2010-12-22 Wednesday Morning Notes

Wednesday, December 22, 2010
7:44 AM

Stacking and Transfers

- Stacked 25.7mA/hr with an average production of 20.6 pbars/Mp with 7.96 Tp on target
- Unstacked 515E10 in 61 transfers over 20 sets with an average efficiency of 96.0%

Interesting Happenings

- There was an overvoltage light on D:Q914 on the low voltage powersupply monitor module. Bernie and Chuck reset the module and the warning light cleared.

Numbers

- Stacking
  - Pbars stacked: 553.70 E10
  - Time stacking: 23.46 Hr
  - Average stacking rate: 23.60 E10/Hr

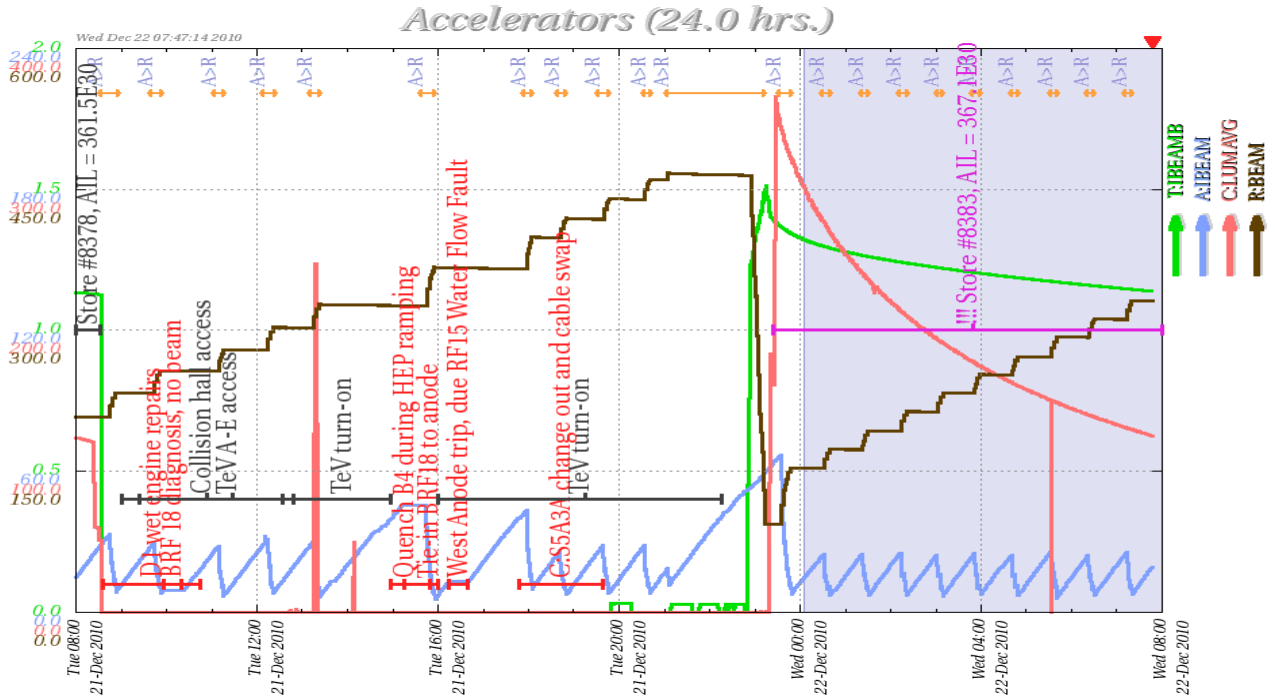
- Uptime
  - Number of pulses while in stacking mode: 36044
  - Number of pulses with beam: 33341
  - Fraction of up pulses was: 92.50%

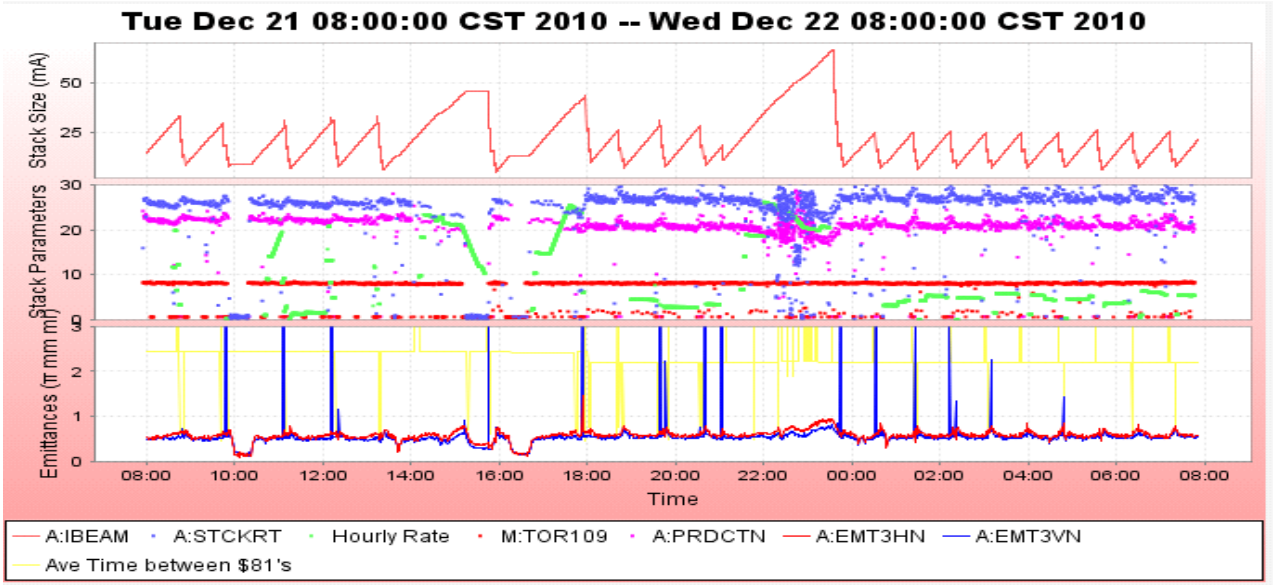
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 21.70 Hr
  - Possible average stacking rate: 25.52 E10/Hr
  - Could have stacked: 598.59 E10/Hr

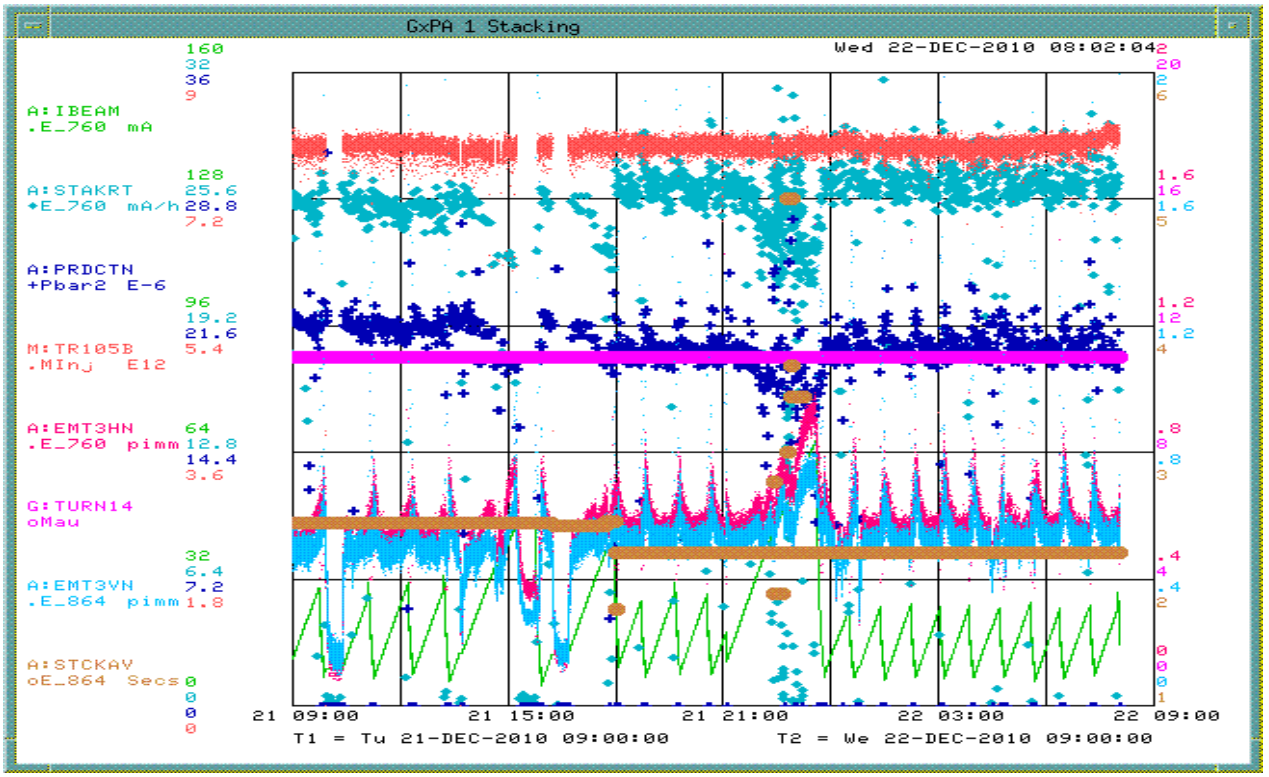
- Recycler Transfers
  - Pbars sent to the Recycler: 536.28 E10
  - Number of transfers : 64
  - Number of transfer sets: 21
  - Average Number of transfer per set: 3.05
  - Time taken to shoot including reverse proton tuneup: 00.22 Hr
  - Transfer efficiency: 96.02%

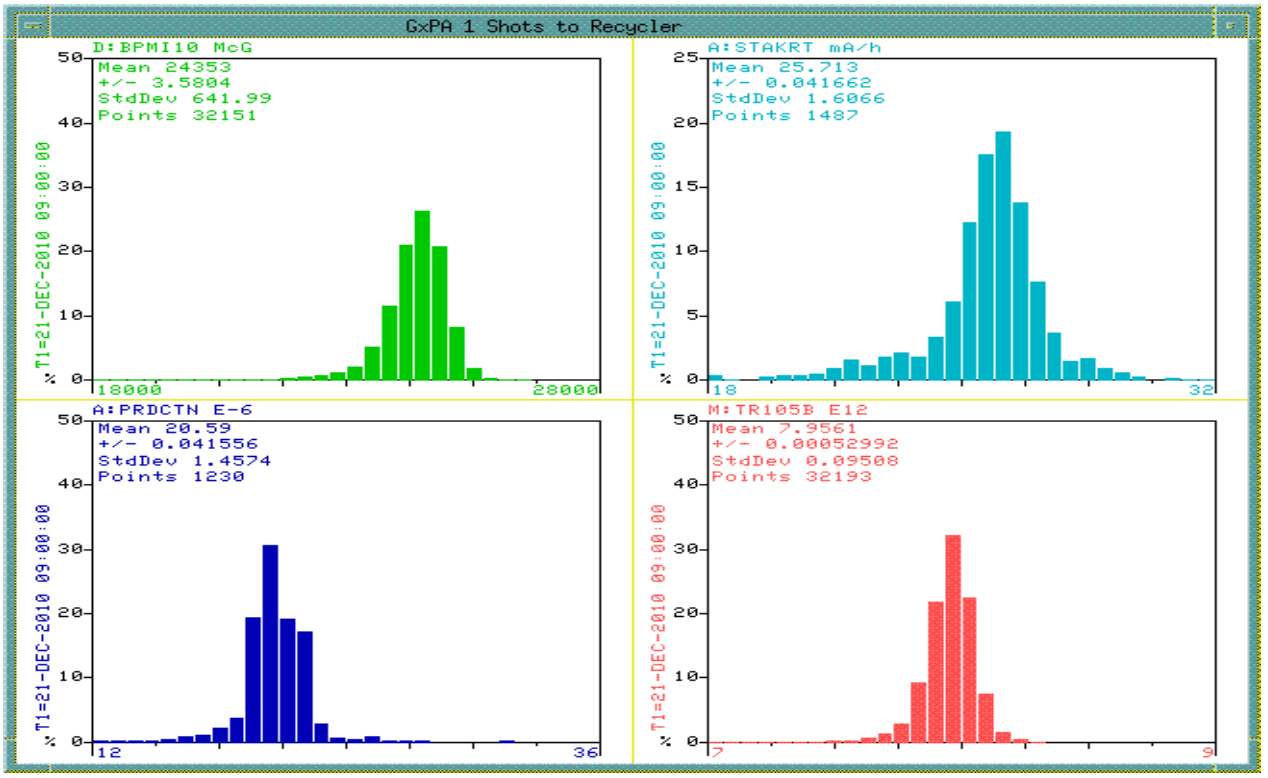
- Other Info
  - Average POT : 7.95 E12
  - Average production: 20.88 pbars/E6 protons

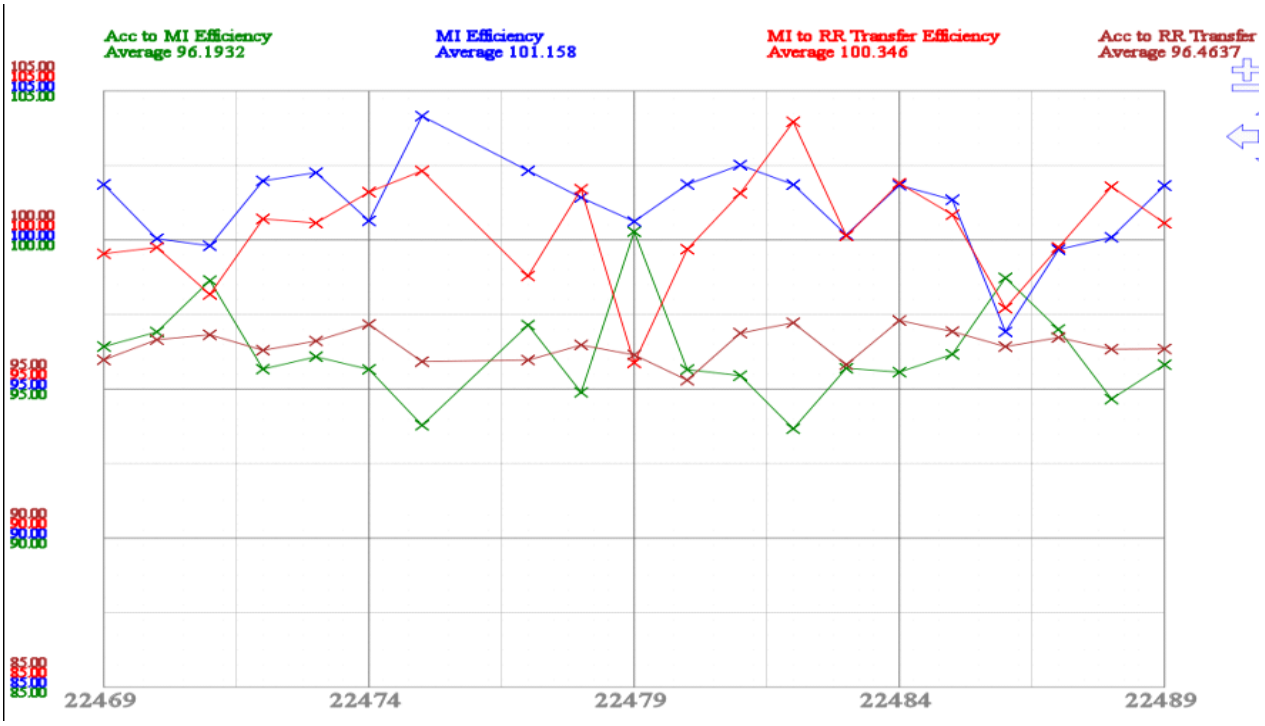
Plots


Accelerators (24.0 hrs.)
Wed Dec 22 07:47:14 2010
Store #8378, AIL = 361.5E30
Dawet engine repairs
BRF 18 diagnosis, no beam
Collision hall access
TeV A-E access
TeV turn-on
Quench B4 during HEP ramping
Tie-in BRF18 to anode
West Anode trip, due RF15 Water Flow Fault
C:S5A3A change out and cable swap
TeV turn-on
!!! Store #8383, AIL = 367.1E30
T:IBEAMB
A:IBEAM
C:LUMAVG
R:BEAM
Tue 08:00 21-Dec 2010
Tue 12:00 21-Dec 2010
Tue 16:00 21-Dec 2010
Tue 20:00 21-Dec 2010
Wed 00:00 22-Dec 2010
Wed 04:00 22-Dec 2010
Wed 08:00 22-Dec 2010

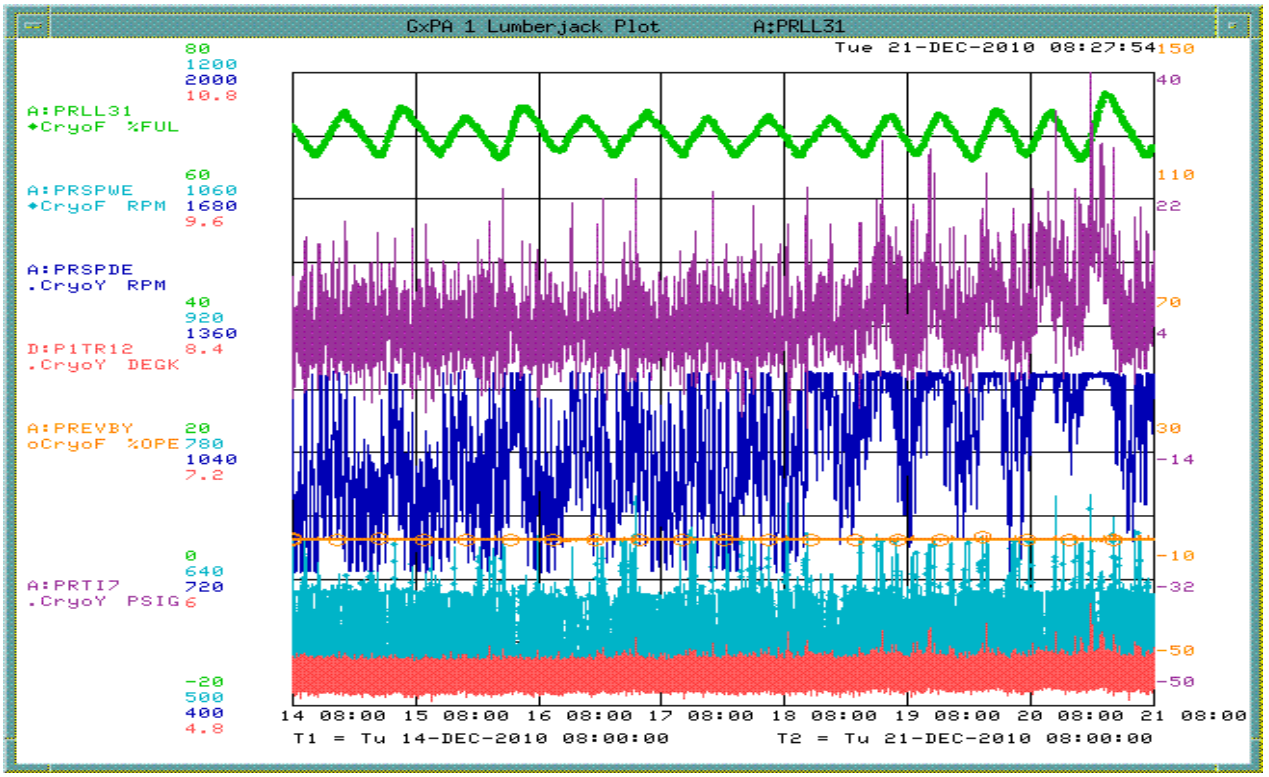

Tue Dec 21 08:00:00 CST 2010 -- Wed Dec 22 08:00:00 CST 2010
Stack Size (mA)
Stack Parameters
Emittances (π mm mr)
Time
A:IBEAM
A:STCKRT
Hourly Rate
M:TOR109
A:PRDCTN
A:EMT3HN
A:EMT3VN
Ave Time between $81's


GxPA 1 Stacking
Wed 22-DEC-2010 08:02:04
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
oMau
A:EMT3VN
.E_864 pimm
A:STCKAV
oE_864 Secs
21 09:00
21 15:00
21 21:00
22 03:00
22 09:00
T1 = Tu 21-DEC-2010 09:00:00
T2 = We 22-DEC-2010 09:00:00

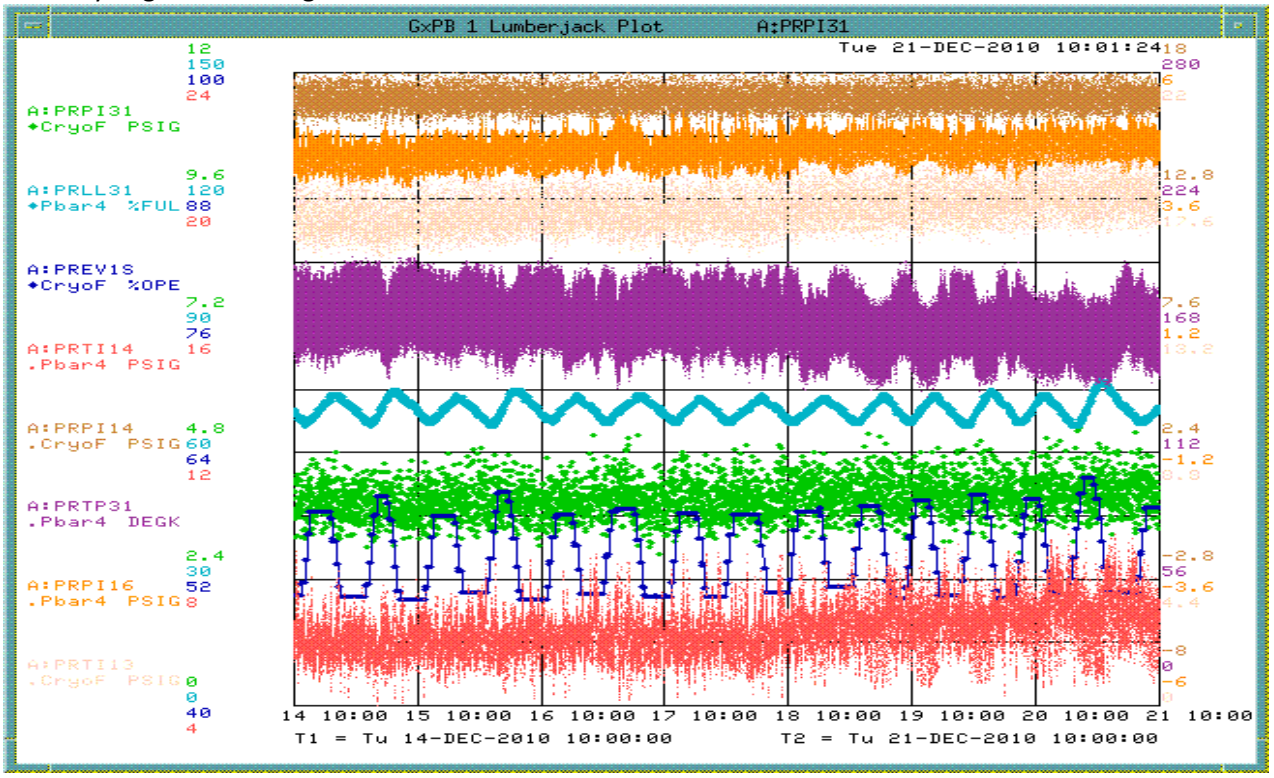

GxPA 1 Shots to Recycler
D:BPMI10 McG
Mean 24353
+/- 3.5804
StdDev 641.99
Points 32151
A:STAKRT mA/h
Mean 25.713
+/- 0.041662
StdDev 1.6066
Points 1487
A:PRDCTN E-6
Mean 20.59
+/- 0.041556
StdDev 1.4574
Points 1230
M:TR105B E12
Mean 7.9561
+/- 0.00052992
StdDev 0.09508
Points 32193
T1=21-DEC-2010 09:00:00



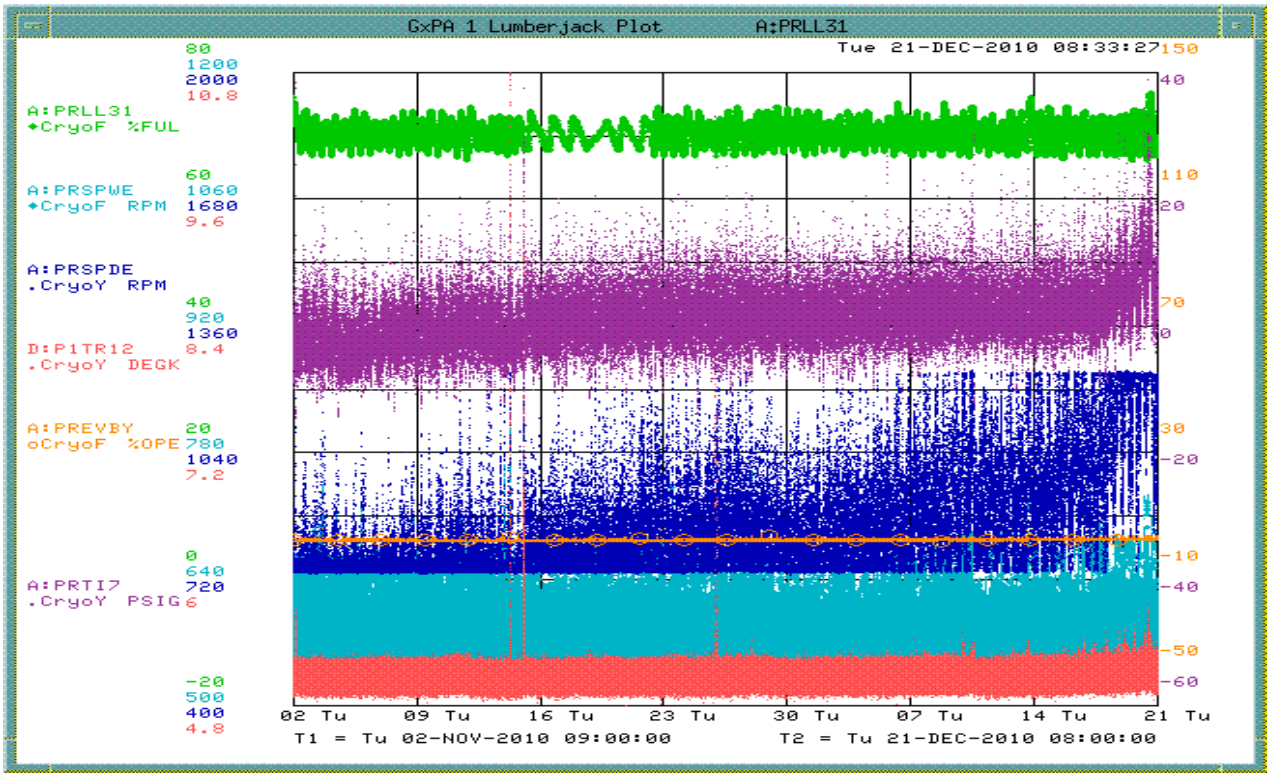
Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:IBEAMB sampled on $91 (A:BEAM7), E10	Column 22 Number_21_A:IBEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Column 23 Number_22_R:BEAMS (R:BEAME0[0]) pre xfer E10	Column 24 Number_23_R:BEAM (R:BEAME0[1]) 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 =>				515.36			496.59	96.36%	95.98%	97.21%	93.31%	61	20	5.616	4.9074	1.9481
	Daily Average =>				515.36			496.59					61	20			
22489	Wednesday, December 22, 2010	7:12	25.35	7.32	20.70	311.64	331.41	19.95	96.36%	95.48%	97.63%	93.22%	3	1	5.894	5.399	2.009
22488	Wednesday, December 22, 2010	6:22	24.61	6.84	20.50	292.60	312.19	19.83	96.69%	94.35%	95.31%	89.93%	3	1	5.817	5.159	1.965
22487	Wednesday, December 22, 2010	5:33	26.02	5.89	22.20	271.80	293.07	21.46	96.64%	96.50%	96.92%	93.53%	3	1	5.38	4.694	1.97
22486	Wednesday, December 22, 2010	4:41	24.82	7.30	20.24	252.88	272.15	19.52	96.41%	98.19%	96.24%	94.50%	3	1	5.657	5.272	2.002
22485	Wednesday, December 22, 2010	3:51	25.25	6.97	20.89	233.07	253.13	20.27	97.02%	96.81%	97.46%	94.35%	3	1	5.833	5.063	1.984
22484	Wednesday, December 22, 2010	3:02	25.00	6.91	20.74	213.44	233.45	20.16	97.24%	94.79%	96.99%	91.93%	3	1	5.848	5.001	1.987
22483	Wednesday, December 22, 2010	2:14	25.91	7.00	21.65	193.14	213.74	20.82	96.17%	96.24%	96.03%	92.42%	3	1	5.438	5.141	1.973
22482	Wednesday, December 22, 2010	1:23	25.05	6.50	21.01	173.19	193.39	20.36	96.94%	94.36%	95.95%	90.54%	3	1	5.519	4.796	1.963
22481	Wednesday, December 22, 2010	0:32	25.15	6.93	20.86	153.43	173.38	20.23	96.98%	96.35%	97.69%	94.13%	3	1	5.682	5.012	1.987
22480	Tuesday, December 21, 2010	23:34	67.04	7.18	64.61	93.66	153.93	61.41	95.04%	95.54%	96.98%	92.65%	5	1	6.645	5.646	1.857
22479	Tuesday, December 21, 2010	21:04	18.64	10.96	7.68	459.96	467.34	7.38	96.14%	100.29%	100.90%	101.19%	1	1	5.524	4.549	1.958
22478	Tuesday, December 21, 2010	20:33	28.41	7.98	23.10	439.01	460.88	22.36	96.77%	95.55%	96.38%	92.08%	3	1	5.793	4.975	1.969
22477	Tuesday, December 21, 2010	19:39	28.77	7.88	23.52	418.17	440.40	22.60	96.12%	97.35%	99.18%	96.56%	3	1	5.656	4.964	1.996
22475	Tuesday, December 21, 2010	17:57	43.44	9.73	36.10	365.51	399.45	34.50	95.58%	93.15%	97.43%	90.75%	3	1	6.013	5.125	1.884
22474	Tuesday, December 21, 2010	15:45	45.74	5.10	42.71	326.23	367.14	41.47	97.09%	96.07%	96.72%	92.92%	4	1	3.956	3.312	1.838
22473	Tuesday, December 21, 2010	13:15	30.16	6.10	26.25	302.77	327.76	25.36	96.60%	95.69%	97.72%	93.51%	3	1	5.262	4.623	1.904
22472	Tuesday, December 21, 2010	12:14	31.16	7.86	25.89	278.80	303.45	24.92	96.27%	96.28%	97.07%	93.46%	3	1	5.55	5.002	1.943
22471	Tuesday, December 21, 2010	11:08	28.11	6.76	23.93	256.49	279.40	23.20	96.96%	98.34%	98.86%	97.23%	3	1	5.512	4.633	1.928
22470	Tuesday, December 21, 2010	9:44	29.72	7.34	25.00	233.37	257.17	24.15	96.57%	96.87%	97.06%	94.03%	3	1	5.403	4.858	1.93
22469	Tuesday, December 21, 2010	8:45	33.44	8.26	27.78	207.50	233.86	26.65	95.91%	96.28%	98.15%	94.50%	3	1	5.938	4.923	1.914



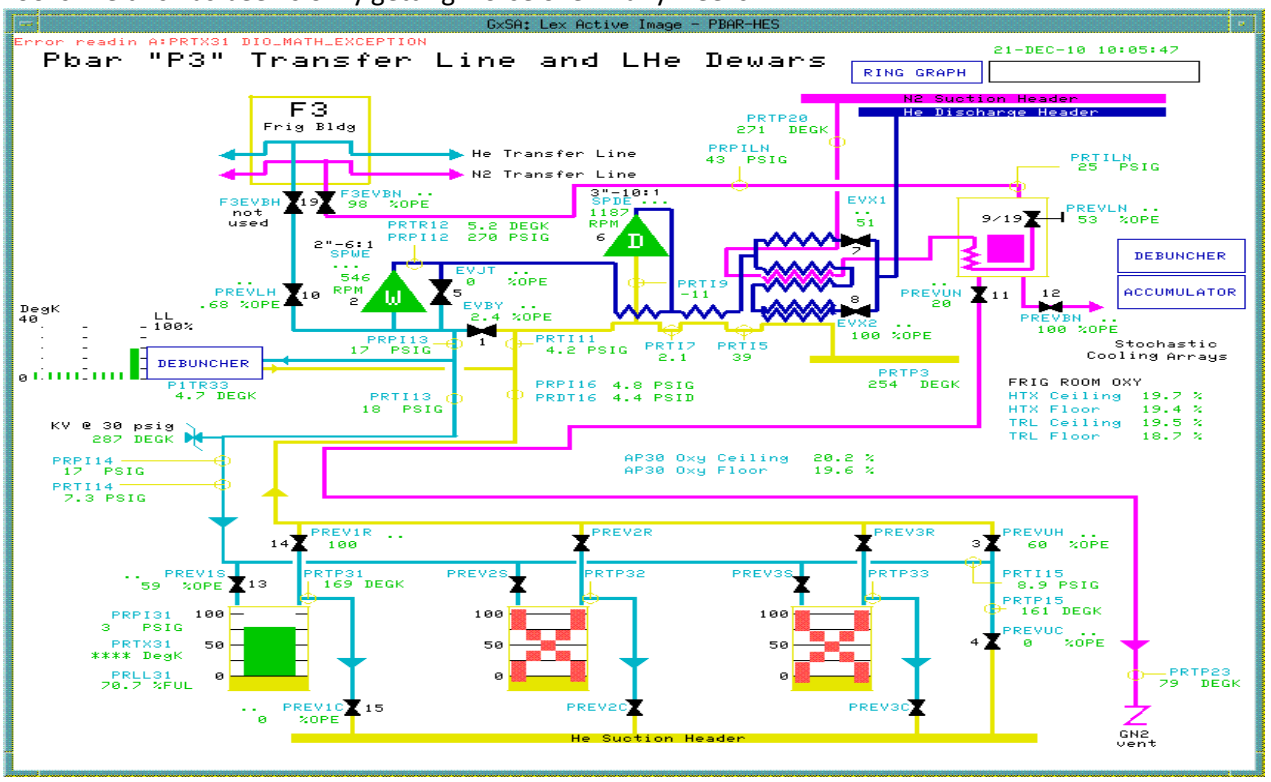
Pbar Dry Engine is starting to run more at max RPM



We are starting to see it also at the cryo notch filter dewar



Looks like this has been slowly getting worse over many weeks



Cryo notch

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PB P57 BPM PARAMETERS<NoSets>
P57   D10 53MHZ BPM POSITION & INTENSET        D/A    A/D   Com-U ◆PTools◆
-<FTP>+  *SA◆  X-A/D   X=TIME        Y=F:NM1H   ,F:NM1U   ,E MBRATE,B BPL5MA
COMMAND ----  Eng-U   I= 0          I= 0       , 0       , 0       , 0
-< 1>+   s_MI AUTO    F= 8          F= 40      , 200     , 1.0E+17, 500
acc10. acc20. acc30. acc40. acc50. acc60. DEB      deb2    accxx.
 D:BPMR10       Deb bpm raw data hse                 31119390
 D:BPMP10       Deb bpm position hse                -146.69809 mm
 D:BPMP10[1]    Deb bpm position hse                -20.660344 mm
 D:BPMP10[2]    Deb bpm position hse                -35.897643 mm
 D:BPMP10[3]    Deb bpm position hse                -107.83184 mm
 D:BPMP10[4]    Deb bpm position hse                -11.784895 mm
 D:BPMP10[5]    Deb bpm position hse                -202.88657 mm
 D:BPMP10[6]    Deb bpm position hse                -23.840237 mm
 D:BPMP10[7]    Deb bpm position hse                 134.84988 mm
 D:BPMP10[8]    Deb bpm position hse                 24.37703  mm
 D:BPMP10[9]    Deb bpm position hse                 63.097863 mm
 D:BPMP10[10]   Deb bpm position hse                 56.729802 mm
 D:BPMP10[11]   Deb bpm position hse                 4.8794076 mm
 D:BPMP10[12]   Deb bpm position hse                -90.142534 mm
 D:BPMP10[13]   Deb bpm position hse                 77.928101 mm
 D:BPMP10[14]   Deb bpm position hse                 29.49395  mm
 D:BPMP10[15]   Deb bpm position hse                 53.011341 mm
 D:BPMP10[16]   Deb bpm position hse                -153.14988 mm
 D:BPMP10[17]   Deb bpm position hse                 719.17314 mm
 D:BPMP10[18]   Deb bpm position hse                 18.604614 mm
 D:BPMP10[19]   Deb bpm position hse                -42.621936 mm

 D:BPMI10       Deb bpm intensity hse 10                  .442   McG
 D:BPMI10[1]    Deb bpm intensity hse 10                19.29   McG
 D:BPMI10[2]    Deb bpm intensity hse 10               -3.155   McG
 D:BPMI10[3]    Deb bpm intensity hse 10                1.939   McG
 D:BPMI10[4]    Deb bpm intensity hse 10                 .608   McG
 D:BPMI10[5]    Deb bpm intensity hse 10                2.917   McG
 D:BPMI10[6]    Deb bpm intensity hse 10                1.403   McG
                          DAE Error 66   -45
  IPADC OAC socket error.

 D:BPMI10[17]   Deb bpm intensity hse 10                 -.08   McG
 D:BPMI10[18]   Deb bpm intensity hse 10                 -.659  McG
 D:BPMI10[19]   Deb bpm intensity hse 10                 -.594  McG
 D:BPM1UT       Deb BPM 10 Uptime                     66 -45
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Debuncher 10 house BPMs died

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1 - clx24 (via outland)

        Unauthorized or improper use of this system may result in  admin-
        istrative  disciplinary  action and civil and criminal  penalties.
        By continuing to use this system you indicate your  awareness  of
        and  consent to these terms and conditions of use.  LOG OFF IMME-
        DIATELY if you do not agree to  the  conditions  stated  in  this
        warning.

        Fermilab  policy  and  rules for computing, including appropriate
        use, may be found at http://www.fnal.gov/cd/main/cpolicy.html
clx24$ export DISPLAY=131.225.130.254:0
clx24$ xauth add $DISPLAY . A009799D182B927BB75E48B3A7DDA983
clx24$ fixup-tix
clx24$ telnet pbardebbpm10 1024
Trying 131.225.138.18...
Connected to pbardebbpm10.fnal.gov (131.225.138.18).
Escape character is '^]'.
SOCK
Soc Stat Send  Rec'd  Send  Send  Send   Connection
ket Reg  BufSz DatSz  RdPtr WrPtr timOut  (Port)
 0   17  0800  0000   0002  0002  0000   CONNECTED 131.225.120.24 (41712)
 1   1C  0800  0000   0016  0016  0000   CLOSE_WAIT
 2   14  0800  0000   0000  0000  0000   LISTEN
 3   22  0800  0000   0000  0000  0000   SOCK_UDP

HS
hBus Status Reg: 00000500  Master
 SlaveBrdCnt: 4
 RecCntTot  : 0
 ParityErrs : 0
 PollingCnts: 11044792
 MstRecCntEr: 0
 LowRecCntEr: 0
 Errs Slv01 : 0
 Errs Slv02 : 0
 Errs Slv03 : 0
 Errs Slv04 : 0

RESET

Connection closed by foreign host.
clx24$ telnet pbardebbpm10 1024
Trying 131.225.138.18...
Connected to pbardebbpm10.fnal.gov (131.225.138.18).
Escape character is '^]'.
SOCK
Soc Stat Send  Rec'd  Send  Send  Send   Connection
ket Reg  BufSz DatSz  RdPtr WrPtr timOut  (Port)
 0   17  0800  0000   0002  0002  0000   CONNECTED 131.225.120.24 (41716)
 1   17  0800  0000   2426  2426  0000   CONNECTED 131.225.121.240 (37990)
 2   14  0800  0000   0000  0000  0000   LISTEN
 3   22  0800  0000   0000  0000  0000   SOCK_UDP

HS
hBus Status Reg: 00000500  Master
 SlaveBrdCnt: 4
 RecCntTot  : 0
 ParityErrs : 0
 PollingCnts: 248
 MstRecCntEr: 0
 LowRecCntEr: 0
 Errs Slv01 : 0
 Errs Slv02 : 0
 Errs Slv03 : 0
 Errs Slv04 : 0
```

Telnet reset procedure brought them back to life