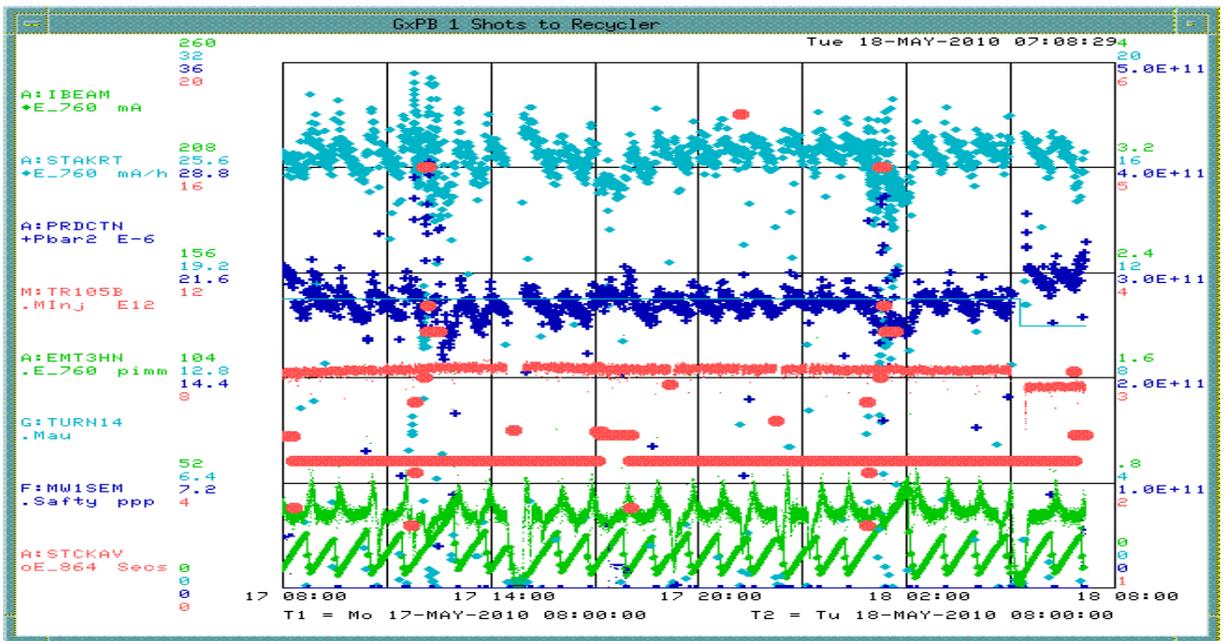
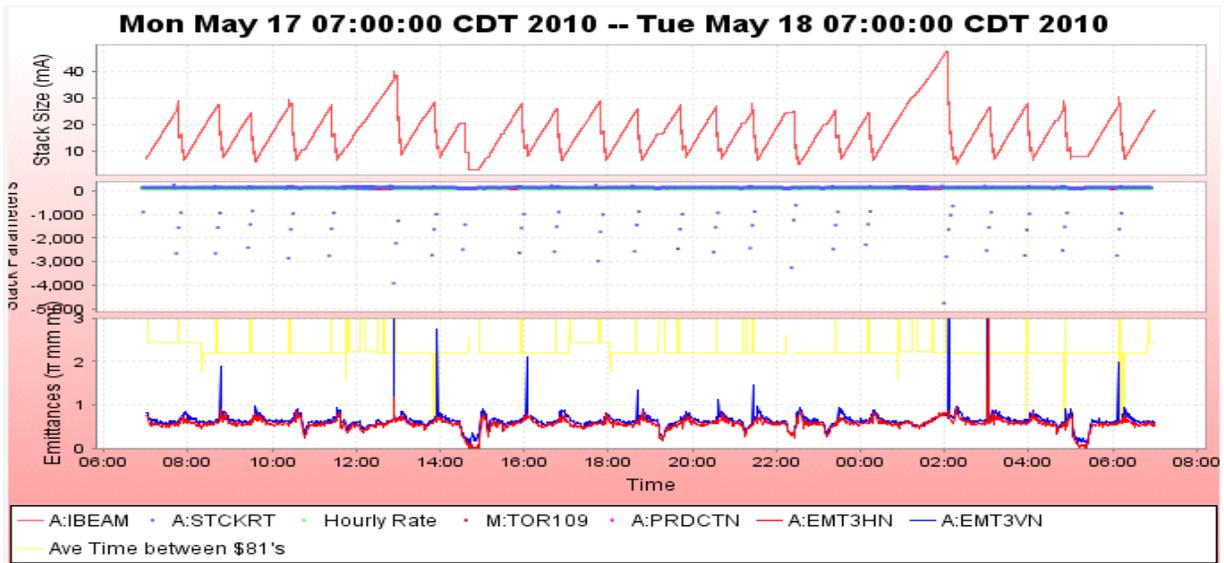
The Numbers

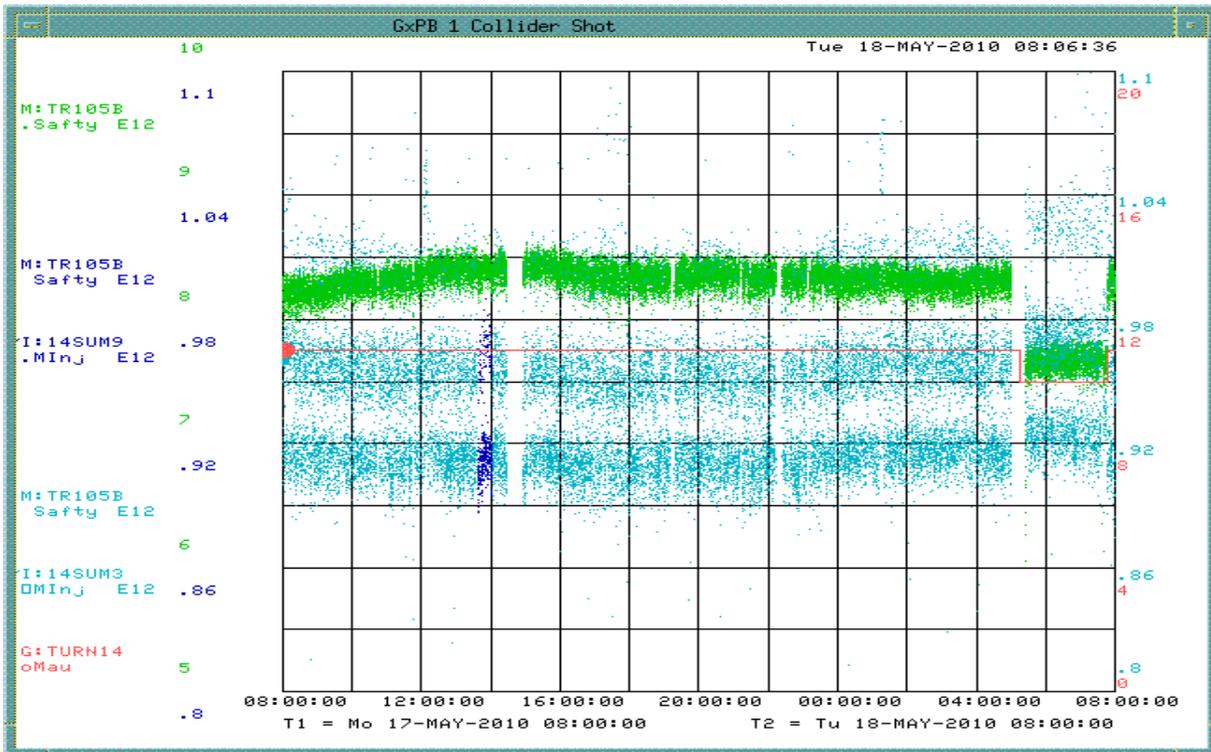
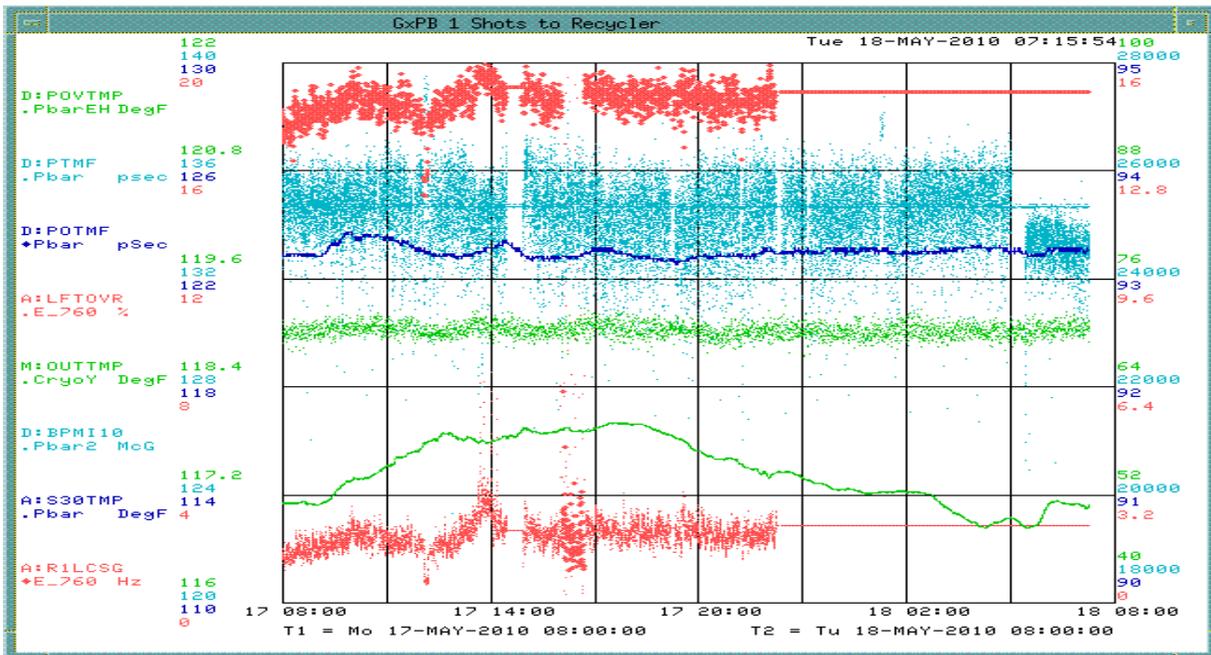
- Stacking
 - Pbars stacked: 582.06 E10
 - Time stacking: 23.47 Hr
 - Average stacking rate: 24.80 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 36984
 - Number of pulses with beam: 34893

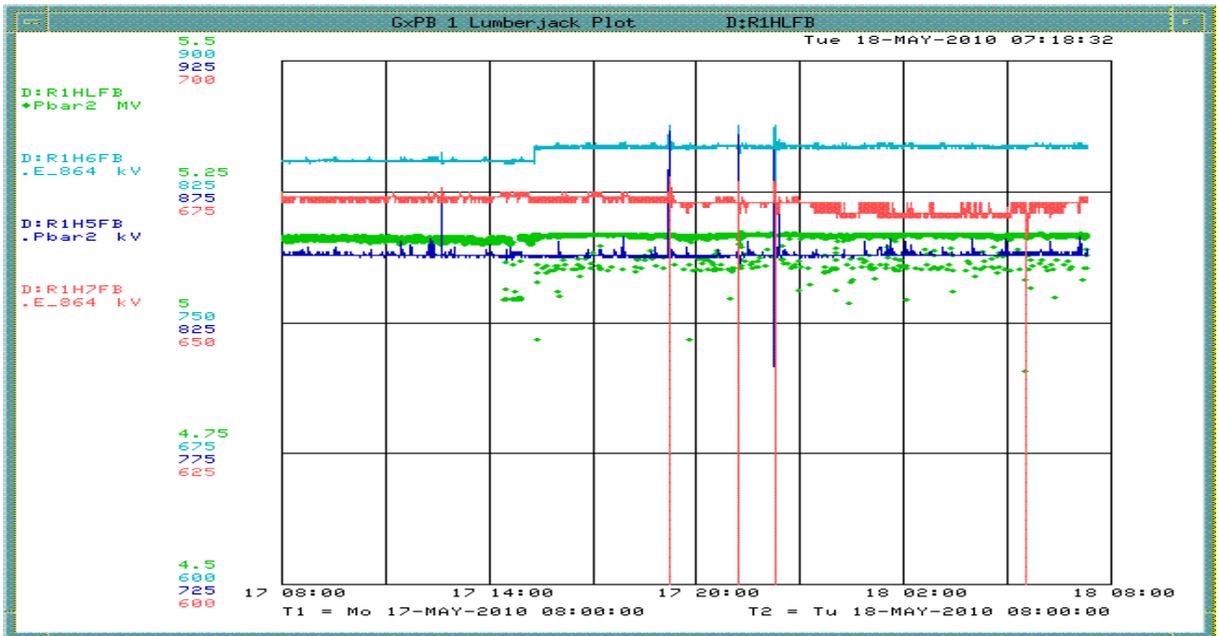
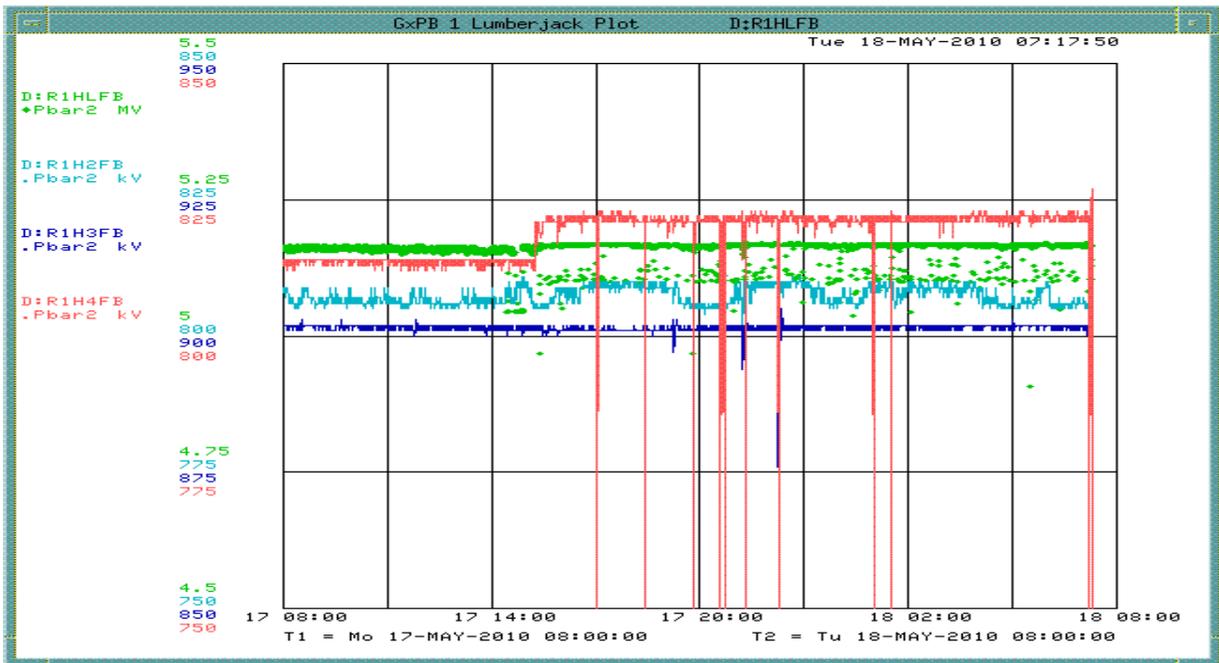
- Fraction of up pulses was: 94.35%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 22.14 Hr
 - Possible average stacking rate: 26.29 E10/Hr
 - Could have stacked: 616.94 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 531.74 E10
 - Number of transfers : 68
 - Number of transfer sets: 23
 - Average Number of transfer per set: 2.96
 - Time taken to shoot including reverse proton tuneup: 00.24 Hr
 - Transfer efficiency: 96.06%
- Other Info
 - Average POT : 8.27 E12
 - Average production: 20.17 pbars/E6 protons
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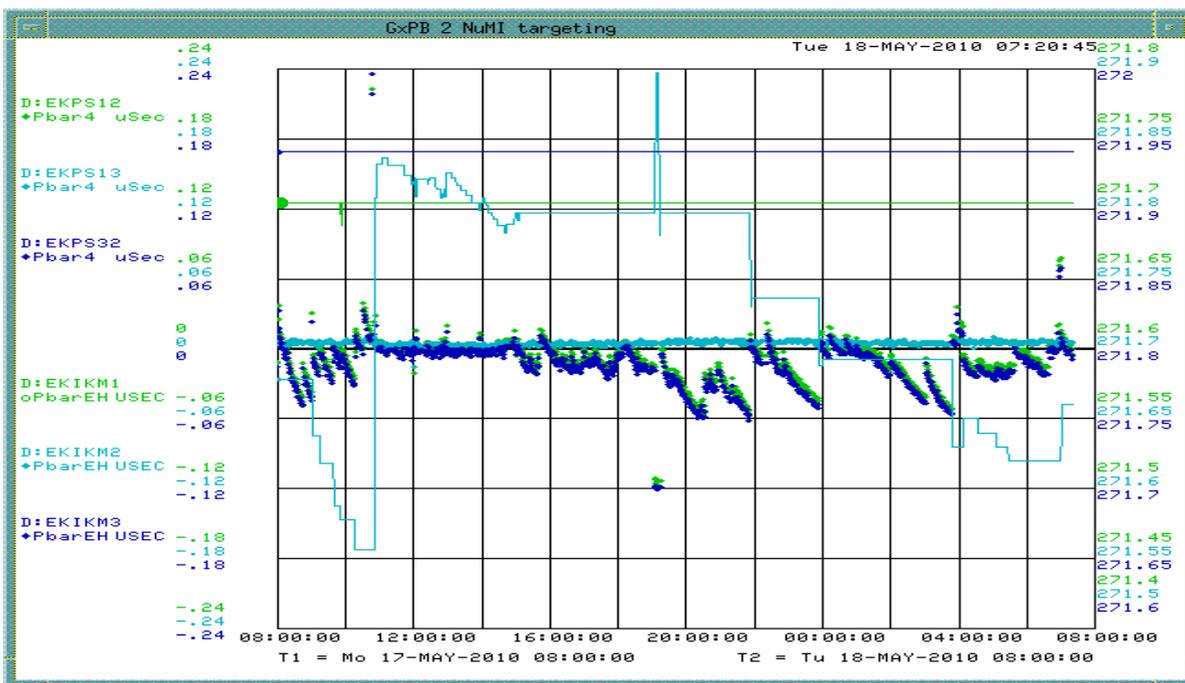
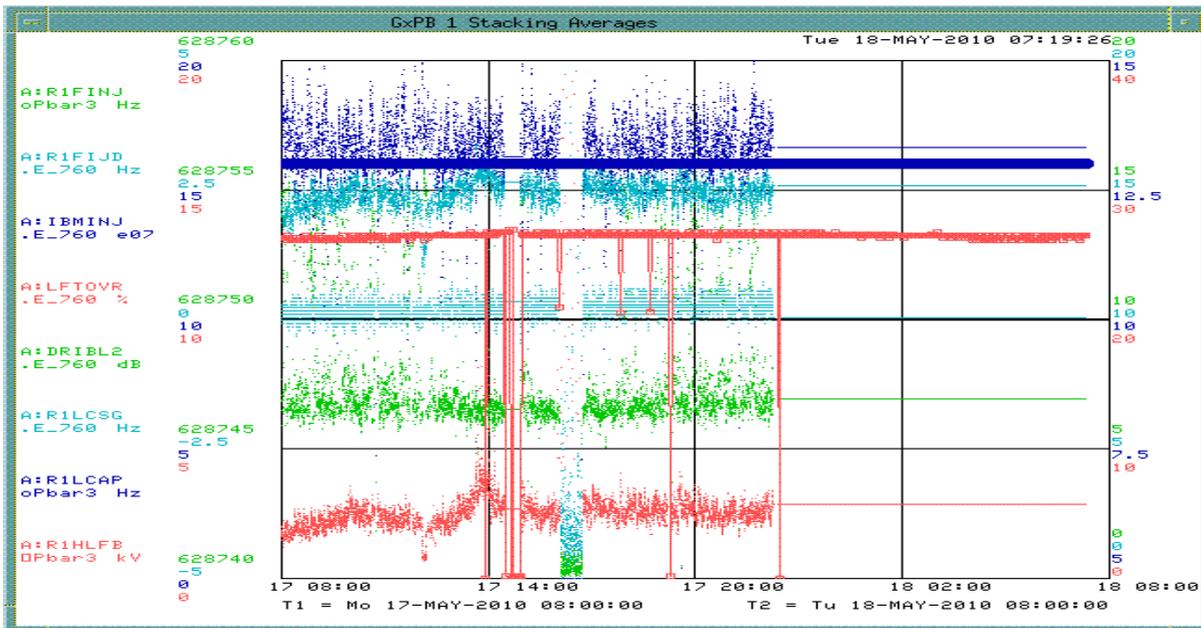
The Plots

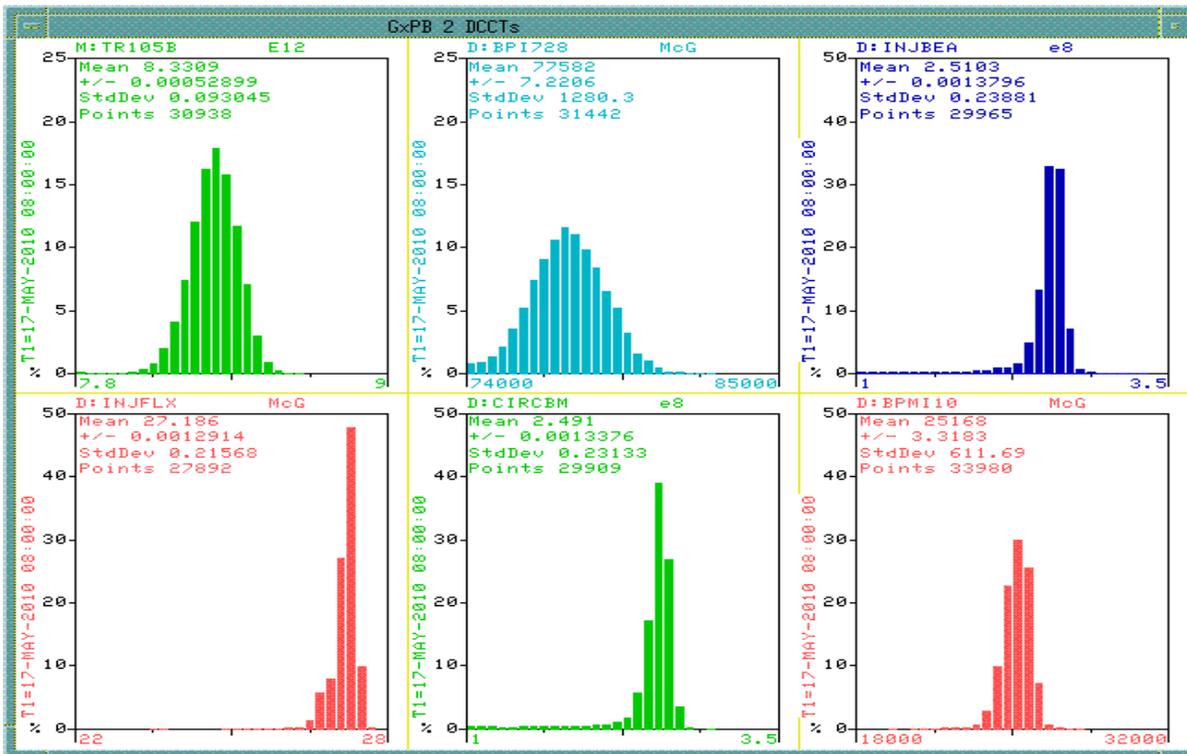
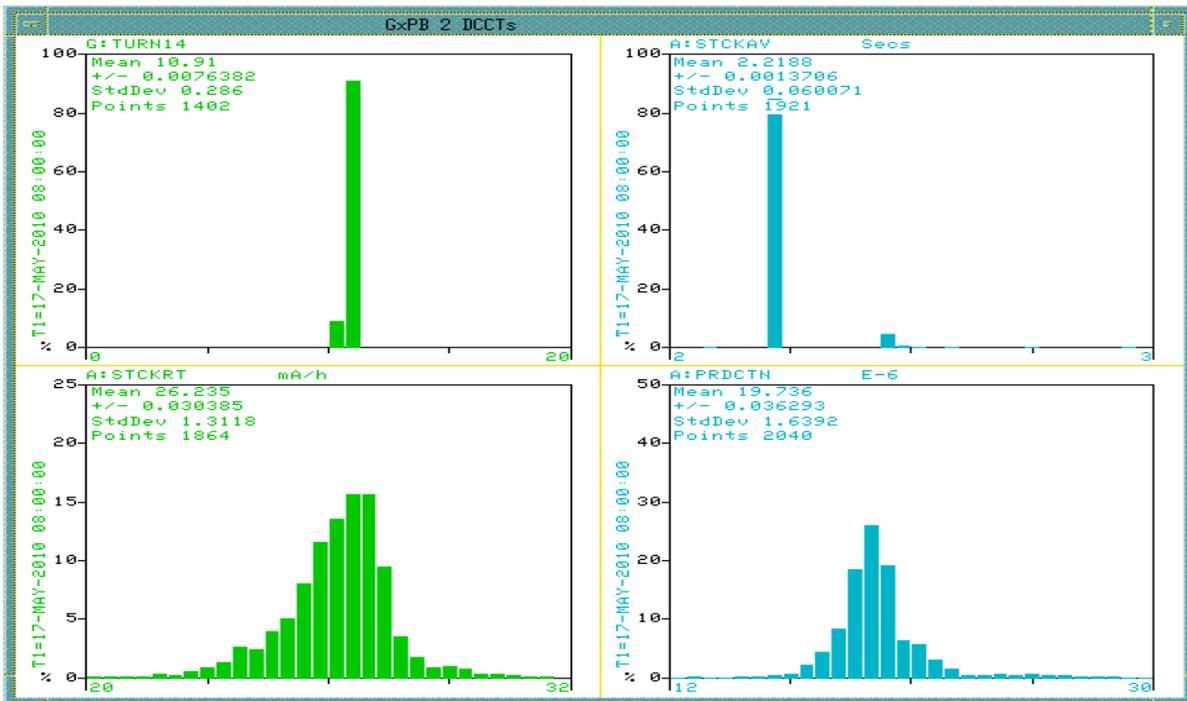


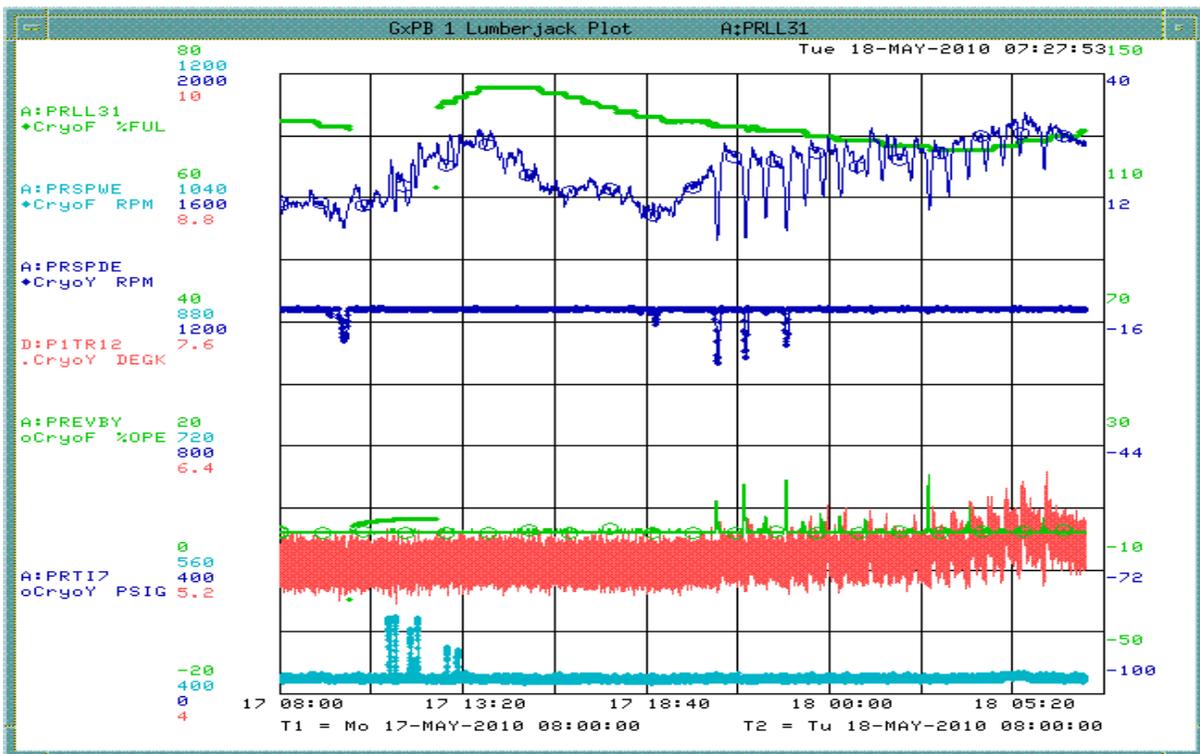
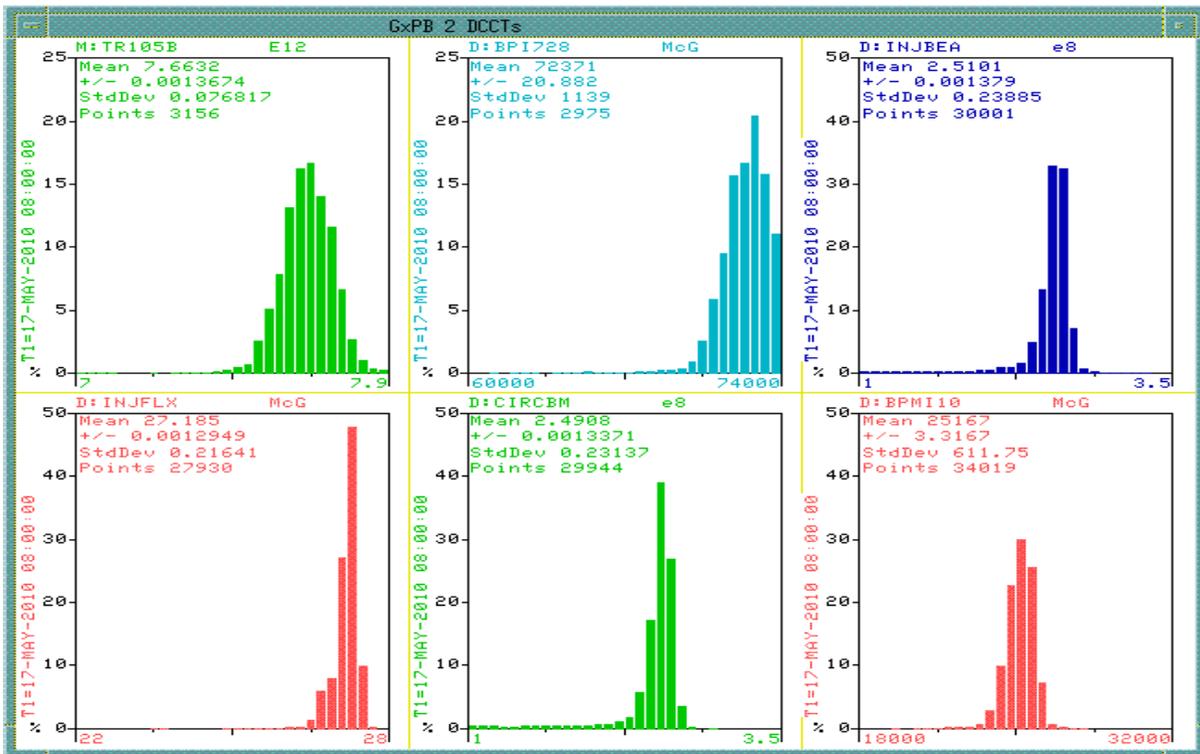


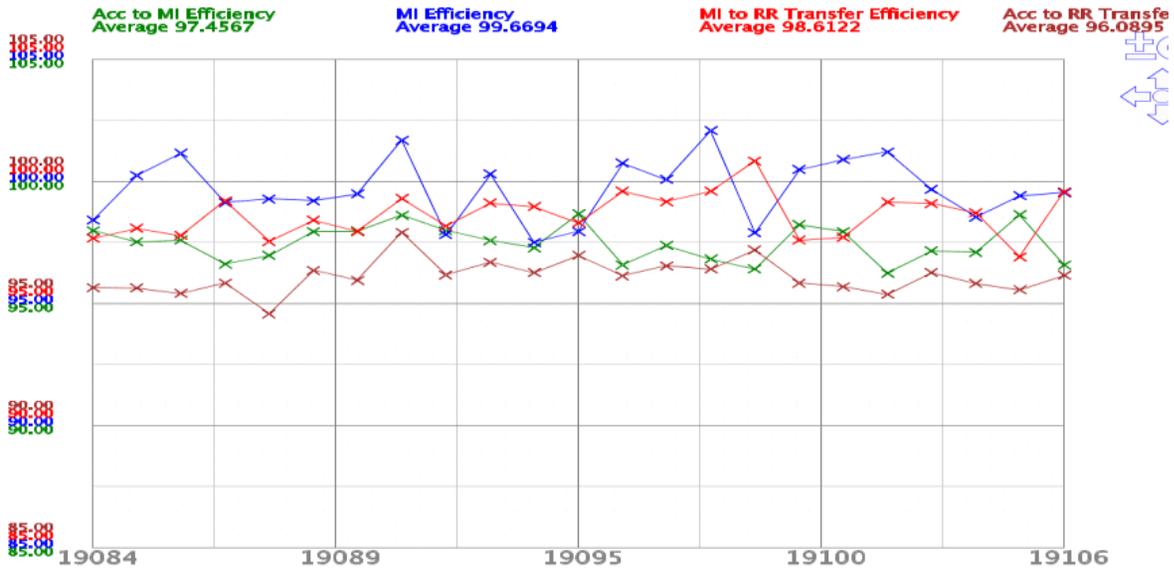












Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time	Column 21 Number_20_A:1 BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number_21_A:1 BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number_22_R: BEAMS (R:BEA ME0[0]) pre sfer E10	Column 24 Number_23_R: BEAM (R:BEA ME0[1]) post sfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Transfers	Set s	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance	
Totals =>				549.56			527.96	96.07%	97.60%	97.37%	70	23	5.5113	5.8959	1.9471	
19106	Tuesday, May 18, 2010	6:10	27.52	6.58	23.59	115.41	138.04	22.70	96.21%	97.05%	97.19%	3	1	5.381	5.916	1.932
19105	Tuesday, May 18, 2010	4:52	26.21	6.67	22.23	94.38	115.57	21.29	95.75%	98.53%	98.00%	3	1	5.649	5.736	1.934
19104	Tuesday, May 18, 2010	3:58	27.58	6.44	23.79	71.66	94.44	22.84	96.03%	97.47%	96.41%	3	1	5.509	6.192	1.92
19103	Tuesday, May 18, 2010	3:04	26.01	6.47	22.22	50.40	71.76	21.43	96.45%	97.26%	96.74%	3	1	5.835	6.286	1.962
19102	Tuesday, May 18, 2010	2:03	47.36	4.77	47.53	5.62	50.53	44.99	94.65%	96.54%	97.17%	5	1	6.345	6.648	1.946
19101	Tuesday, May 18, 2010	0:11	24.11	6.33	20.46	359.65	378.99	19.57	95.69%	97.94%	97.90%	3	1	5.856	6.213	1.942
19100	Monday, May 17, 2010	23:25	25.38	6.56	21.43	340.00	360.43	20.58	96.07%	98.15%	98.19%	3	1	5.693	5.788	1.951
19099	Monday, May 17, 2010	22:25	24.91	4.82	22.71	318.99	340.84	22.04	97.06%	97.17%	96.53%	3	1	5.311	5.484	1.921
19098	Monday, May 17, 2010	21:26	25.03	6.36	21.28	299.41	319.79	20.57	96.68%	97.17%	99.37%	3	1	5.66	5.761	1.958
19097	Monday, May 17, 2010	20:34	26.49	6.63	22.51	278.35	299.95	21.74	96.58%	97.68%	97.47%	3	1	5.861	6.364	1.963
19096	Monday, May 17, 2010	19:43	27.03	7.14	22.56	257.37	278.90	21.69	96.18%	96.95%	97.57%	3	1	5.76	6.163	1.94
19095	Monday, May 17, 2010	18:41	25.48	6.29	21.73	236.92	257.82	21.07	96.99%	98.75%	97.37%	3	1	5.635	5.899	1.972
19094	Monday, May 17, 2010	17:49	28.83	5.99	25.21	213.20	237.33	24.26	96.27%	97.13%	95.34%	3	1	5.041	5.452	1.97
19093	Monday, May 17, 2010	16:47	25.94	6.29	22.22	192.12	213.52	21.48	96.65%	97.84%	97.79%	3	1	5.785	6.223	1.945
19092	Monday, May 17, 2010	15:56	27.89	7.46	23.06	170.28	192.32	22.24	96.43%	98.03%	96.05%	3	1	6.083	6.451	1.962
19091	Monday, May 17, 2010	14:36	20.22	2.96	17.26	153.77	170.60	16.89	97.87%	98.41%	99.78%	2	1	1.484	1.832	1.753
19090	Monday, May 17, 2010	13:52	28.41	7.34	23.67	131.21	153.88	22.76	96.13%	97.96%	97.65%	3	1	5.767	6.384	1.978
19089	Monday, May 17, 2010	12:57	38.01	8.38	32.16	100.76	131.48	30.86	95.95%	98.29%	97.56%	3	1	6.101	6.187	1.962
19088	Monday, May 17, 2010	11:25	27.14	6.28	23.44	461.90	483.77	22.24	94.88%	97.41%	96.66%	3	1	5.584	6.175	1.956
19087	Monday, May 17, 2010	10:27	27.87	6.36	24.07	441.34	464.01	23.07	95.87%	96.99%	96.23%	3	1	5.503	6.138	1.969
19086	Monday, May 17, 2010	9:29	24.12	5.90	20.89	423.96	443.57	19.99	95.66%	97.90%	98.74%	3	1	5.661	6.304	1.966
19085	Monday, May 17, 2010	8:43	27.22	7.07	22.85	403.65	425.29	21.90	95.85%	97.67%	98.04%	3	1	5.913	6.012	1.992
19084	Monday, May 17, 2010	7:46	26.31	6.13	22.72	383.67	405.17	21.75	95.77%	97.75%	97.26%	3	1	5.344	5.998	1.99

Grand Total 6				
Pbar				
ID	Requestor	Title	Location	Type
11912	Drendel, Brian	Fix D:POTMF Troubleshoot and fix problems with Debuncher filter #2 D:POTMF. D:POTMF was setting itself to zero for unknown reasons. This was determined not to be a PLC problem upstairs. The delay line and controller are in the A30 stub.	A30 Stub Room in Pbar Rings	Stochastic Cooling
11911	Drendel, Brian	Core 4-8GHz dp, increase power Increasing the trip limits by 10W per TWT on the Core 4-8GHz momentum TWT. This requires a measurement for each TWT in the tunnel and an adjustment upstairs.	AP30 tunnel and upstairs	Stochastic Cooling
11910	Drendel, Brian	Replace Camac 190 Card Controls wants to replace the Camac 190 card in Pbar Crate \$18, Slot #1. We hope to line this work up with the access we will have between now and Thursday.	AP10 service building	Controls
11909	Drendel, Brian	Dry Engine Maintenance Pbar dry engine needs a collet adjustment. It is running full speed. We hope to align this work with a day shift access that we will be making between now and Thursday.	AP30 Frig	Misc
11878	Drendel, Brian	ARF1-2 inspection A quick inspection of the ARF1-2 cavity. Repairs are estimated to be a couple hours, but this quick inspection will only take 15 minutes.	AP50 tunnel	High Level RF
11789	Drendel, Brian	DEKIK Module #2 Troubleshooting The Debuncher Extraction Kicker module #2 timing has been drifting around by as much as 200 nsec. The LeCroy trigger module and thyatron trigger circuit have been determined not to be the problem. Reservoir voltage increases have not helped. The next step is to open up the oil-filled thyatron cabinet to find out the actual current in the tube (should only be about 0.3A at 120V). We also need to check the two power supplies that are also inside the oil-filled cabinet.	AP10 Service Building	Kicker Systems
Total Requests: 6				
Grand Total 6				