

# 2011-02-17 Thursday Morning Notes

Thursday, February 17, 2011  
7:20 AM

## Stacking and Transfers

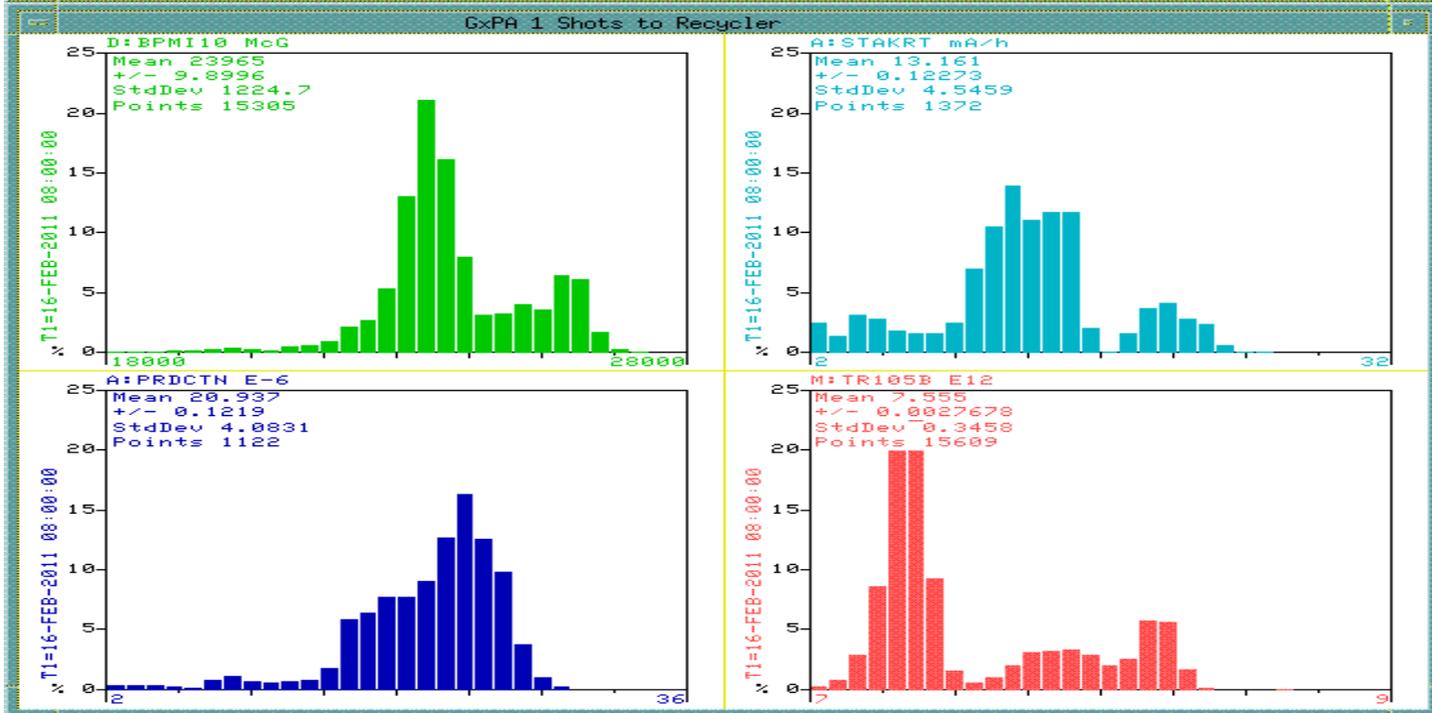
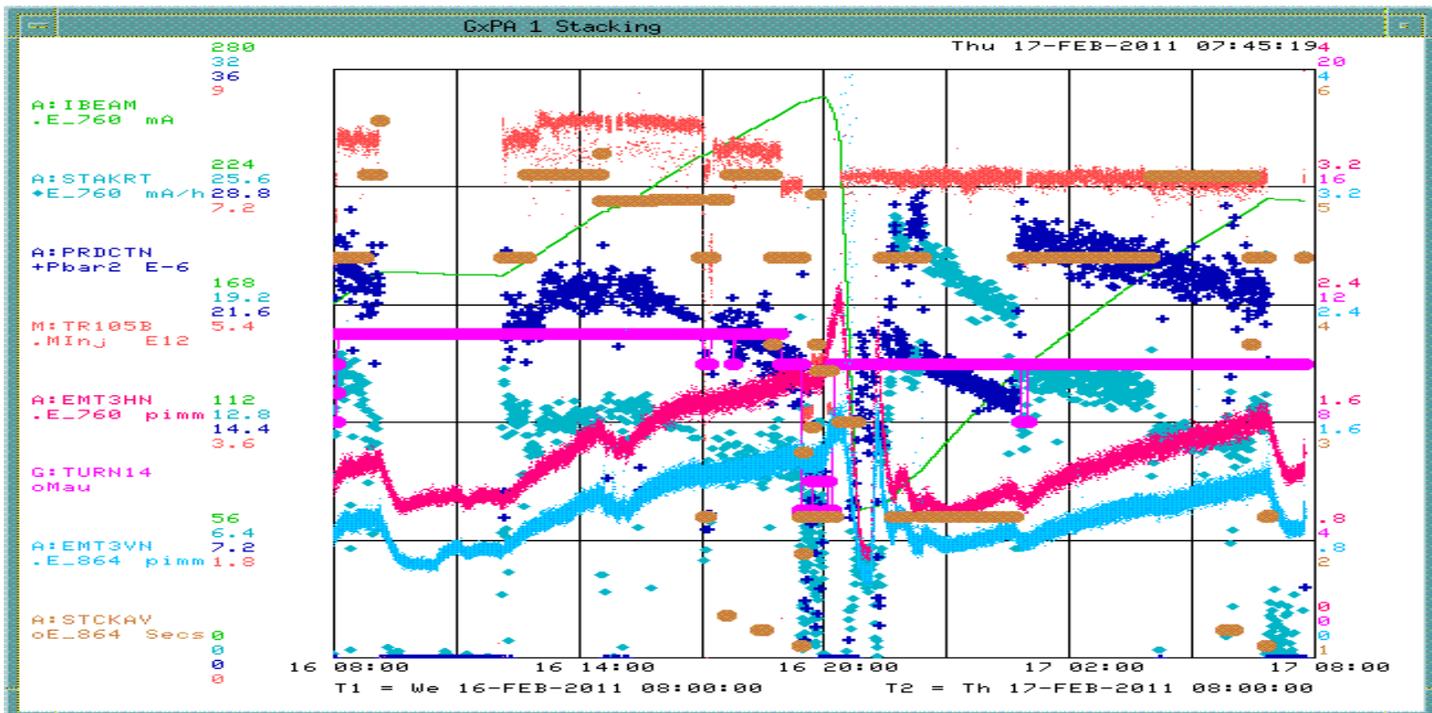
- Stacked 13.2mA/hr with a production of 20.9 pbars/Mp with 7.56 Tp on target.
- Unstacked 173E10 in eight transfers over one set with an average efficiency of 82.3%.
- Numbers down due to large stack sizes that are the result of Pelletron being down.

## Numbers

- Stacking
  - Pbars stacked: 80.53 E10
  - Time stacking: 20.14 Hr
  - Average stacking rate: 04.00 E10/Hr
- Uptime
  - Number of pulses while in stacking mode: 17799
  - Number of pulses with beam: 16964
  - Fraction of up pulses was: 95.31%
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 19.20 Hr
  - Possible average stacking rate: 04.19 E10/Hr
  - Could have stacked: 84.49 E10/Hr
- Recycler Transfers
  - Pbars sent to the Recycler: 173.11 E10
  - Number of transfers : 8
  - Number of transfer sets: 1
  - Average Number of transfer per set: 8.00
  - Time taken to shoot including reverse proton tuneup: 00.03 Hr
  - Transfer efficiency: 80.33%
- Other Info
  - Average POT : 7.34 E12
  - Average production: 6.47 pbars/E6 protons
- \* Red indicates a problem during data retrieval. See the message window for details.

## Plots





# Accumulator to Recycler Transfer Table - Units E10

Accumulator to Recycler Summary    Pbar Transfer Shot: 23344 Recycler Shot: 22053

Pbar View

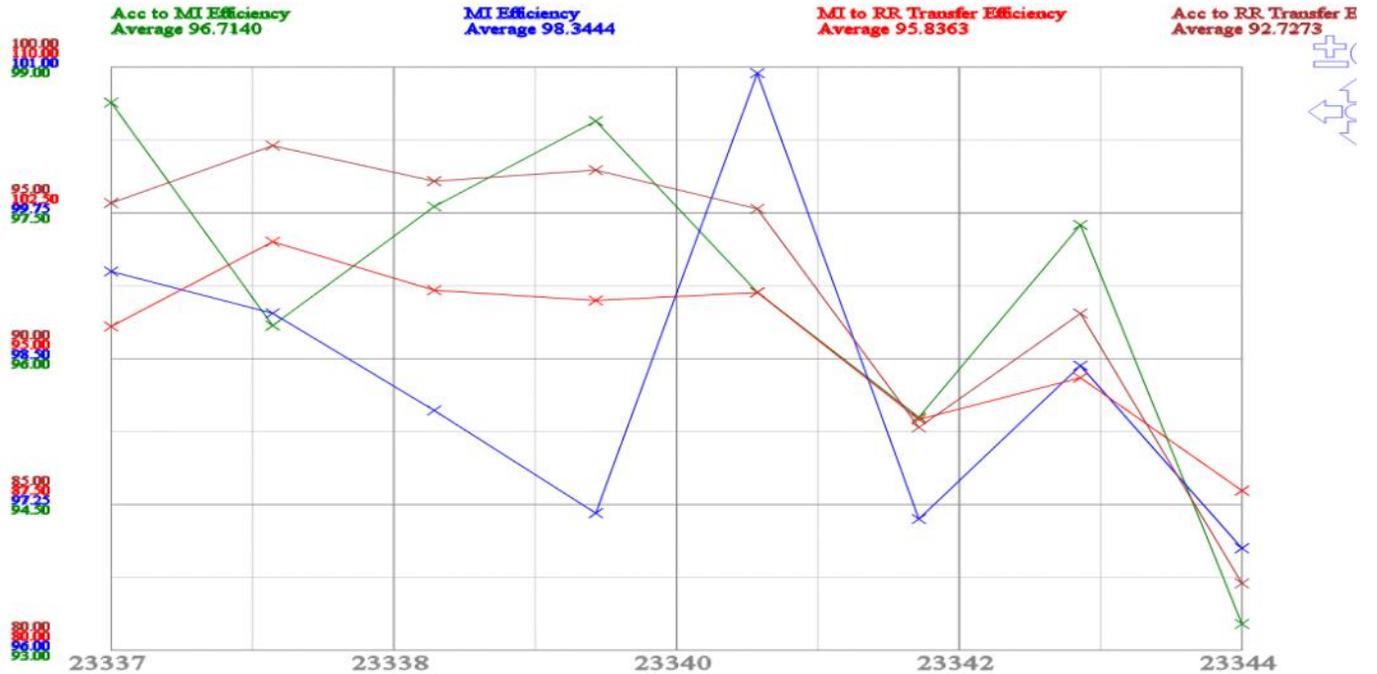
Description	Transfer 1	Transfer 2	Transfer 3	Transfer 4	Transfer 5	Transfer 6	Transfer 7	Transfer 8	Sum / Average	Units
A:IBEAMB sampled on \$91 (A:BEAM7)	243.840	222.741	201.357	179.223	156.290	133.618	111.557	90.385		E10
A:IBEAMB sampled on \$94 (A:BEAM9)	223.507	201.709	179.306	156.232	133.503	111.387	90.186	69.918		E10
Pbars unstacked (transfer)	20.332	21.032	22.052	22.990	22.786	22.232	21.371	20.467	173.262	E10
MI DCCT SMALL BEAM (I:BEAM2D[0])	18.725	19.348	20.354	21.509	21.400	20.679	20.151	19.441	161.608	E10
I:BEAM2D[5]	17.860	18.635	19.907	20.764	20.927	20.017	19.691	18.791		E10
R:BEAMS (R:BEAME0[0]) pre xfer	24.777	40.114	55.961	72.478	90.016	107.439	124.488	141.193		E10
R:BEAM (R:BEAME0[1]) post xfer	40.841	56.869	73.530	91.323	108.870	125.942	142.697	158.968		E10
Rec. Delta	16.064	16.755	17.569	18.845	18.854	18.503	18.209	17.775	142.574	E10
Accumulator to MI Transfer Efficiency at Injection	92.095	91.992	92.302	93.559	93.917	93.018	94.290	94.986	93.270	%
MI Efficiency	95.379	96.312	97.802	96.535	97.789	96.798	97.717	96.658	96.874	%
MI to RR Transfer Efficiency	85.790	86.600	86.316	87.613	88.101	89.473	90.364	91.432	88.211	%
Accumulator to Recycler transfer eff	79.008	79.665	79.671	81.970	82.742	83.227	85.204	86.848	82.292	%
Fractional xfer loss in MI	.865	.714	.447	.745	.473	.662	.460	.650	5.017	E10
Loss between xfers in RR		.727	.908	1.052	1.307	1.431	1.453	1.505	8.383	E10

Summary

Description	Value	Units	Comments
Pbars unstacked (sum)	173.262	E10	(A:BEAM7 - A:BEAM9) Sum over Sets
Pbars received by RR (beg-end)	134.191	E10	R:BEAME0[1] @ Last Set - R:BEAME0[0] @ First Set
Total transfer efficiency	77.450	%	Pbars received by RR / Pbars unstacked

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- CommonFunctor, Zongwei Yuan



Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time	Column 21 Number _20_A.I BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number _21_A.I BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R:BEA ME0(0)) pre zfer E10	Column 24 Number _23_R: BEAM (R:BEA ME0(1)) post zfer, 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	
<b>Totals =&gt;</b>				173.26			142.57	82.29%	93.27%	90.38%	84.30%	8	1	16.888	11.526	1.375	
<b>Daily Average =&gt;</b>				173.26			142.57					8	1				
23344	Wednesday, February 16, 2011	20:24	243.84	69.92	173.26	24.78	158.97	142.57	82.29%	93.27%	90.38%	84.30%	8	1	16.888	11.526	1.375