2010-05-14 Friday Morning Notes

Friday, May 14, 2010
7:09 AM

Access

- Core 4-8 GHz momentum light link receiver replace in D50 Stub
  - Added shielding to protect from D:IKIK losses
- LCW Leaks repaired on A4S12 and Accumulator Reference Magnet
  - Braze needed on D6SD16
- Diverted ground water on TQ4 and dripper on D1Q5
- Hipotted DRF1-4 PA input and heliax cable
- Inspected ARF1-2
- Fixed motion control on Debuncher vertical band 3 (D:MH105U)
  - Linear potentiometer replaced

Stacking

- Pbar 95 LCW supply and return temperature readbacks took a walk. The Metasys versions of those readbacks did not, and the bend field did not change, leading us to believe it was not real. Controls checked out the MADC, and then the parameters started reading back normally again.
- Re-establishing stacking after the access there were a few small problems
  - A:ISEP1V required a little extra attention
  - The Sweeping Magnets front end, PBKICK, was not working and will need to be fixed today.
- Over night we had two occurrences of the Debuncher Momentum second notch filter D:POTMF spontaneously setting itself to zero. The result is all TWTs trip.
- Average stack rate = 26.7mA/hr
- Average Production =20.8e-6/proton
- Average beam on target = 8.21 Tp

Transfers

- Unstacked 314E10 in 39 transfers over 13 sets with an average efficiency of 95.7%

Studies

- Stacktail Phasing with 30e10 - looking for opportunistic non-stacking time
- Stacktail tank moving - parasitic

The Numbers

- Stacking
  - Pbars stacked: 323.52 E10
  - Time stacking: 15.53 Hr
  - Average stacking rate: 20.83 E10/Hr

- Uptime
  - Number of pulses while in stacking mode: 23564
  - Number of pulses with beam: 20431
  - Fraction of up pulses was: 86.70%

- The uptime's effect on the stacking numbers
  - Corrected time stacking: 13.47 Hr
  - Possible average stacking rate: 24.02 E10/Hr
  - Could have stacked: 373.13 E10/Hr

- Recycler Transfers
  - Pbars sent to the Recycler: 329.14 E10
  - Number of transfers : 48
  - Number of transfer sets: 14
  - Average Number of transfer per set: 3.43
  - Time taken to shoot including reverse proton tuneup: 00.17 Hr
  - Transfer efficiency: 95.44%

- Other Info
  - Average POT : 8.18 E12
  - Average production: 19.37 pbars/E6 protons

- * Red indicates a problem during data retrieval. See the message window for details.
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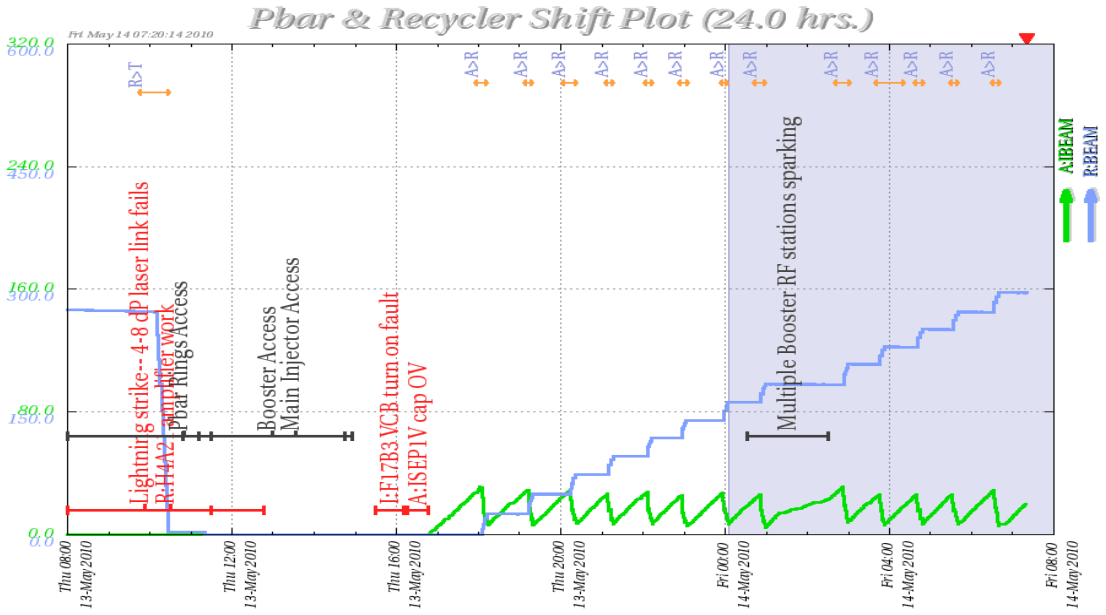
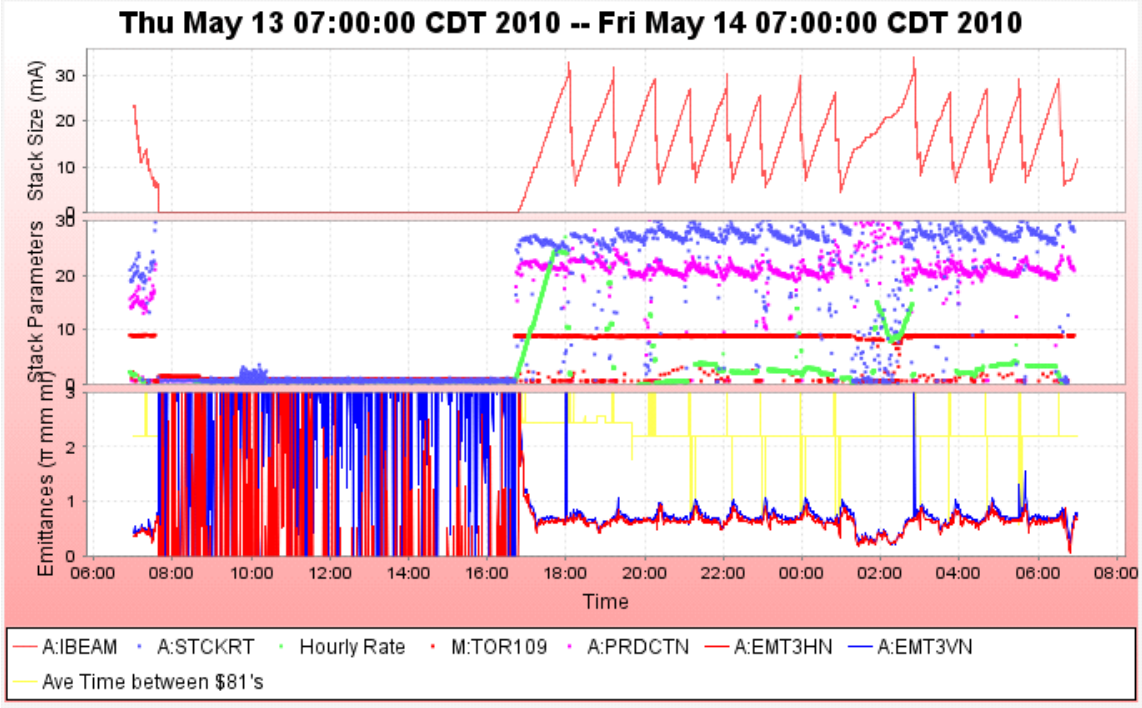
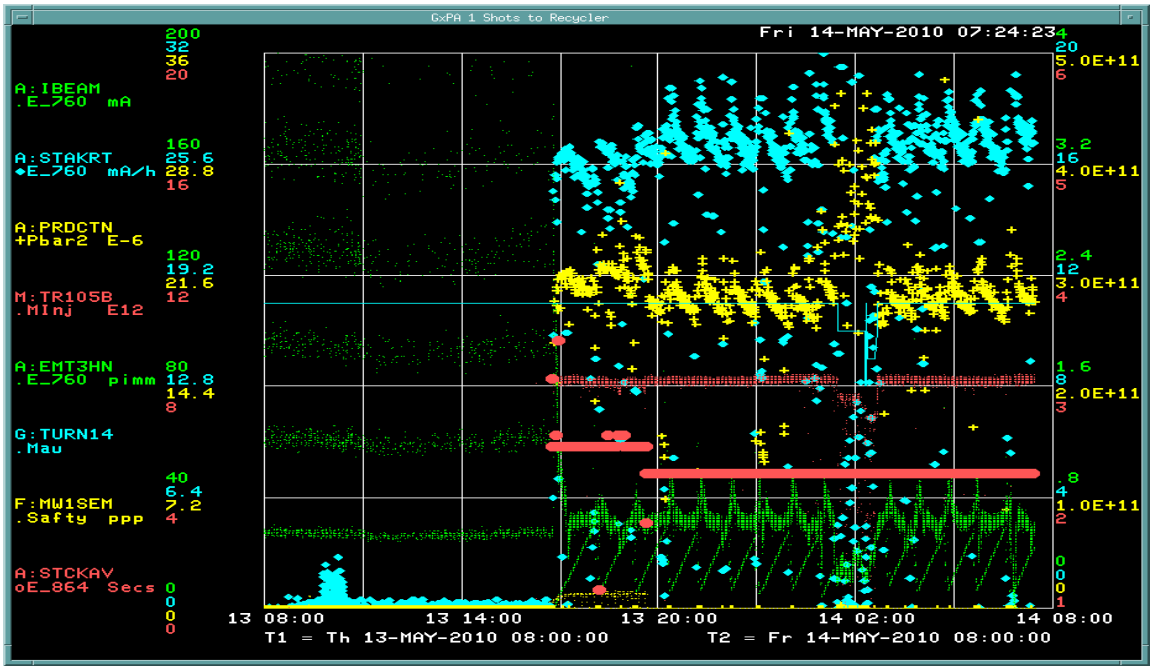
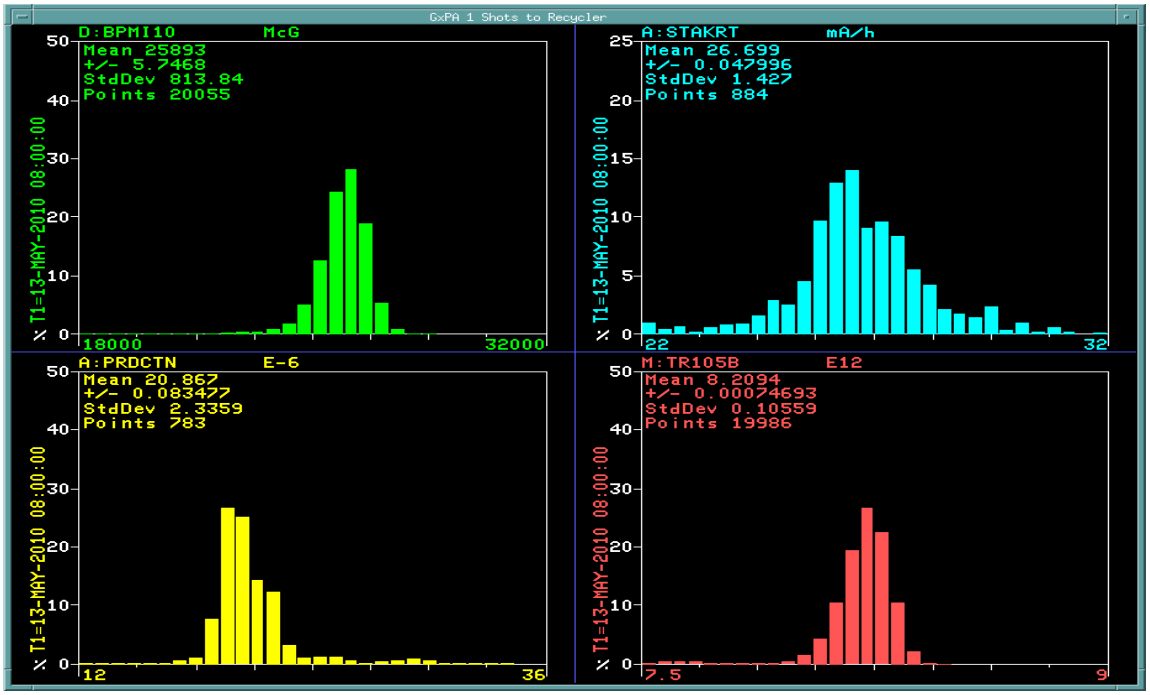
The Plots

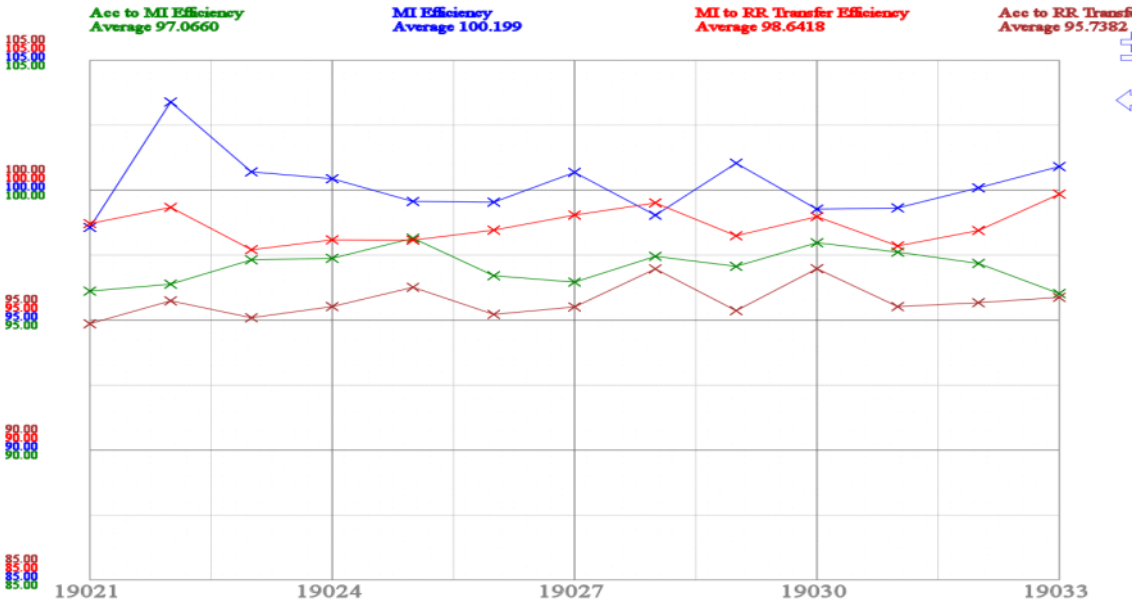


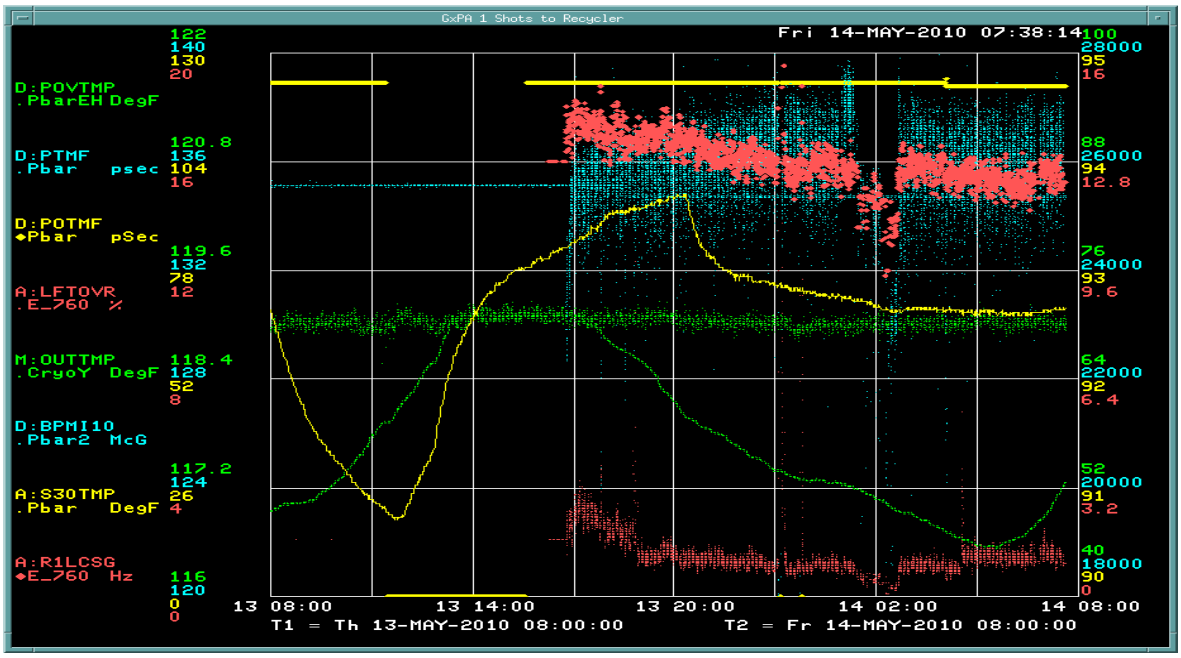

Thu May 13 07:00:00 CDT 2010 -- Fri May 14 07:00:00 CDT 2010
Stack Size (mA)
Stack Parameters
Emittances (π mm mr)
Time
A:IBEAM
A:STCKRT
Hourly Rate
M:TOR109
A:PRDCTN
A:EMT3HN
A:EMT3VN
Ave Time between $81's

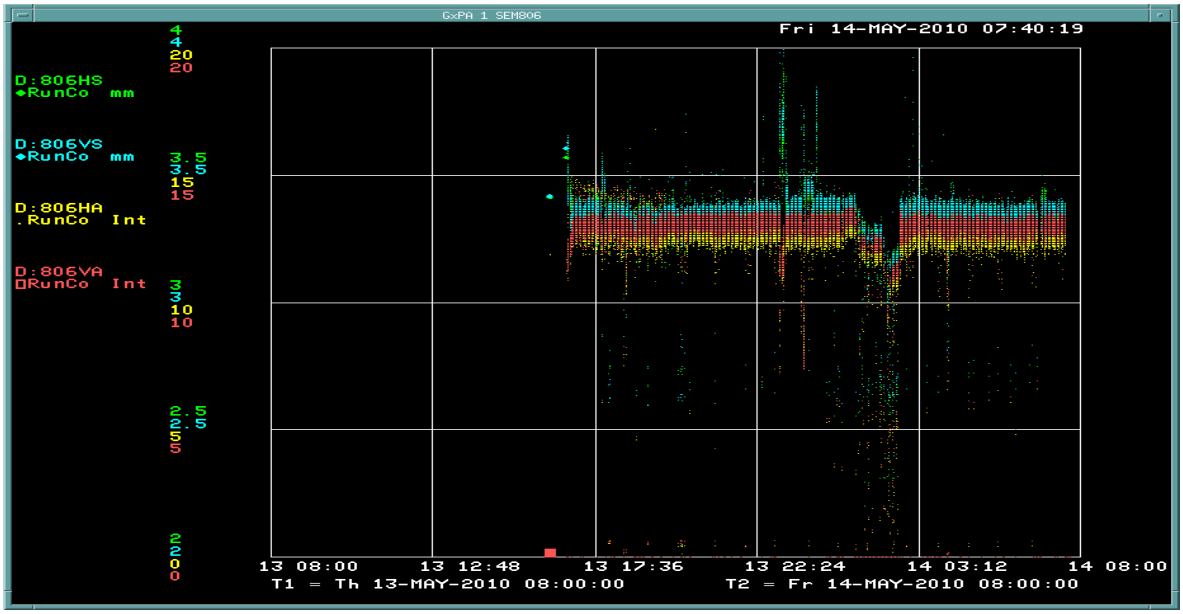

GxPA 1 Shots to Recycler
Fri 14-MAY-2010 07:24:23
A:IBEAM
.E_760 mA
A:STAKRT
◆E_760 mA/h
A:PRDCTN
+Pbar2 E-6
M:TR105B
.MInj E12
A:EMT3HN
.E_760 pimm
G:TURN14
.Mau
F:MW1SEM
.Safty ppp
A:STCKAV
oE_864 Secs
13 08:00
13 14:00
13 20:00
14 02:00
14 08:00
T1 = Th 13-MAY-2010 08:00:00
T2 = Fr 14-MAY-2010 08:00:00



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	Transfers	Sets	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance
	Totals =>				314.73			301.32	95.74%	97.12%	97.36%	39	13	6.0032	6.5868	1.9334
19033	Friday, May 14, 2010	6:32	29.14	5.55	25.62	271.95	296.33	24.56	95.89%	96.19%	97.00%	3	1	5.688	6.422	1.928
19032	Friday, May 14, 2010	5:32	26.74	6.58	22.85	250.83	272.50	21.91	95.85%	97.38%	97.47%	3	1	6.234	6.881	1.992
19031	Friday, May 14, 2010	4:41	26.90	6.63	23.03	229.38	251.19	22.04	95.69%	97.47%	96.69%	3	1	6.201	6.823	1.95
19030	Friday, May 14, 2010	3:46	26.32	6.30	22.47	208.21	229.76	21.74	96.79%	97.96%	97.70%	3	1	6.056	6.337	1.945
19029	Friday, May 14, 2010	2:52	31.37	7.72	26.29	183.51	208.51	25.16	95.69%	97.22%	98.11%	3	1	6.298	7.054	1.945
19028	Friday, May 14, 2010	0:51	26.12	4.12	23.08	161.83	184.05	22.34	96.81%	97.51%	96.71%	3	1	4.845	5.498	1.878
19027	Thursday, May 13, 2010	23:57	27.51	6.70	23.45	139.72	162.07	22.43	95.63%	97.08%	97.78%	3	1	6.314	6.736	1.946
19026	Thursday, May 13, 2010	22:56	25.60	5.19	22.82	118.22	139.89	21.78	95.43%	96.53%	96.32%	3	1	5.905	6.364	1.939
19025	Thursday, May 13, 2010	22:06	27.72	6.51	23.85	95.47	118.36	22.97	96.34%	98.04%	98.15%	3	1	6.244	6.872	1.932
19024	Thursday, May 13, 2010	21:09	27.07	6.47	23.28	73.52	95.67	22.22	95.43%	97.29%	97.47%	3	1	6.105	6.982	1.952
19023	Thursday, May 13, 2010	20:15	29.05	6.19	25.51	49.44	73.66	24.27	95.13%	97.52%	98.22%	3	1	5.952	6.587	1.919
19022	Thursday, May 13, 2010	19:12	29.14	5.93	25.59	25.16	49.56	24.44	95.49%	96.58%	99.10%	3	1	6.206	6.4	1.918
19021	Thursday, May 13, 2010	18:06	30.73	5.87	26.89	0.12	25.32	25.46	94.70%	96.00%	95.02%	3	1	5.994	6.673	1.89


Acc to MI Efficiency
Average 97.0660
MI Efficiency
Average 100.199
MI to RR Transfer Efficiency
Average 98.6418
Acc to RR Transfe
Average 95.7382
105.00
100.00
95.00
90.00
85.00
19021
19024
19027
19030
19033


GxPA 1 Shots to Recycler
Fri 14-MAY-2010 07:38:14
D:POVTMP
.PbarEH DegF
D:PTMF
.Pbar psec
D:POTMF
Pbar pSec
A:LFTOVR
.E_760 %
M:OUTTMP
.CryoY DegF
D:BPMI10
.Pbar2 McG
A:S30TMP
.Pbar DegF
A:R1LCSG
E_760 Hz
13 08:00
13 14:00
13 20:00
14 02:00
14 08:00
T1 = Th 13-MAY-2010 08:00:00
T2 = Fr 14-MAY-2010 08:00:00


GxPA 1 SEM806
Fri 14-MAY-2010 07:40:19
D:806HS
RunCo mm
D:806VS
RunCo mm
D:806HA
RunCo Int
D:806VA
RunCo Int
13 08:00
13 12:48
13 17:36
13 22:24
14 03:12
14 08:00
T1 = Th 13-MAY-2010 08:00:00
T2 = Fr 14-MAY-2010 08:00:00