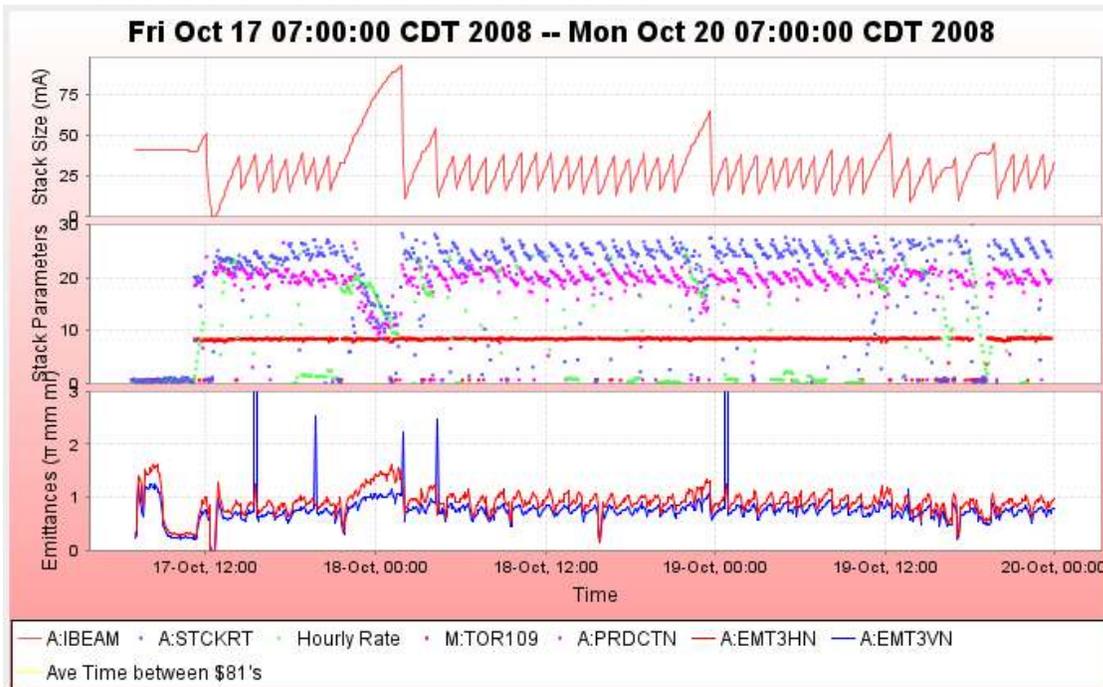


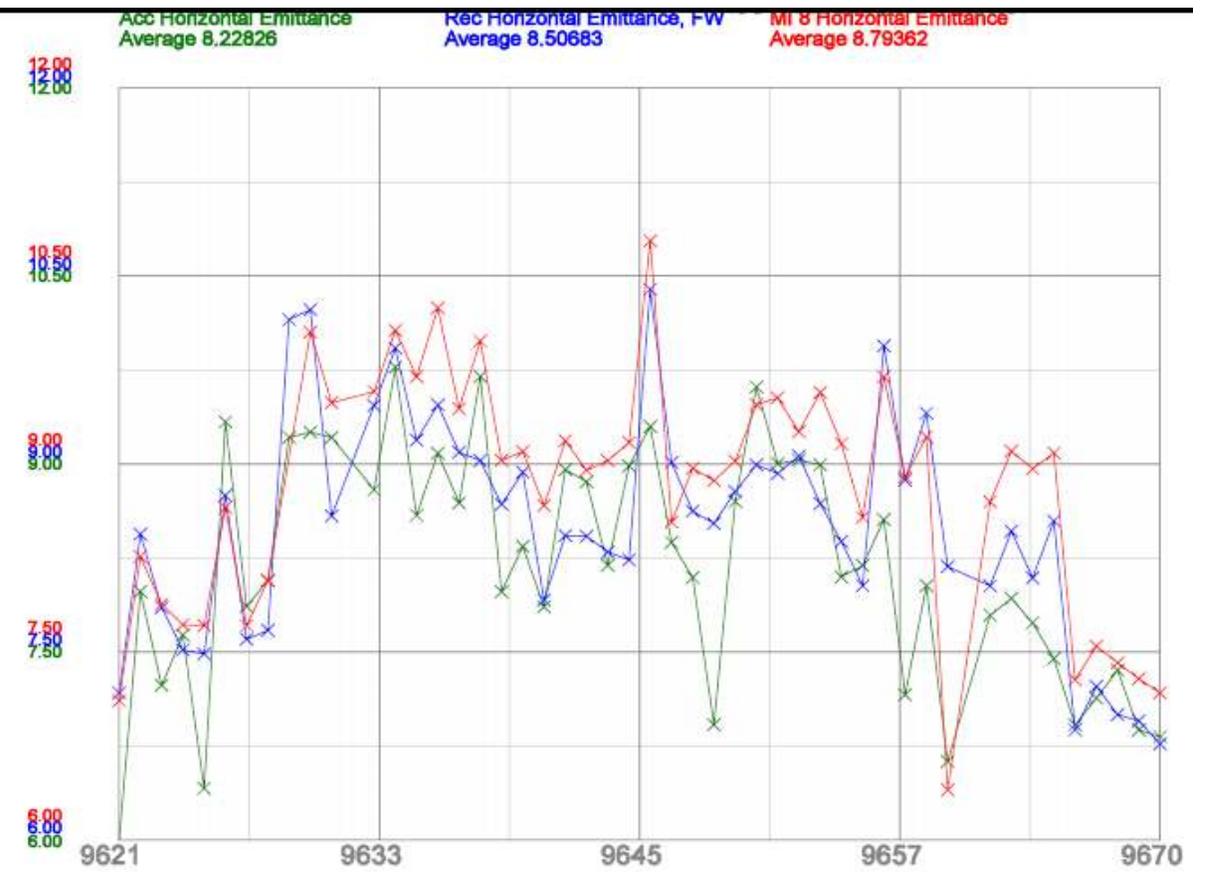
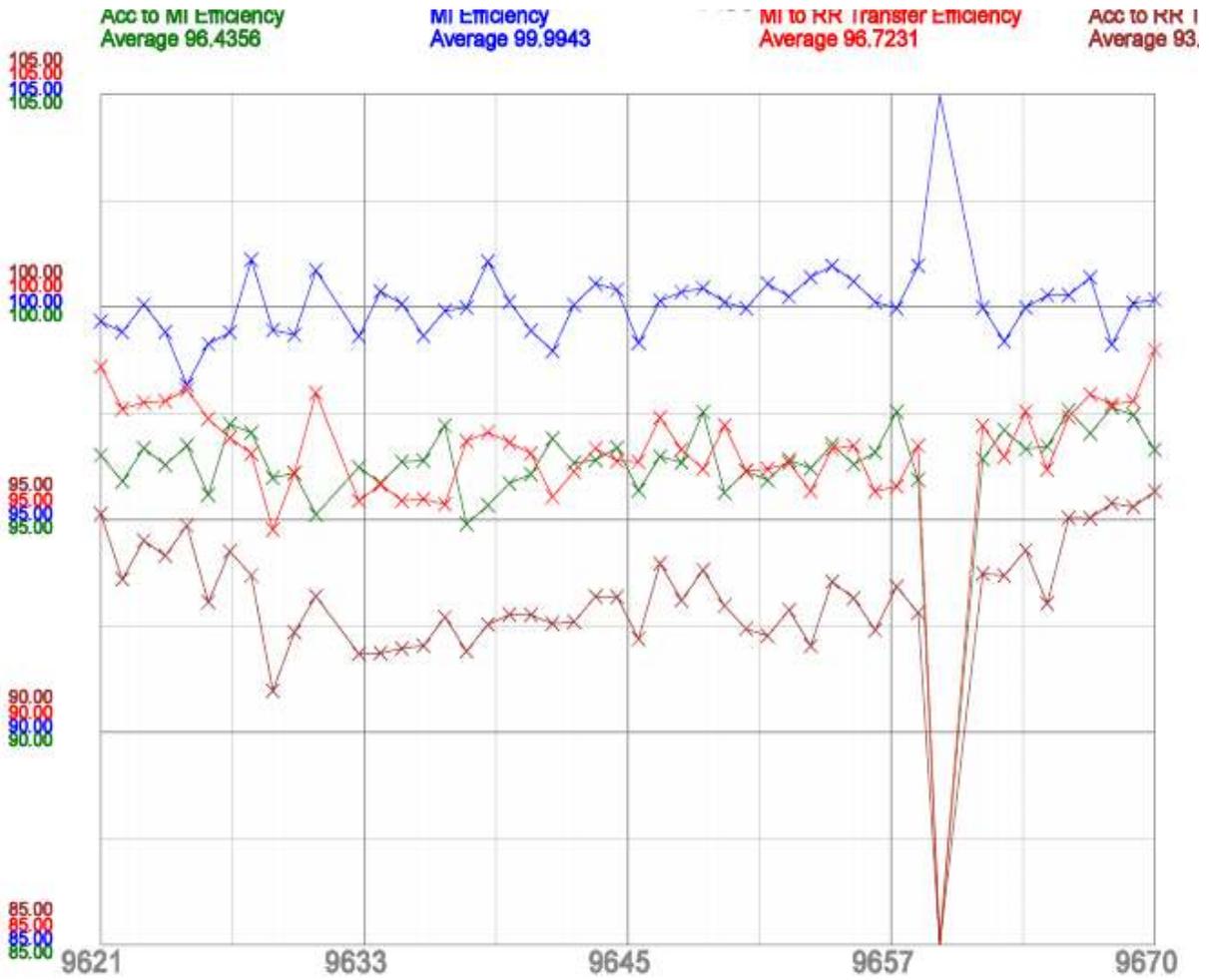
## Stacking

- Performance
  - Pbars stacked: 1393.12 E10 (464e10/day)
  - Average Production: 14.66 e-6/proton, 16.84 e-6/proton and 18.31 e-6/proton
- Target Hall access for JASMIN
- After the access
  - Fixed LCW leak on A:QT
  - Switched from LP6 to LP8
- Stacked and Transferred over the weekend.



## Transfers

- Performance
  - Unstacked 1310e10 (437e10/day) over 105 transfers in 47 sets.
  - Accumulator to Recycler transfer efficiency was 92%
  - Accumulator to MI efficiency was 95.5%.
- We were down percent or so.
  - Transverse emittances in both planes from the Accumulator were up a little, but recovered Sunday night.
  - A few transfers had larger than 2mm TBT errors, so we will look at this today.
- The second transfer in set 9660 was lost on an MI ramp trip (<http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2008&action=view&page=795&anchor=165652&hilite=16:56:52->)
- .



Column 1 Number_0_Pbar	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:IB	Unstacked (mA)	Column 24 Number_23_R:BE	Stashed	Acc to RR Eff	Column 27 Number_26_MI_DCCT	Column 28 Number_27_MI_Before	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets
	<b>Totals =&gt;</b>		7:00:00 AM	1310.13		1206.31	92.08%	1251.81	1251.05	95.55%	95.49%	105	47
9669	Monday, October 20, 2008	6:38:08 AM	36.58	23.31	319.67	22.19	95.19%	22.89	22.74	97.34%	97.53%	2	1
9668	Monday, October 20, 2008	5:38:52 AM	37.12	22.90	298.41	21.83	95.33%	22.30	22.10	97.38%	96.47%	2	1
9667	Monday, October 20, 2008	4:36:20 AM	36.88	23.64	277.31	22.45	94.94%	22.94	23.03	97.02%	97.40%	2	1
9666	Monday, October 20, 2008	2:18:57 AM	36.84	24.15	256.04	22.94	95.00%	23.58	23.61	97.64%	97.76%	2	1
9665	Monday, October 20, 2008	12:10:38 AM	37.28	24.48	234.18	22.71	92.75%	23.61	23.67	96.43%	96.67%	2	1
9664	Sunday, October 19, 2008	11:12:13 PM	38.99	24.82	212.03	23.38	94.21%	23.99	23.96	96.68%	96.54%	2	1
9663	Sunday, October 19, 2008	10:04:32 PM	37.75	24.51	189.27	22.96	93.67%	23.78	23.52	97.03%	95.97%	2	1
9662	Sunday, October 19, 2008	9:03:13 PM	37.81	24.62	166.73	23.06	93.66%	23.76	23.67	96.49%	96.13%	2	1
9660	Sunday, October 19, 2008	4:59:41 PM	35.72	25.61	109.82	14.35	56.06%	15.23	15.41	59.46%	60.18%	2	1
9659	Sunday, October 19, 2008	3:10:18 PM	36.81	24.68	95.77	22.84	92.54%	23.63	23.85	95.75%	96.63%	2	1
9658	Sunday, October 19, 2008	1:40:30 PM	36.26	29.83	73.17	27.76	93.07%	29.01	28.95	97.24%	97.05%	3	1
9657	Sunday, October 19, 2008	12:23:44 PM	51.23	42.30	45.82	38.87	91.89%	40.69	40.68	96.21%	96.18%	3	1
9656	Sunday, October 19, 2008	10:22:23 AM	35.83	23.50	284.57	21.87	93.06%	22.67	22.75	96.47%	96.82%	2	1
9655	Sunday, October 19, 2008	9:21:39 AM	36.52	24.21	263.59	22.59	93.30%	23.44	23.63	96.84%	97.63%	2	1
9654	Sunday, October 19, 2008	8:11:19 AM	40.04	31.50	241.92	28.88	91.71%	30.34	30.34	96.34%	96.32%	3	1
9653	Sunday, October 19, 2008	7:02:19 AM	36.78	23.83	213.85	22.09	92.69%	22.93	22.98	96.23%	96.45%	2	1
9652	Sunday, October 19, 2008	6:03:37 AM	36.72	23.19	192.24	21.36	92.10%	22.27	22.36	96.03%	96.42%	2	1
9651	Sunday, October 19, 2008	5:04:10 AM	37.11	22.46	171.33	20.71	92.20%	21.56	21.55	96.01%	95.97%	2	1
9650	Sunday, October 19, 2008	4:02:32 AM	36.45	23.86	151.05	22.13	92.76%	22.77	22.74	95.46%	95.32%	2	1
9649	Sunday, October 19, 2008	2:57:57 AM	37.16	26.52	129.28	24.91	93.91%	25.87	25.96	97.55%	97.89%	2	1
9648	Sunday, October 19, 2008	1:50:48 AM	37.48	25.16	104.60	23.41	93.04%	24.26	24.38	96.43%	96.88%	2	1
9647	Sunday, October 19, 2008	12:48:25 AM	36.93	23.55	81.45	22.10	93.85%	22.74	22.79	96.56%	96.78%	2	1
9646	Saturday, October 18, 2008	11:38:49 PM	63.87	53.98	59.66	49.40	91.53%	51.68	51.39	95.74%	95.21%	3	1
9645	Saturday, October 18, 2008	9:02:58 PM	37.48	24.17	378.91	22.48	93.00%	23.40	23.48	96.81%	97.12%	2	1

9644	Saturday, October 18, 2008	8:00:09 PM	36.70	24.12	358.63	22.44	93.05%	23.25	23.36	96.41%	96.87%	2	1
9643	Saturday, October 18, 2008	7:01:21 PM	38.22	24.65	337.58	22.81	92.51%	23.70	23.72	96.13%	96.22%	2	1
9642	Saturday, October 18, 2008	5:55:57 PM	36.17	23.54	316.06	21.74	92.36%	22.71	22.49	96.48%	95.54%	2	1
9641	Saturday, October 18, 2008	4:52:08 PM	36.50	25.01	295.47	23.14	92.49%	24.02	23.90	96.01%	95.55%	2	1
9640	Saturday, October 18, 2008	3:38:17 PM	36.66	24.46	273.43	22.59	92.37%	23.51	23.53	96.14%	96.21%	2	1
9639	Saturday, October 18, 2008	2:34:27 PM	37.16	25.50	251.65	23.56	92.42%	24.29	24.56	95.27%	96.34%	2	1
9638	Saturday, October 18, 2008	1:36:16 PM	38.04	23.40	228.92	21.44	91.63%	22.17	22.15	94.75%	94.68%	2	1
9637	Saturday, October 18, 2008	12:29:27 PM	39.54	27.71	208.13	25.65	92.54%	26.91	26.87	97.11%	96.97%	2	1
9636	Saturday, October 18, 2008	11:21:26 AM	38.51	24.84	182.98	22.80	91.78%	23.92	23.75	96.29%	95.60%	2	1
9635	Saturday, October 18, 2008	10:16:38 AM	38.89	25.39	160.71	23.31	91.80%	24.44	24.49	96.24%	96.44%	2	1
9634	Saturday, October 18, 2008	9:04:36 AM	38.67	25.55	137.69	23.42	91.64%	24.49	24.54	95.86%	96.05%	2	1
9633	Saturday, October 18, 2008	7:46:17 AM	35.79	23.66	114.60	21.66	91.55%	22.69	22.61	95.90%	95.59%	2	1
9631	Saturday, October 18, 2008	5:33:23 AM	37.60	24.20	70.59	22.53	93.06%	23.02	23.17	95.10%	95.73%	2	1
9630	Saturday, October 18, 2008	4:16:47 AM	53.66	44.81	48.34	41.00	91.49%	42.90	42.75	95.73%	95.39%	3	1
9629	Saturday, October 18, 2008	1:51:37 AM	92.11	84.94	276.25	76.17	89.67%	80.73	80.37	95.04%	94.62%	4	1
9628	Friday, October 17, 2008	8:41:20 PM	35.91	22.36	315.40	20.95	93.69%	21.67	21.90	96.91%	97.90%	2	1
9627	Friday, October 17, 2008	7:45:33 PM	36.84	23.21	295.47	21.87	94.21%	22.57	22.47	97.23%	96.77%	2	1
9626	Friday, October 17, 2008	6:54:55 PM	39.65	22.75	274.33	21.16	93.03%	21.77	21.58	95.71%	94.85%	2	1
9625	Friday, October 17, 2008	5:44:08 PM	35.11	22.74	254.04	21.54	94.74%	22.01	21.66	96.78%	95.25%	2	1
9624	Friday, October 17, 2008	4:42:06 PM	37.22	24.45	233.04	23.03	94.18%	23.57	23.46	96.41%	95.94%	2	1
9623	Friday, October 17, 2008	3:33:55 PM	38.43	26.03	210.64	24.57	94.41%	25.16	25.19	96.67%	96.79%	2	1
9622	Friday, October 17, 2008	2:25:34 PM	37.78	23.16	186.49	21.69	93.66%	22.24	22.12	96.06%	95.52%	2	1
9621	Friday, October 17, 2008	12:04:38 PM	51.36	52.88	165.43	50.00	94.56%	50.91	50.89	96.27%	96.23%	6	1

## Studies

- **Vertical Core cooling rate measurements** (<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar08&action=view&page=441&scroll=false&load=>).
  - Comparison of Cooling rates before and after the equalizers were installed. The numbers quoted are cooling period in hours, so a smaller number means faster cooling. Vertical Emittance  
All bands Band 1 Band 2 Band 3  
10/3 (before) N/A 1.16 1.87 1.32  
10/17 (after) 0.53 3.15 2.44 1.78  
Pasted from <<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar08&action=view&page=441&frame=2&anchor=&hilitte=&load=>>
  - It appears that the cooling rates are significantly worse after the core vertical equalizer installation. Band 1 is really really bad. Cooling in the horizontal plane is worse by a larger margin, so the overall effect may be even worse than what is shown in the vertical cooling rate data (meaning the horizontal plane isn't "robbing" more of the cooling power from the vertical plane).  
  
Pasted from <<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar08&action=view&page=441&frame=2&anchor=&hilitte=&load=>>

## Requests

### a. Static Stacktail Measurements.

- Conditions:
  - This study should be started directly before a set of transfers to Recycler. We want a 30mA stack.
  - Prior to the start of this study, we would like five supercycles of stacking without SY120 or Studies events in the TLG. This will allow setup the stacktail in a known condition for the study.
- The Study:
  - A Numi-only TLG is loaded

- The studier is Dave Vander Meulen
  - The estimated study time is 20 minutes.
- After the study is complete, we can transfer to the Recycler.
- Leave > 10mA of beam behind for the next study.

**b. Stacktail Transfer Function Measurements:**

- Conditions:
  - This study will start with 10mA leftover after a set of transfers.
- The Study
  - The studiers are Steve Werkema and Ralph Pasquinelli.
  - The estimated study time is 4 hours.
  - If beam is lost during any of the measurements, we need to be able to stack for short periods of time to replace the beam for the next set of measurements.

## The Numbers

- Paul's Numbers
  - Monday
    - Most in an hour: 24.34 mA at Sun Oct 19 08:05:47 CDT 2008
    - Best: 27.01 mA on 03-Jun-08
    - Average Production 18.31 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
    - Average Protons on Target 6.73 e12 Best: 8.77 e12 on 07/24/2007
    - Largest Stack .00 mA Best: 313.58 mA on 02/18/2008
  - Sunday
    - Stacking in last 24 hours
    - Most in an hour: 24.15 mA at Sat Oct 18 13:33:03 CDT 2008
    - Best: 27.01 mA on 03-Jun-08
    - Average Production 16.84 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
    - Average Protons on Target 7.27 e12 Best: 8.77 e12 on 07/24/2007
    - Largest Stack 64.50 mA Best: 313.58 mA on 02/18/2008
  - Saturday
    - Most in an hour: 23.89 mA at Fri Oct 17 18:48:54 CDT 2008
    - Best: 27.01 mA on 03-Jun-08
    - Average Production 14.66 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
    - Average Protons on Target 7.40 e12 Best: 8.77 e12 on 07/24/2007
    - Largest Stack 92.89 mA Best: 313.58 mA on 02/18/2008
- Al's Numbers
  - Stacking
    - Pbars stacked: 1393.12 E10
    - Time stacking: 64.01 Hr
    - Average stacking rate: 21.76 E10/Hr
  - Uptime
    - Number of pulses while in stacking mode: 100414
    - Number of pulses with beam: 93205
    - Fraction of up pulses was: 92.82%
  - The uptime's effect on the stacking numbers
    - Corrected time stacking: 59.42 Hr
    - Possible average stacking rate: 23.45 E10/Hr
    - Could have stacked: 1500.87 E10/Hr
  - Recycler Transfers
    - Pbars sent to the Recycler: 1371.82 E10
    - Number of transfers : 110
    - Number of transfer sets: 49

- Average Number of transfer per set: 2.24
  - Time taken to shoot including reverse proton tuneup: 00.68 Hr
  - Transfer efficiency: 91.51%
- Other Info
  - Average POT : 7.75 E12
  - Average production: 19.29 pbars/E6 protons

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