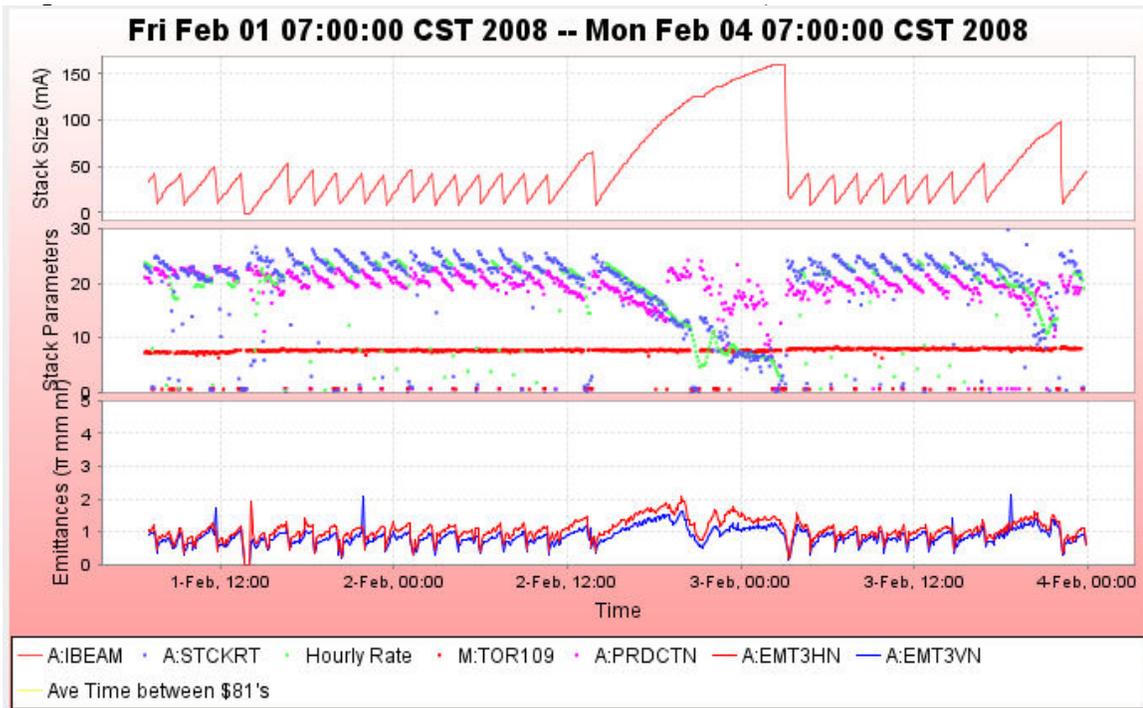


Stacking

- Protons on target
 - 6.7e12 and jumped up to 7.0e12 at 10 turns
 - 7.35e12 at 11 turns
- Peak one hour stack rates over the weekend were
 - 23.79, 23.49, and 24.79mA/hr
 - 24.79mA appears to be artificially high.
- Average productions were
 - 19.39, 16.24, and 15.9 e-6/proton
 - Production efficiencies had fallen off.
 - At least part of this can be attributed to DRF1-4 tripping.
- Had a peak stack of 160mA on Saturday evening, and emittances need some extra attention.
 - Ran the flusher and tweaked the ARF2 frequency sweep and voltage
 - The horizontal tune was a little high.
 - Core cooling was on a little too hard.
- DRF1-4 tripped off.
 - Experts are looking into this.
 - The DRF1 fanback voltage dropped to 4.3MV with this station off.
 - We see the effects on Debuncher efficiency when the fanback voltage is less than 5MV.
- Our Debuncher injection bunch train length parameter D:FLXBTL stopped working.
 - DCE11 was rebooted (FLXCAP runs off of that), but that did not cure the problem.
 - It turns out the Flux Capacitor scope was updating but not talking on the network.
 - The scope was power cycled, and calculated parameters started updating.
 - The scope had to be cycled at AP10 because the new remote power cycling parameter D:SCP10R (P38 MISC <15>) was not working. This problem was found a problem with PLC04, which was power cycled to bring it back to life.
- BPI10D (circulating beam intensity in the Debuncher) also stopped updating. The python startup script was run and updates resumed.
- Pbar Crate 71 slot 1, MADC had a NO Q error. This MADC is responsible for various target station readbacks. The MADC was reset from D21, and readbacks resumed.



Transfers

- Unstacked 1,279mA in 100 transfers over 31 sets.
 - Ave Accumulator to MI efficiency was 97%
 - Ave Accumulator to RR efficiency was 90%
 - Some sub-90% transfer efficiencies were caused by dp/p in Recycler.
- On Transfer 7035 had some controls issues.
 - The state device V:APSMOD had a change sent from stacking (mode 7) to transfers (mode 12). The change was sent, but did not go out.
 - No beam was lost on this missed transfer since ARF4 LLRF never turned on, since the state 12 didn't go out.
 - Experts added a check in the sequencer to prevent this from happening again.

Column 1 Pbar Transfer Shot #	Column 2 Recycler Shot #	Column 4 Transfer Time		Column 21 A:IBEAMB sampled on \$91 (A:IBEAM1), E10	Column 22 A:IBEAMB sampled on \$94 (A:IBEAM2 , E10	Unstacked (mA)	Column 23 R:BEAMS (R:BEAM E0[0]) pre xfer E10	Column 24 R:BEAM (R:BEAM E0[1]) post xfer, E10	Stashed	Acc to RR Eff	Column 27 MI DCCT SMALL BEAM (I:BEAMS), E10	Column 28 MI Before Extraction (I:BEAM6), E10	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets
		2/4/2008	7:00:00 AM			1278.998			1156.56	0.90	1235.959	1229.325	96.63%	96.12%	100	31
7051	4519	Monday, February 04, 2008	5:50:39 AM	42.787	9.388	33.399	188.857	219.349	30.49	0.91	31.851	32.093	95.37%	96.09%	3	1
7050	4518	Monday, February 04, 2008	4:20:56 AM	58.788	11.587	47.201	148.091	189.562	41.47	0.88	44.155	44.543	93.55%	94.37%	3	1
7048	4516	Monday, February 04, 2008	1:35:28 AM	42.588	8.988	33.600	118.167	148.804	30.64	0.91	32.395	32.244	96.41%	95.96%	3	1
7047	4515	Sunday, February 03, 2008	11:58:00 PM	43.588	12.988	30.600	89.613	118.413	28.80	0.94	29.977	29.833	97.96%	97.49%	2	1
7046	4514	Sunday, February 03, 2008	10:07:58 PM	97.788	10.788	87.000	16.830	90.909	74.08	0.85	82.123	83.338	94.39%	95.79%	5	1
7045	4512	Sunday, February 03, 2008	4:52:03 PM	53.188	10.588	42.600	358.044	396.070	38.03	0.89	41.265	41.612	96.87%	97.68%	3	1
7044	4511	Sunday, February 03, 2008	2:40:10 PM	45.388	8.788	36.600	326.536	359.439	32.90	0.90	35.196	35.410	96.16%	96.75%	3	1
7043	4510	Sunday, February 03, 2008	12:54:15 PM	41.188	8.988	32.200	298.537	327.728	29.19	0.91	31.164	31.085	96.78%	96.54%	3	1
7042	4509	Sunday, February 03, 2008	11:24:19 AM	41.188	9.188	32.000	270.038	299.458	29.42	0.92	30.950	30.839	96.72%	96.37%	3	1
7041	4508	Sunday, February 03, 2008	9:48:25 AM	42.988	8.388	34.600	238.828	270.999	32.17	0.93	33.683	33.967	97.35%	98.17%	3	1
7040	4507	Sunday, February 03, 2008	8:06:40 AM	42.588	8.588	34.000	208.467	239.600	31.13	0.92	32.869	32.296	96.67%	94.99%	3	1
7039	4506	Sunday, February 03, 2008	6:28:06 AM	41.788	8.588	33.200	178.815	209.076	30.26	0.91	31.954	30.991	96.25%	93.35%	3	1
7038	4505	Sunday, February 03, 2008	4:44:17 AM	42.387	7.988	34.399	148.066	179.370	31.30	0.91	33.474	34.021	97.31%	98.90%	3	1
7037	4504	Sunday, February 03, 2008	3:03:03 AM	159.788	14.788	145.000	18.191	148.997	130.81	0.90	141.444	139.915	97.55%	96.49%	8	1
7036	4502	Saturday, February 02, 2008	1:49:32 PM	66.988	8.388	58.600	386.812	438.860	52.05	0.89	56.563	56.353	96.52%	96.17%	4	1
7034	4500	Saturday, February 02, 2008	10:37:58 AM	40.788	8.188	32.600	361.178	390.176	29.00	0.89	31.410	30.810	96.35%	94.51%	3	1
7033	4499	Saturday, February 02, 2008	9:04:10 AM	42.988	9.388	33.600	332.695	362.672	29.98	0.89	32.583	32.057	96.97%	95.41%	3	1
7032	4498	Saturday, February 02, 2008	7:28:07 AM	42.387	9.188	33.199	303.411	333.893	30.48	0.92	32.387	31.828	97.55%	95.87%	3	1
7031	4497	Saturday, February 02, 2008	5:54:57 AM	41.388	9.388	32.000	274.877	304.365	29.49	0.92	30.927	29.794	96.65%	93.11%	3	1
7030	4496	Saturday, February 02, 2008	4:18:23 AM	42.188	8.388	33.800	244.735	275.863	31.13	0.92	32.523	32.505	96.22%	96.17%	3	1
7029	4495	Saturday, February 02, 2008	2:42:25 AM	41.988	8.188	33.800	213.921	245.461	31.54	0.93	33.003	33.301	97.64%	98.52%	3	1
7028	4494	Saturday, February 02, 2008	1:16:44 AM	46.188	12.188	34.000	182.346	214.490	32.14	0.95	33.485	33.015	98.49%	97.10%	2	1
7027	4493	Friday, February 01, 2008	11:21:25 PM	41.588	8.188	33.400	152.329	182.915	30.59	0.92	32.768	32.600	98.11%	97.60%	3	1
7026	4492	Friday, February 01, 2008	9:50:31 PM	43.588	9.388	34.200	121.421	152.763	31.34	0.92	33.170	32.754	96.99%	95.77%	3	1
7025	4491	Friday, February 01, 2008	8:02:47 PM	43.388	8.388	35.000	89.756	121.879	32.12	0.92	33.820	33.886	96.63%	96.82%	3	1
7024	4490	Friday, February 01, 2008	6:24:47 PM	46.188	8.788	37.400	55.881	90.048	34.17	0.91	36.613	36.181	97.90%	96.74%	3	1
7023	4489	Friday, February 01, 2008	4:40:05 PM	53.388	9.788	43.600	17.622	56.354	38.73	0.89	41.916	42.496	96.14%	97.47%	3	1
7022	4487	Friday, February 01, 2008	1:27:29 PM	42.988	4.188	38.800	350.083	384.373	34.29	0.88	37.316	35.735	96.18%	92.10%	4	1
7021	4486	Friday, February 01, 2008	11:40:05 AM	50.788	9.988	40.800	314.448	351.350	36.90	0.90	39.498	39.801	96.81%	97.55%	3	1
7020	4485	Friday, February 01, 2008	9:19:20 AM	42.588	8.388	34.200	284.634	315.586	30.95	0.91	32.581	32.145	95.27%	93.99%	3	1
7019	4484	Friday, February 01, 2008	7:29:22 AM	43.588	9.988	33.600	254.924	285.891	30.97	0.92	32.896	31.877	97.90%	94.87%	3	1

Studies

- One shot reverse protons during stacking

Requests

- Debuncher Cooling measurements
 - Study requires two hours in stacking mode with beam circulating in the Debuncher (no stacking).
 - The study requires running a sequencer aggregate that will load appropriate TLGs for the study. Non-stacking events may be taken out of the timelines temporarily when this is run.

- temporarily when this is run.
- Studiers are available today.
- Ralph Pasquinelli, Steve Werkema, and Dave Vander Meulen will be the studiers.
- Run Co approved this study after successful completion of the HEP shot.
- Debuncher gain ramping.
 - Two hour study to make changes to the Debuncher momentum cooling gain ramps.
 - This is the first of a number of iterations of this study as we try to find a more optimal configuration for the Debuncher momentum gain ramps.
 - As changing momentum cooling could result in periodic trips of the TWTs and power changes to compensate, we expect on the order of a 10% hit to stacking.
 - We want stable beam for this study (intensity and TLG).
 - Brian Drendel, Valeri Lebedev and Vladimir Nagaslaev will be the studiers.

Other Notes

- Paul's Numbers
 - Saturday, 2-2
 - Most in an hour: 23.79 mA at Sat Feb 02 03:49:04 CST 2008
 - Best: 25.19 mA on 30-Jan-08
 - Average Production 19.39 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 6.39 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack .00 mA Best: 271.01 mA on 11/14/2007
 - Sunday, 2-3
 - Most in an hour: 23.49 mA at Sat Feb 02 07:00:20 CST 2008
 - Best: 25.19 mA on 30-Jan-08
 - Average Production 16.24 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 7.00 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack 160.29 mA Best: 271.01 mA on 11/14/2007
 - Monday, 2-4
 - Most in an hour: 24.79 mA at Mon Feb 04 03:19:07 CST 2008
 - Best: 25.19 mA on 30-Jan-08
 - Average Production 15.90 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 7.06 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack 97.80 mA Best: 271.01 mA on 11/14/2007
- Al's Numbers
 - Stacking
 - Pbars stacked: 1274.67 E10
 - Time stacking: 66.95 Hr
 - Average stacking rate: 19.04 E10/Hr
 - Uptime
 - Number of pulses while in stacking mode: 98919
 - Number of pulses with beam: 94347
 - Fraction of up pulses was: 95.38%
 - The uptime's effect on the stacking numbers
 - Corrected time stacking: 63.85 Hr
 - Possible average stacking rate: 19.96 E10/Hr
 - Recycler Transfers
 - Pbars sent to the Recycler: 1274.72 E10
 - Number of transfers : 100
 - Number of transfer sets: 30

- Average Number of transfer per set: 3.33
 - Time taken to shoot: 04.55 Hr
 - Time per set of transfers: 09.11 min
 - Transfer efficiency: 94.14%
- Other Info
 - Average POT : 7.13 E12
 - Average production: 18.94 pbars/E6 protons