2010-10-21 Thursday Morning Notes

Thursday, October 21, 2010
7:25 AM

On-call

- Tuesday: Jim Morgan
- Wednesday: Tony Leveling
- Thursday: Jim Morgan
- Friday: Keith Gollwitzer
- Saturday: Tony Leveling
- Sunday: Dave Vander Muelen

Downtime

- JASMIN shielding blockwork
  - The JASMIN air gap samples with tubes and pull ropes have also been installed.
  - JASMIN shield blocks to more time to install than our old shielding blocks. All have been installed at this time except for the final keystone block. It does not fit. The problem is that the overhang of the first block at the south end of the vault does extend far enough due to the vault wall. The clearance available at the north end is somewhere between 1 and 2 inches short. We are installing a stack of three 19" X 66" X 148" blocks at the end of the vault shield. We need to add some additional hand stack blocks to form an air dam around this last set of blocks. A total of 20 handstack blocks are required and are being gathered from SBSB at this time. The RSO has examined the alternative shield plan and agrees that it is a conservative measure.Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pts&action=view&page=last&frame=2&scroll=true&load=>
- Checked the beam dump reservoir tank level today AFTER a water sample was collected. The level was down about 3/8" to 7/16". Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=276&frame=2&anchor=&hilite=&load=>
- We also flushed the collimator return line strainer during the target change today. Flow increased from about 4 to 4.25 gpm. Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pts&action=view&page=last&frame=2&scroll=true&load=>
- PreVault access take more pictures
- Took pictures of target
  - Found target damage not limited to small area
  - Target 16 was installed on February 9, 2010. There were 5.26E19 protons on target over this period. Target 16 was the second best target so far; it took about 90% of the total protons that Target 14 had, but with a significantly reduced spot size over its entire service life. Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pts&action=view&page=last&frame=2&scroll=true&load=>
  - Some evidence of sputtering on Li Lens and Target SEM
- Target change went smoothly.
- Update on window

Stacking

- Stacking Numbers
  - <stacking rate>=26.4mA/hr
  - <production>=23.3 pbar/E6 p
  - <POT>= 8.34 Tp

Transfers

- Unstacked 193e10 in 24 transfers over 8 sets.
- Overall Accumulator to Recycler transfer efficiency 93.6%.
- Transfer 21364 (01:50am) had only a 75%. Ops had some problems with the A10 BPMs and didn't get a good tune-up. A reboot of the BPM house helped.
- Removing 21364, we had an overall efficiency of 96.8%
- Reported to Vaia that transfers 21361, 21362 and 21363 all have the injection MI DCCT number at about 50% of it's expected value. This makes the Accumulator to MI number come out wrong.

Requests

- Move shot setup TLGs to 2.6 second cycle time
- Test 2.4 and 2.2 second cycle times

The Numbers

- Stacking
  - Pbars stacked: 201.43 E10
  - Time stacking: 08.28 Hr
  - Average stacking rate: 24.32 E10/Hr

- Uptime
  - Number of pulses while in stacking mode: 10881
  - Number of pulses with beam: 10234
  - Fraction of up pulses was: 94.05%

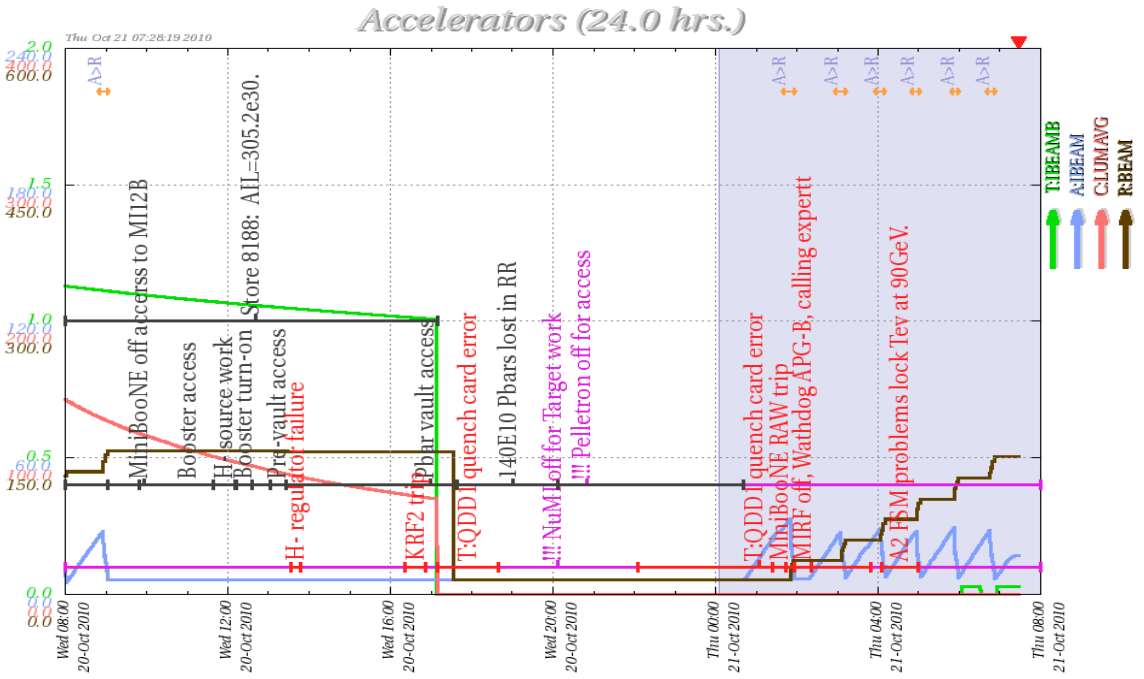
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 07.79 Hr
  - Possible average stacking rate: 25.86 E10/Hr
  - Could have stacked: 214.16 E10/Hr

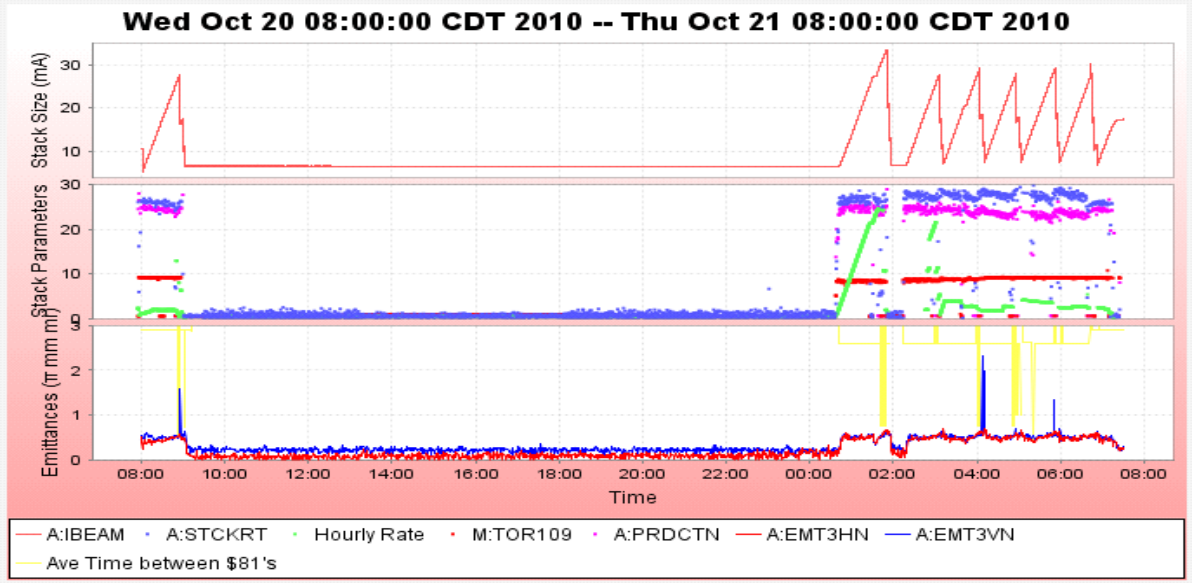
- Recycler Transfers
  - Pbars sent to the Recycler: 193.40 E10
  - Number of transfers : 25
  - Number of transfer sets: 8
  - Average Number of transfer per set: 3.12
  - Time taken to shoot including reverse proton tuneup: 00.09 Hr
  - Transfer efficiency: 93.92%

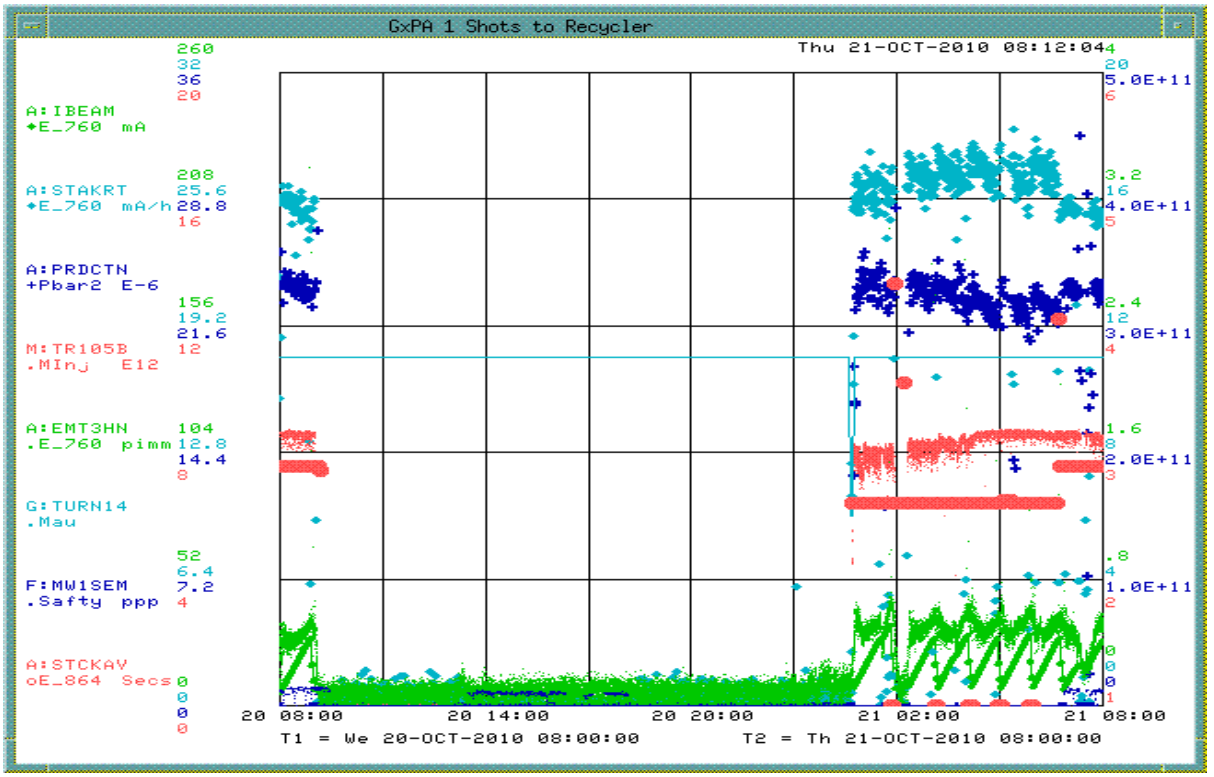
- Other Info
  - Average POT : 8.34 E12
  - Average production: 23.59 pbars/E6 protons

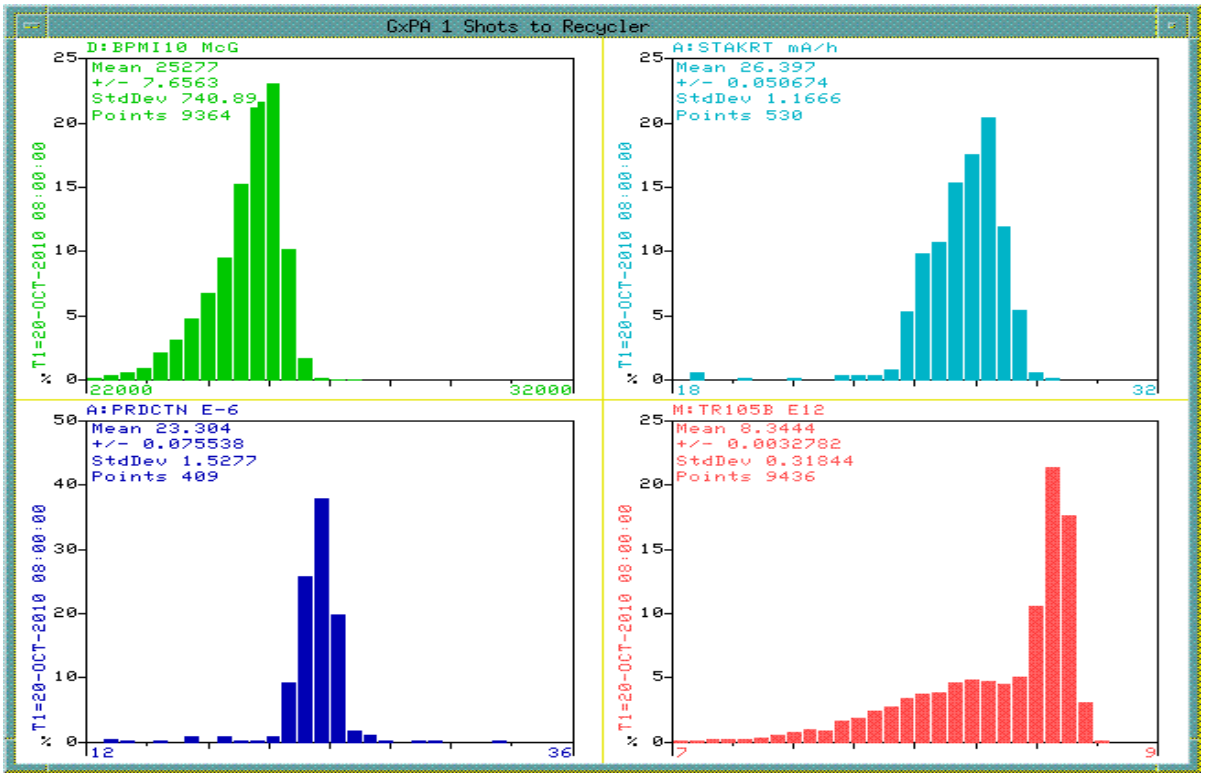
- * Red indicates a problem during data retrieval. See the message window for details.

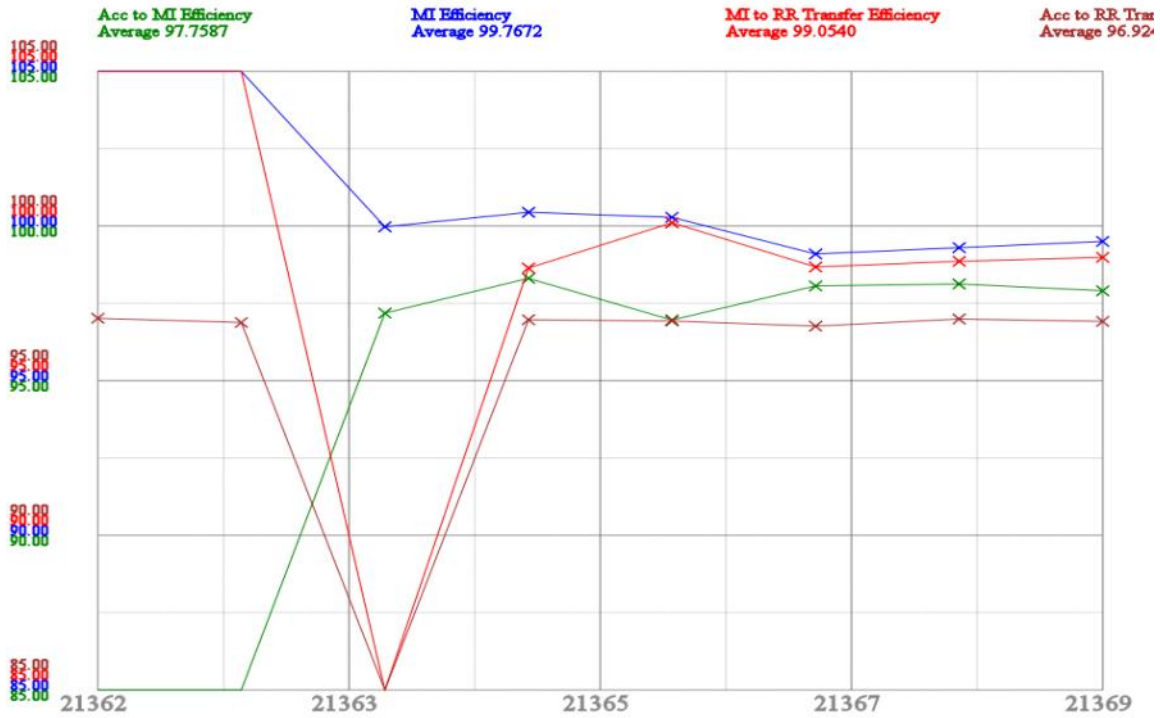
The Plots


Accelerators (24.0 hrs.)
Thu Oct 21 07:28:19 2010
MiniBooNE off access to MI12B
Booster access
HL source work
Booster turn-on
Store 8188: AIL=305.2e30.
Pre-vault access
H- regulator failure
KRF2 trip
Pbar vault access
T:QDD I quench card error
140E10 Pbars lost in RR
!!! NuMI off for Target work
!!! Pelletron off for access
T:QDD I quench card error
MiniBooNE RAW trip
MIRF off, Wathdog APG-B, calling expertt
A2 BPM problems lock Tev at 90GeV.
T:IBEAMB
A:IBEAM
C:LUMAVG
R:BEAM
Wed 08:00 20-Oct 2010
Wed 12:00 20-Oct 2010
Wed 16:00 20-Oct 2010
Wed 20:00 20-Oct 2010
Thu 00:00 21-Oct 2010
Thu 04:00 21-Oct 2010
Thu 08:00 21-Oct 2010


Wed Oct 20 08:00:00 CDT 2010 -- Thu Oct 21 08:00:00 CDT 2010
Stack Size (mA)
Stack Parameters
Emittances (π mm mr)
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
00:00
02:00
04:00
06:00
08:00
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
Thu 21-OCT-2010 08:12:04
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
20 08:00
20 14:00
20 20:00
21 02:00
21 08:00
T1 = We 20-OCT-2010 08:00:00
T2 = Th 21-OCT-2010 08:00:00


GxPA 1 Shots to Recycler
D:BPMI10 McG
Mean 25277
+/- 7.6563
StdDev 740.89
Points 9364
A:STAKRT mA/h
Mean 26.397
+/- 0.050674
StdDev 1.1666
Points 530
A:PRDCTN E-6
Mean 23.304
+/- 0.075538
StdDev 1.5277
Points 409
M:TR105B E12
Mean 8.3444
+/- 0.0032782
StdDev 0.31844
Points 9436
T1=20-OCT-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	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 =>				193.78			181.46	93.64%	87.90%	97.66%	85.84%	24	8	5.0173	4.8354	1.9453
	Daily Average =>				193.78			181.46					24	8			
21369	Thursday, October 21, 2010	6:45	28.11	6.68	23.97	128.03	151.13	23.22	96.85%	97.91%	97.45%	95.41%	3	1	4.713	4.792	1.952
21368	Thursday, October 21, 2010	5:52	29.20	7.31	24.27	104.74	128.18	23.51	96.90%	97.83%	97.08%	94.97%	3	1	5.425	4.862	1.961
21367	Thursday, October 21, 2010	4:56	27.92	7.20	23.09	82.58	104.85	22.33	96.73%	97.96%	96.82%	94.85%	3	1	5.125	4.891	1.988
21366	Thursday, October 21, 2010	4:04	29.14	7.31	24.17	59.33	82.64	23.40	96.83%	98.18%	98.42%	96.63%	3	1	5.446	4.859	1.964
21365	Thursday, October 21, 2010	3:05	27.68	6.96	23.05	37.19	59.41	22.32	96.83%	98.45%	99.10%	97.56%	3	1	5.085	5.081	1.974
21364	Thursday, October 21, 2010	1:50	33.48	6.73	28.37	16.15	37.26	21.24	74.88%	96.88%	96.79%	93.77%	3	1	4.877	4.938	1.894
21363	Wednesday, October 20, 2010	8:55	27.75	6.39	23.90	134.73	157.86	23.16	96.90%	57.46%	98.82%	56.78%	3	1	5.011	4.856	1.956
21362	Wednesday, October 20, 2010	7:55	26.22	5.30	22.97	112.67	134.90	22.27	96.94%	56.03%	96.94%	54.32%	3	1	4.456	4.404	1.873

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	Totals =>				165.42			160.21	96.85%	86.36%	97.81%	84.47%	24	7	5.0373	4.8207	1.9526
	Daily Average =>				165.42			160.21					24	7			
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													3				
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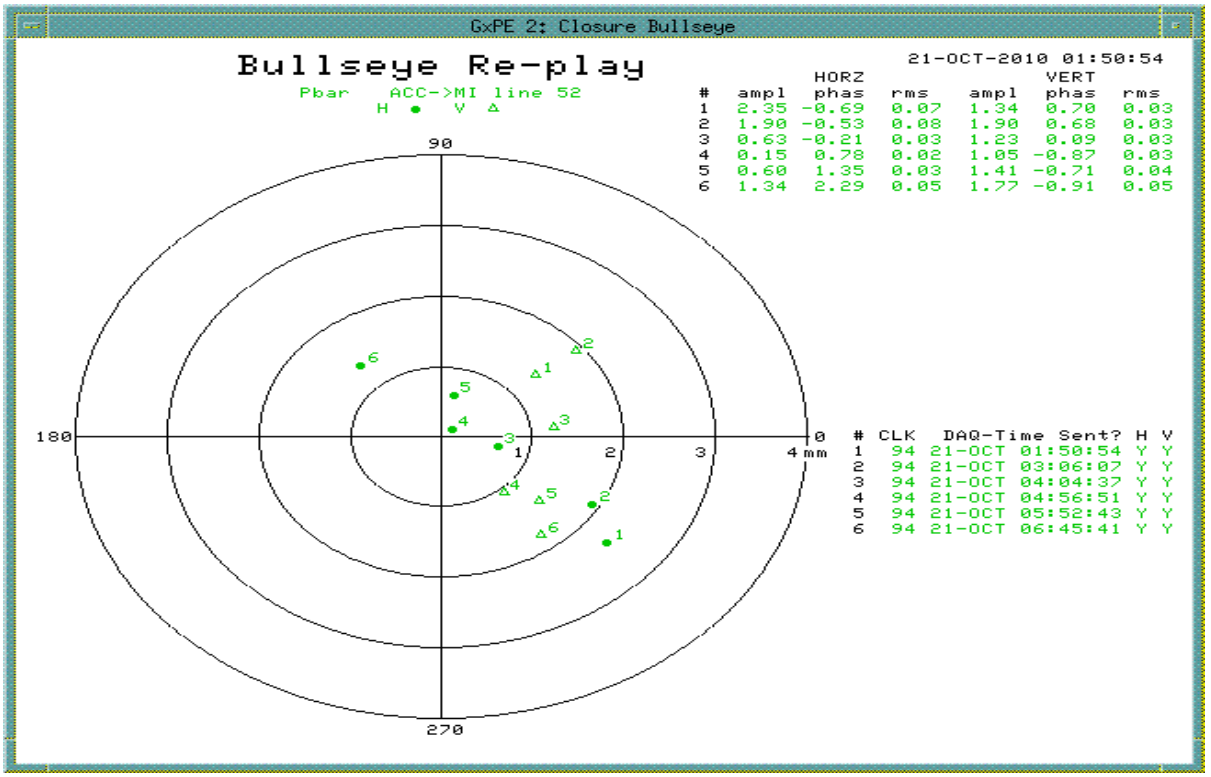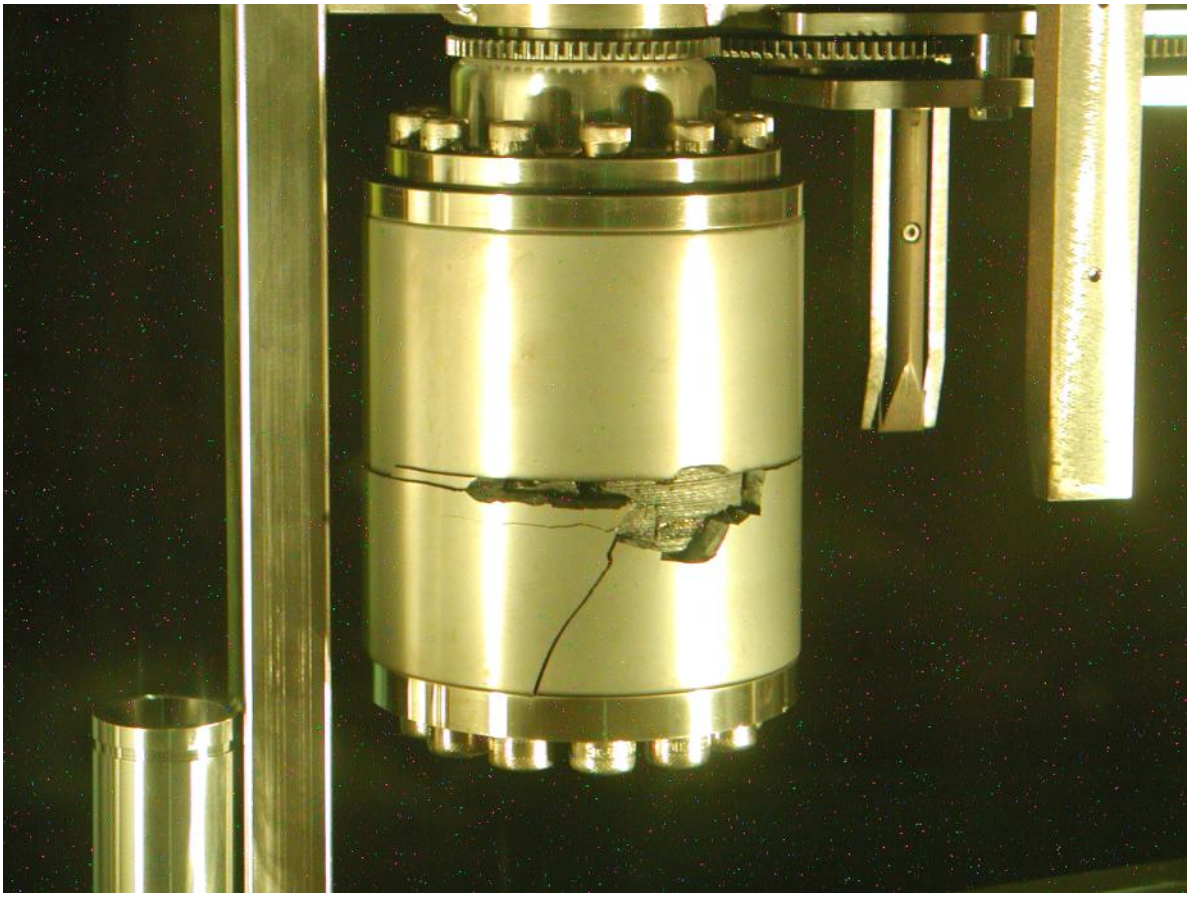
GxPE 2: Closure Bullseye
Bullseye Re-play
Pbar ACC->MI line 52
H ● V Δ
21-OCT-2010 01:50:54
HORZ VERT
ampl phas rms ampl phas rms
1 2.35 -0.69 0.07 1.34 0.70 0.03
2 1.90 -0.53 0.08 1.90 0.68 0.03
3 0.63 -0.21 0.03 1.23 0.09 0.03
4 0.15 0.78 0.02 1.05 -0.87 0.03
5 0.60 1.35 0.03 1.41 -0.71 0.04
6 1.34 2.29 0.05 1.77 -0.91 0.05
90
180
0
270
1
2
3
4 mm
CLK DAQ-Time Sent? H V
1 94 21-OCT 01:50:54 Y Y
2 94 21-OCT 03:06:07 Y Y
3 94 21-OCT 04:04:37 Y Y
4 94 21-OCT 04:56:51 Y Y
5 94 21-OCT 05:52:43 Y Y
6 94 21-OCT 06:45:41 Y Y