2010-11-10 Wednesday Morning Notes

Tuesday, November 09, 2010
10:03 AM

Stacking and Transfers

- Pulsed magnet #11 change-out (http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pts&action=view&page=388&scroll=false&load=)
  - What they found.
    1. The copper conductor bars and turn around plate are black.
    2. The 5 DS east side ceramics are broken but those further upstream on the east side look remarkably good.
    3. The top edge of the C channel on the east side is broken on the DS end.
    4. The ceramic buttons on the west side are more broken than those on the east side, but tie rods still look tight.
    5. There are no tierods sticking out into the aperture.
    6. The C channel on the east side appears to be intact along the whole length.
    7. There are pieces of C channel, probably from the east side laying the the bottom of the aperture.

    Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pts&action=view&page=388&frame=2&anchor=&hilite=&load=>
  - The job was delayed by about five hours due to crane issues. During the AP1 vacuum work a few weeks ago, one block had got stuck part way lifted out of the hatch and required mechanical persuasion to free the block. This stressed the crane and the electrical contactors were making noise. This was known at that time. Since then crane technicians were scheduled to come in.
  - At the start of this job, ES&H was allowing us to do light duty work with the crane as we were expediting getting the crane technicians in. By early afternoon (at the time of my note) ES&H called off all crane work on this job until the crane technicians could make it in. Which was about 5:30pm with about 2 hours of crane work.
  - Target guys estimated they were only two hours into their job at that time. The total estimate is 10 hours for this job; however, that is optimistic since the pulsed magnet is usually a little harder to disconnect and connect from the module due to its geometry (double module, longer than other target devices).
  - The magnet was found bad, but lasted a second best 21+ million pulses.

- Pbar Rings Access (http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=293&scroll=false&load=)

Numbers

- Stacking
  - Pbars stacked: 126.19 E10
  - Time stacking: 05.81 Hr
  - Average stacking rate: 21.73 E10/Hr

- Uptime
  - Number of pulses while in stacking mode: 7927
  - Number of pulses with beam: 7665
  - Fraction of up pulses was: 96.69%

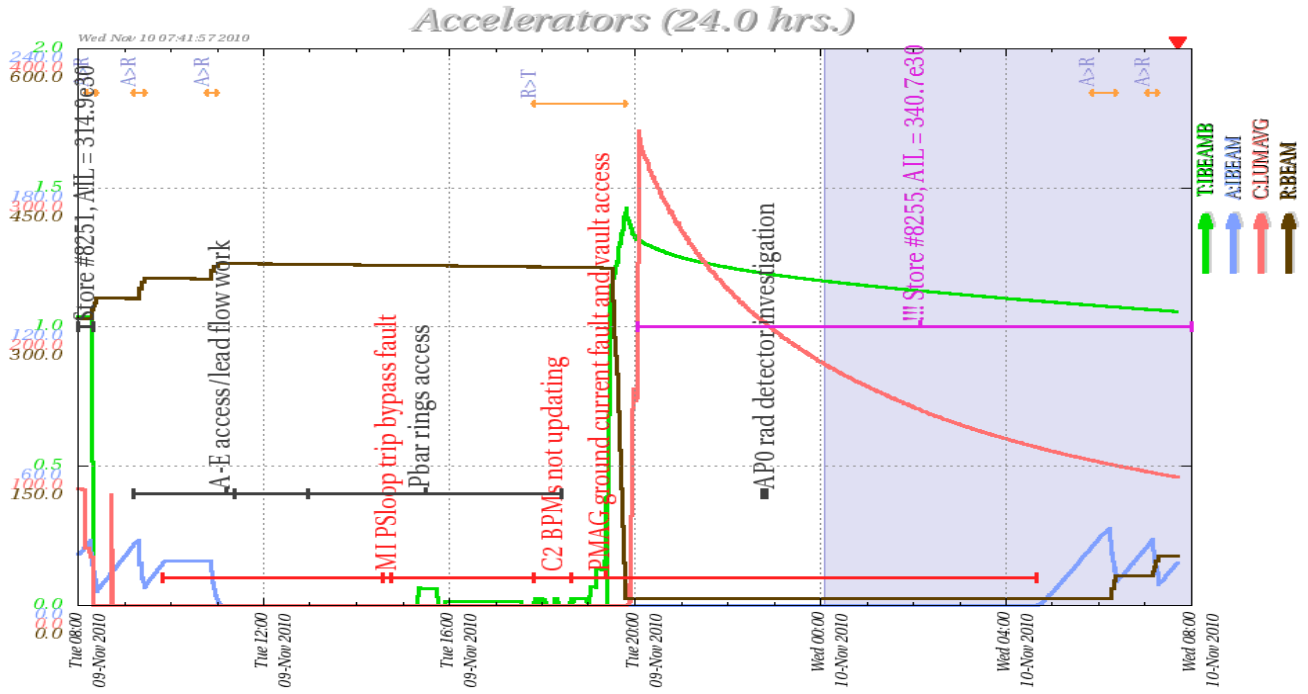
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 05.62 Hr
  - Possible average stacking rate: 22.47 E10/Hr
  - Could have stacked: 130.50 E10/Hr

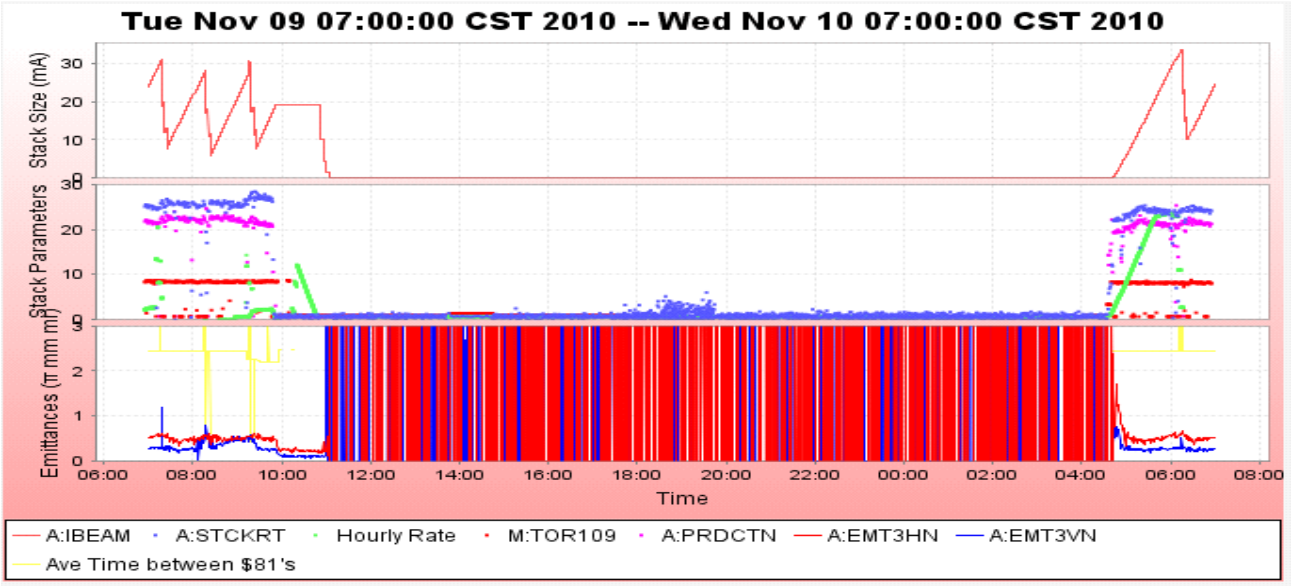
- Recycler Transfers
  - Pbars sent to the Recycler: 113.41 E10
  - Number of transfers : 15
  - Number of transfer sets: 5
  - Average Number of transfer per set: 3.00
  - Time taken to shoot including reverse proton tuneup: 00.05 Hr
  - Transfer efficiency: 95.92%

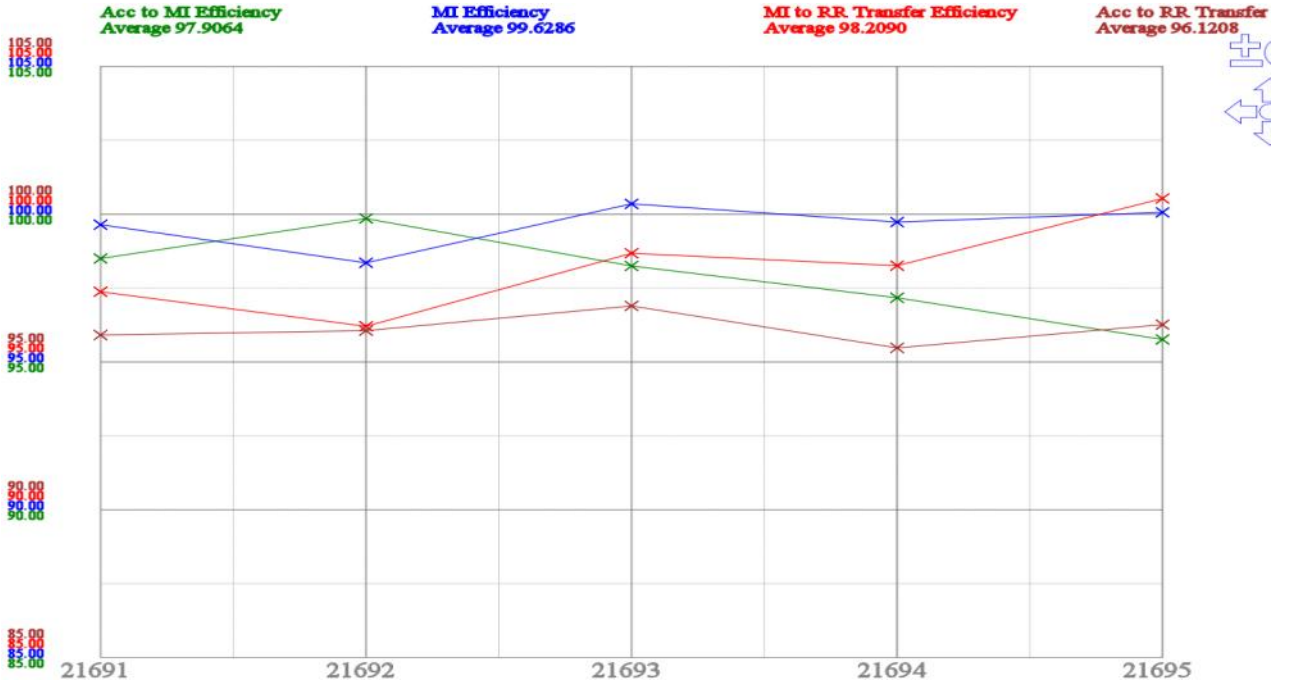
- Other Info
  - Average POT : 7.71 E12
  - Average production: 21.36 pbars/E6 protons

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

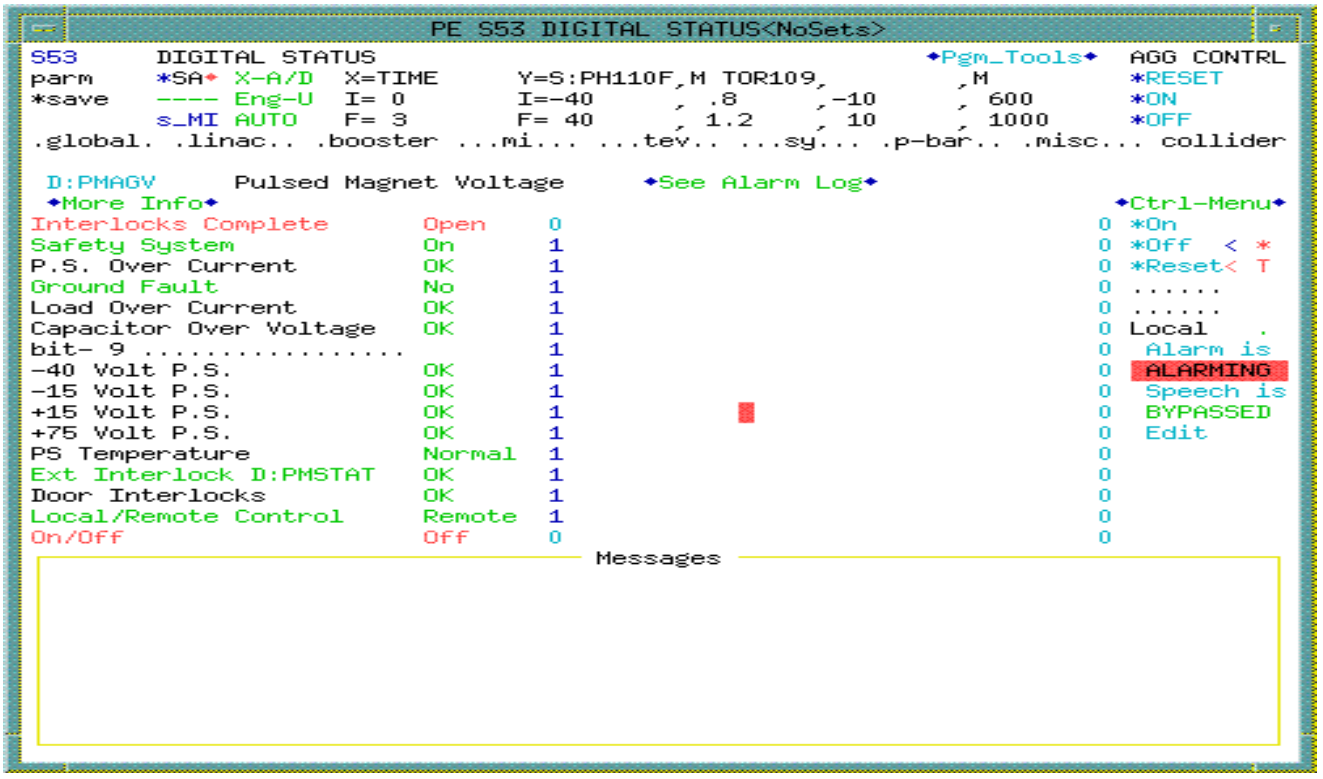
Plots

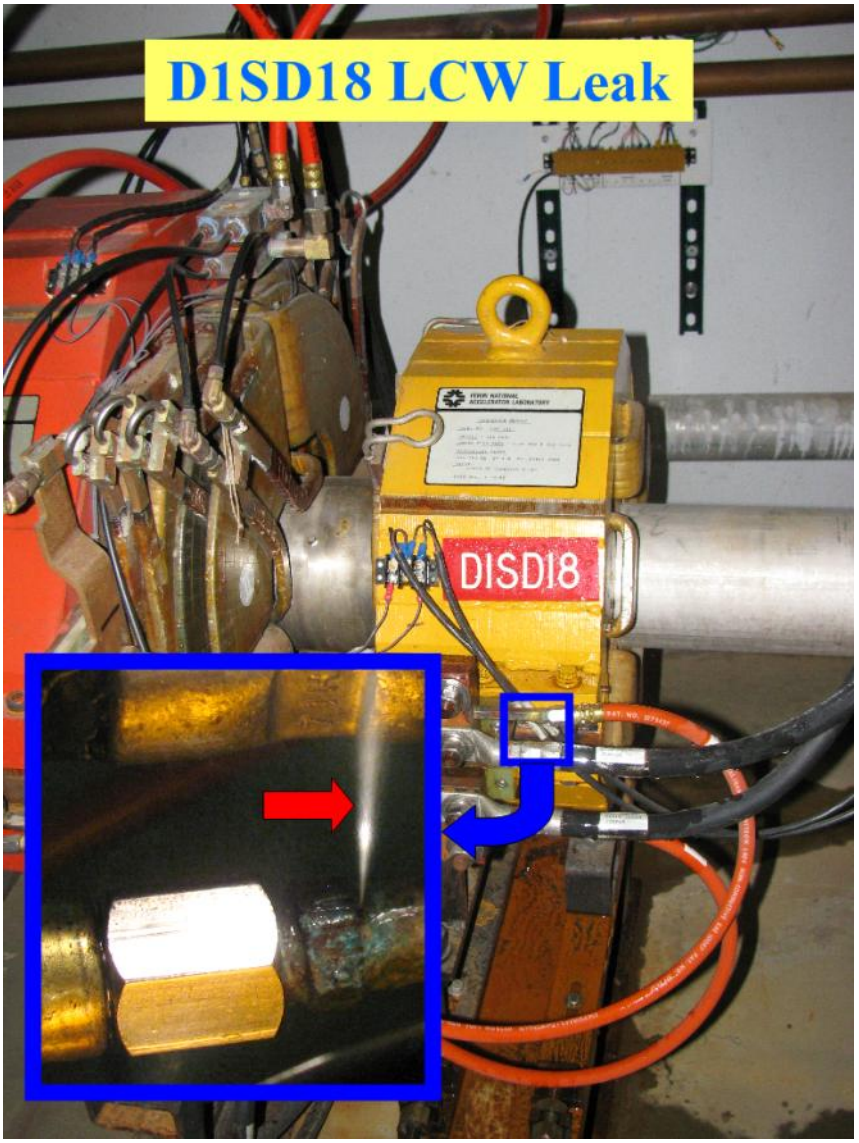


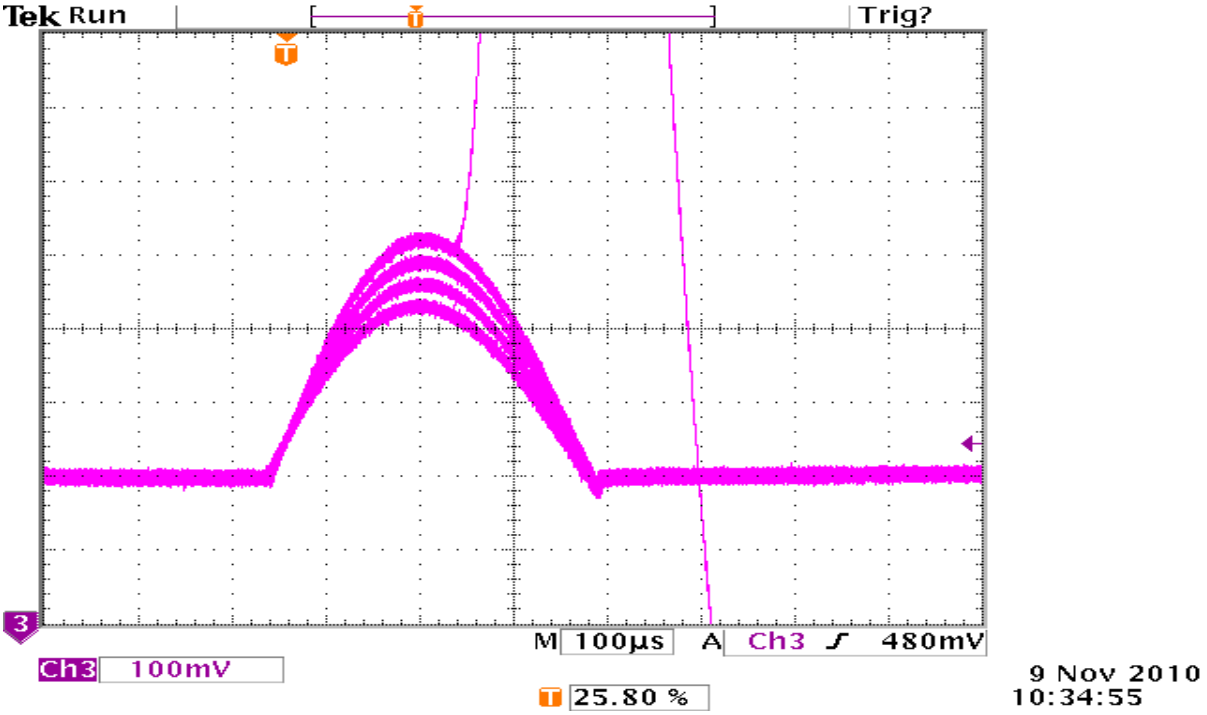


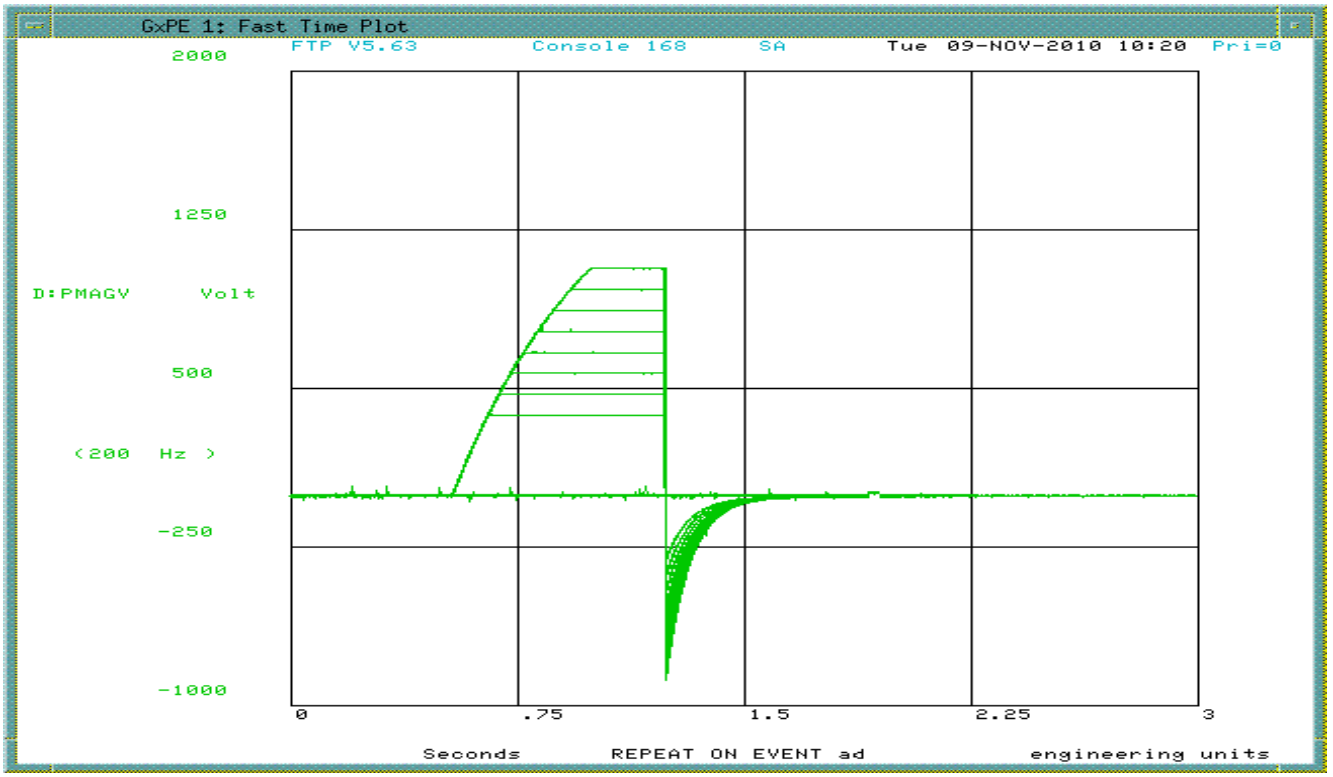


Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:IBEAMB sampled on $91 (A:BEAM7), E10	Column 22 Number_21_A:IBEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Column 23 Number_22_R:BEAMS (R:BEAME0[0]) pre xfer E10	Column 24 Number_23_R:BEAM (R:BEAME0[1]) 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 =>				113.62			109.02	95.95%	97.92%	97.44%	95.42%	15	5	4.436	3.0018	1.915
	Daily Average =>				113.62			109.02					15	5			
21695	Wednesday, November 10, 2010	7:10	28.40	8.85	21.99	31.90	52.96	21.16	96.23%	95.95%	95.78%	91.90%	3	1	5.021	2.318	1.901
21694	Wednesday, November 10, 2010	6:15	33.65	9.95	26.11	7.18	32.00	24.90	95.37%	97.00%	96.69%	93.80%	3	1	5.437	2.606	1.972
21693	Tuesday, November 09, 2010	10:51	19.10	1.29	17.78	351.97	368.96	17.22	96.84%	99.00%	99.19%	98.20%	3	1	2.015	0.849	1.79
21692	Tuesday, November 09, 2010	9:18	28.44	7.55	23.61	330.86	353.21	22.66	95.95%	99.66%	97.86%	97.53%	3	1	5.021	4.48	1.963
21691	Tuesday, November 09, 2010	8:17	28.00	5.86	24.13	308.63	331.51	23.08	95.68%	98.22%	98.06%	96.32%	3	1	4.686	4.756	1.949


PE S53 DIGITAL STATUS<NoSets>
S53 DIGITAL STATUS
Pgm_Tools
AGG CONTRL
parm *SA X-A/D X=TIME Y=S:PH110F,M TOR109, ,M *RESET
*save ---- Eng-U I= 0 I=-40 , .8 ,-10 , 600 *ON
s_MI AUTO F= 3 F= 40 , 1.2 , 10 , 1000 *OFF
.global. .linac.. .booster ...mi... ...tev.. ...sy... .p-bar.. .misc... collider
D:PMAGV Pulsed Magnet Voltage
See Alarm Log
More Info
Ctrl-Menu
Interlocks Complete Open 0
Safety System On 1
P.S. Over Current OK 1
Ground Fault No 1
Load Over Current OK 1
Capacitor Over Voltage OK 1
bit- 9 1
-40 Volt P.S. OK 1
-15 Volt P.S. OK 1
+15 Volt P.S. OK 1
+75 Volt P.S. OK 1
PS Temperature Normal 1
Ext Interlock D:PMSTAT OK 1
Door Interlocks OK 1
Local/Remote Control Remote 1
On/Off Off 0
0 *On
0 *Off < *
0 *Reset< T
0 .....
0 .....
0 Local .
0 Alarm is
0 ALARMING
0 Speech is
0 BYPASSED
0 Edit
Messages


D1SD18 LCW Leak
D1SD18


Tek Run
Trig?
M 100µs A Ch3 480mV
Ch3 100mV
25.80 %
9 Nov 2010
10:34:55


GxPE 1: Fast Time Plot
FTP V5.63
Console 168
SA
Tue 09-NOV-2010 10:20
Pri=0
2000
1250
D:PMAGV
Volt
500
< 200 Hz >
-250
-1000
0
.75
1.5
2.25
3
Seconds
REPEAT ON EVENT ad
engineering units