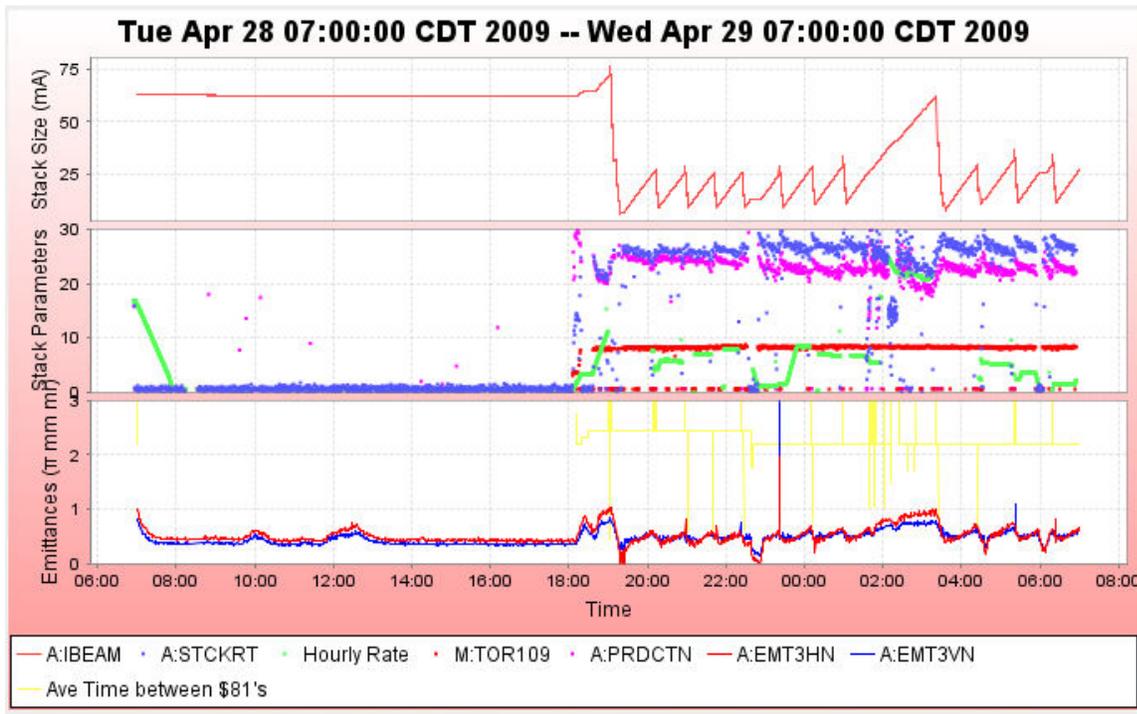


## Stacking

- Sat on 63mA stack with just over 1000 hour lifetime.
  - Core momentum tuning
- During the downtime,
  - Looked at the target rotation motor and resolver
  - Both the motor and resolver were changed out
  - The noisy readback problem appears to have been fixed.
- Stacking was re-established on the evening shift.
- Histogram data on D44
  - average stack rate 25.6mA/hr (down .5 to 1mA/hr from yesterday)
  - Average production 22.56 (up 1 from yesterday)
  - Beam on target 8.2e12 to 7.62e12 (Linac output)
- Other notes
  - Ops tuned up overnight and did make some small improvements, especially in the Debuncher.
  - MCR ELOG: 0759: Bernie reports that the HVAC unit at AP50 is really noisy/load. Contacting FESS to take a look. We will keep an eye on temperatures in the building. bS



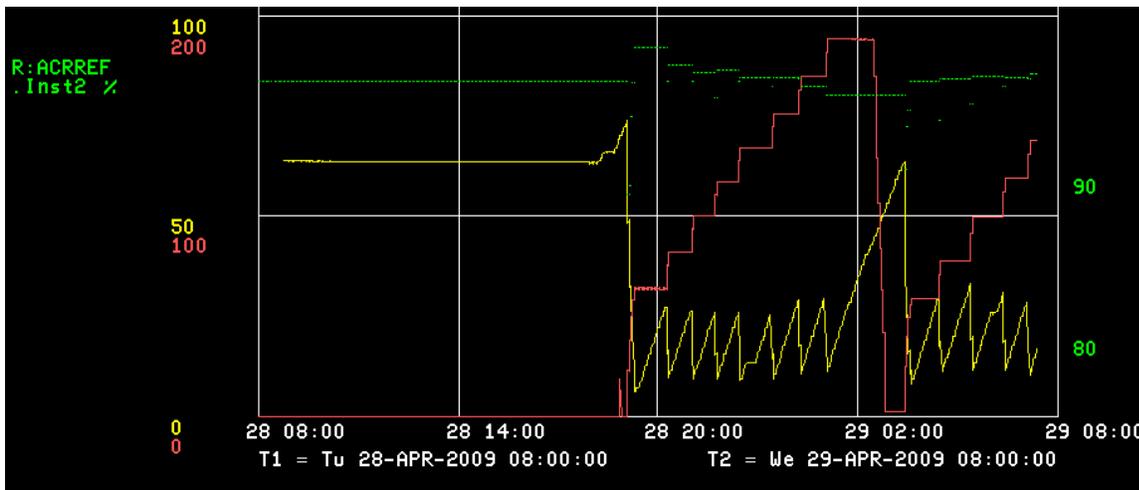
## Transfers

- No mini-table for transfer 12820, which was our set of 5 transfers from 72mA after turning back on last night. This confused my Excel tool for calculating transfers.
- Unstacked 322mA in 30 transfers over 12 sets
- Transfers after that averaged ~95%, but jumps to a more normal 96.5% if you remove the set of five transfers from 72mA on the evening shift and the set of five

transfers from ~63mA on the owl shift.

- Ops did report a Cbs\_generic\_error (5 -29) when loading Alarm list 122 during transfers. Re-ran the command and all was well.

Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3 Transfer Time	Column 21 Number _20_A:  BEAMB sampled on \$91 (A-BEA M7), E10	Column 22 Number _21_A:  BEAMB sampled on \$94 (A-BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R-BEA ME0(0)) pre E10	Column 24 Number _23_R: BEAM (R-BEA ME0(1)) post E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Trans fers	Set s	Column 5 Number_4 _Acc Horizontal Emittanc e	Column 6 Number_5 _Acc Vertical Emittanc e	Column 8 Number_7 _Acc Longitu dinal Emittanc e	
<b>Totals =&gt;</b>				<b>253.77</b>			<b>243.42</b>	<b>95.92%</b>	<b>97.10%</b>	<b>96.96%</b>	<b>25</b>	<b>11</b>	<b>4.9494</b>	<b>4.6515</b>	<b>1.8901</b>	
12831	Wednesday, April 29, 2009	6:20	30.17	11.04	20.42	99.45	119.12	19.73	96.62%	97.00%	97.23%	2	1	5.275	4.58	1.896
12830	Wednesday, April 29, 2009	4:24	32.55	11.18	22.56	78.01	99.68	21.69	96.12%	97.31%	96.68%	2	1	5.589	5.229	1.873
12829	Wednesday, April 29, 2009	3:21	29.32	10.55	20.05	59.05	78.17	19.15	95.54%	96.28%	97.69%	2	1	5.464	5.114	1.876
12828	Wednesday, April 29, 2009	0:59	62.58	7.45	60.08	2.80	59.19	56.58	94.16%	97.09%	96.44%	5	1	6.216	5.51	1.942
12827	Wednesday, April 29, 2009	0:12	29.33	10.81	19.81	169.81	188.81	19.02	96.02%	97.91%	97.55%	2	1	5.068	4.913	1.899
12826	Wednesday, April 29, 2009	23:23	28.49	10.13	19.61	151.18	170.09	18.96	96.69%	96.12%	95.56%	2	1	4.853	4.451	1.894
12825	Tuesday, April 28, 2009	22:24	25.28	8.63	17.95	134.14	151.43	17.34	96.65%	97.10%	97.06%	2	1	4.259	4.328	1.875
12824	Tuesday, April 28, 2009	21:42	25.36	8.68	17.95	117.00	134.34	17.38	96.80%	97.38%	96.71%	2	1	4.419	4.148	1.881
12823	Tuesday, April 28, 2009	20:58	25.57	9.06	17.77	100.09	117.18	17.14	96.46%	97.04%	96.71%	2	1	4.329	4.311	1.872
12822	Tuesday, April 28, 2009	20:13	25.95	8.94	18.27	82.53	100.20	17.71	96.89%	97.09%	97.81%	2	1	4.321	4.28	1.904
12821	Tuesday, April 28, 2009	3:49	27.16	9.12	19.30	63.94	82.66	18.73	97.03%	97.81%	98.30%	2	1	4.65	4.303	1.879
<b>Totals =&gt;</b>				<b>193.69</b>			<b>186.84</b>	<b>96.46%</b>	<b>97.10%</b>	<b>97.13%</b>	<b>25</b>	<b>10</b>	<b>4.8227</b>	<b>4.5657</b>	<b>1.8849</b>	



## Studies

- None

## Requests

- No requests at the momentum
- Plan is general tune-up to try to improve stacking.

## The Numbers

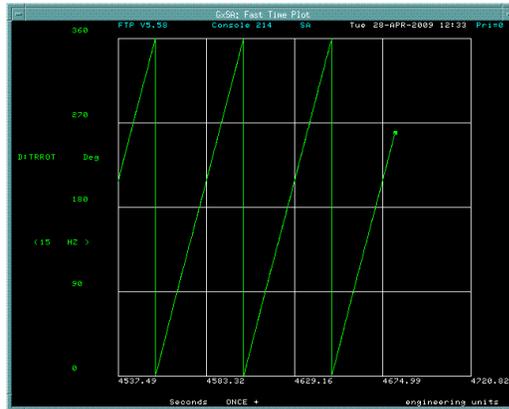
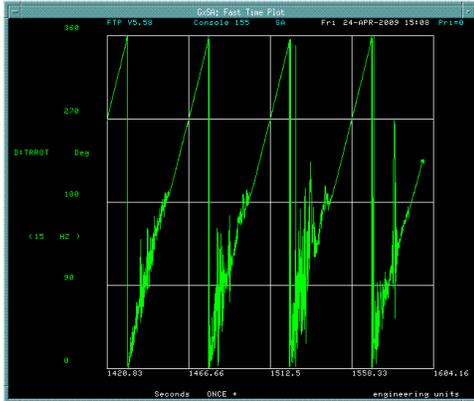
- Pauls Numbers
  - Most in a half hour: 13.37 mA at Wed Apr 29 04:04:49 CDT 2009
  - Best Hour: 28.56 mA on 20-Dec-08
  - Average Production 21.26 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
  - Average Protons on Target 6.90 e12 Best: 8.77 e12 on 07/24/2007

Average Protons on Target 6.90 e12 Best: 8.77 e12 on 07/24/2007

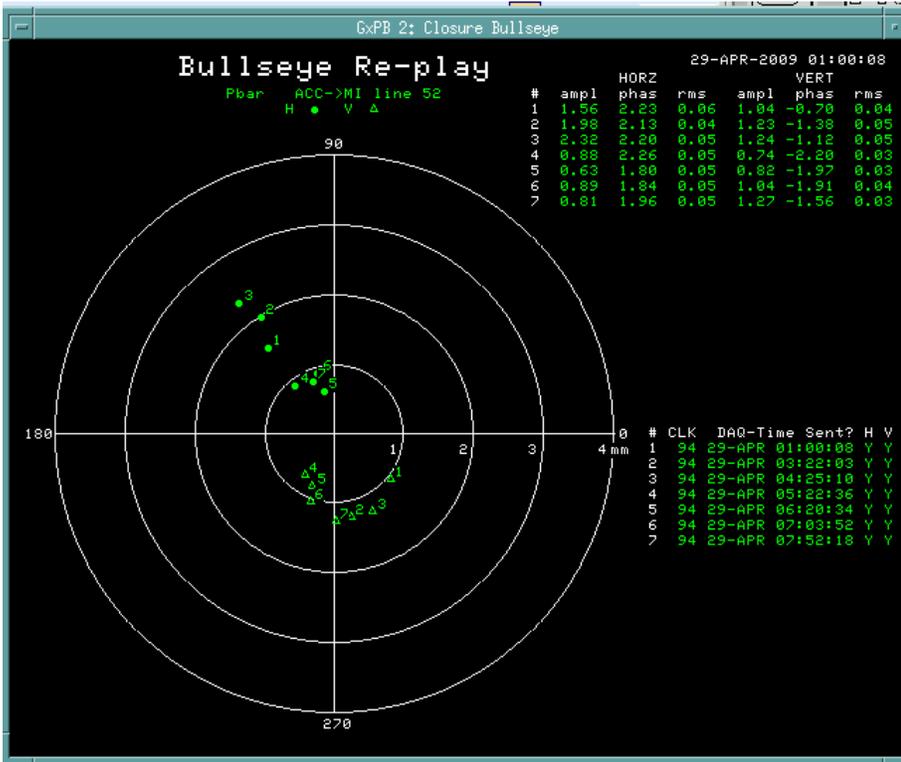
- Largest Stack .00 mA Best: 313.58 mA on 02/18/2008
- Als Numbers
  - Stacking
    - Pbars stacked: 287.32 E10
    - Time stacking: 13.19 Hr
    - Average stacking rate: 21.78 E10/Hr
  - Uptime
    - Number of pulses while in stacking mode: 20132
    - Number of pulses with beam: 17980
    - Fraction of up pulses was: 89.31%
  - The uptime's effect on the stacking numbers
    - Corrected time stacking: 11.78 Hr
    - Possible average stacking rate: 24.39 E10/Hr
    - Could have stacked: 321.71 E10/Hr
  - Recycler Transfers
    - Pbars sent to the Recycler: 323.15 E10
    - Number of transfers : 30
    - Number of transfer sets: 12
    - Average Number of transfer per set: 2.50
    - Time taken to shoot including reverse proton tuneup: 00.17 Hr
    - Transfer efficiency: 95.12%
  - Other Info
    - Average POT : 7.55 E12
    - Average production: 21.17 pbars/E6 protons

\* Missed one or more A:IBEAM7 events somewhere in the middle of the user selected time span. Calculated time shot using 13 secs per transfer.

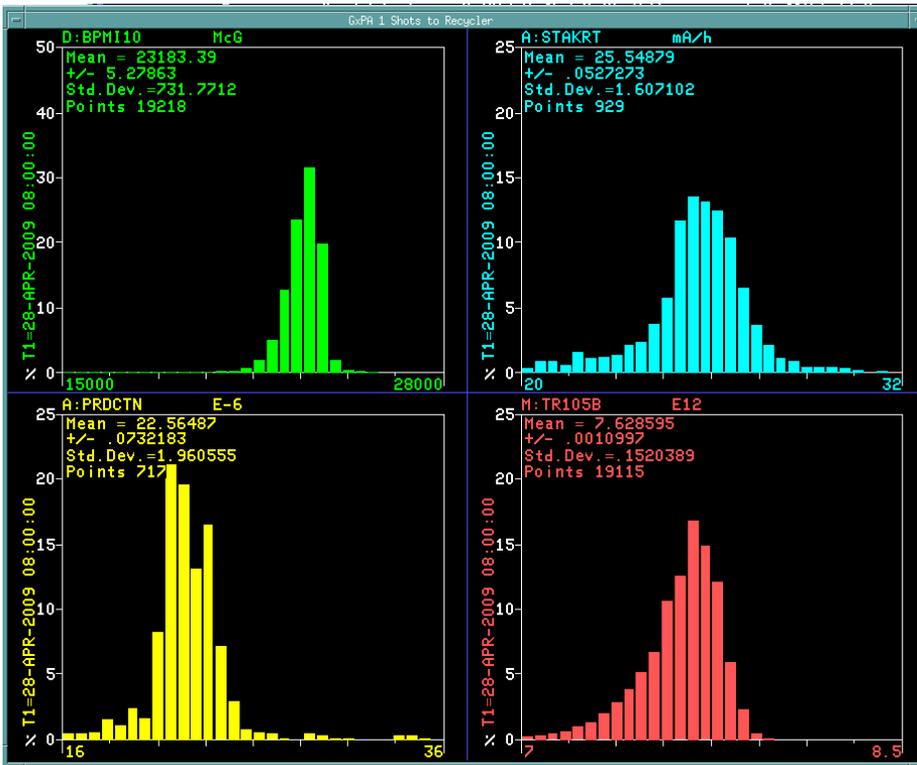
Misc



Target rotation better



First transfer on last six sets.



7am to 7am histogram dataa