

2009-12-22 Tuesday Morning Pbar Notes

Tuesday, December 22, 2009

7:08 AM

Stacking

- Stacked fairly well over the last 24 hours
- Numbers
 - <stack rate> = 26.4mA/hr
 - <production> = 25 p/e6
 - <protons on target> = 7.2e12
- 2am AP1001 was reporting an alarm. DCE11 restart to get our OAC numbers updating.
- 7am A:IKIP1 tripped and required a local reset.

Transfers

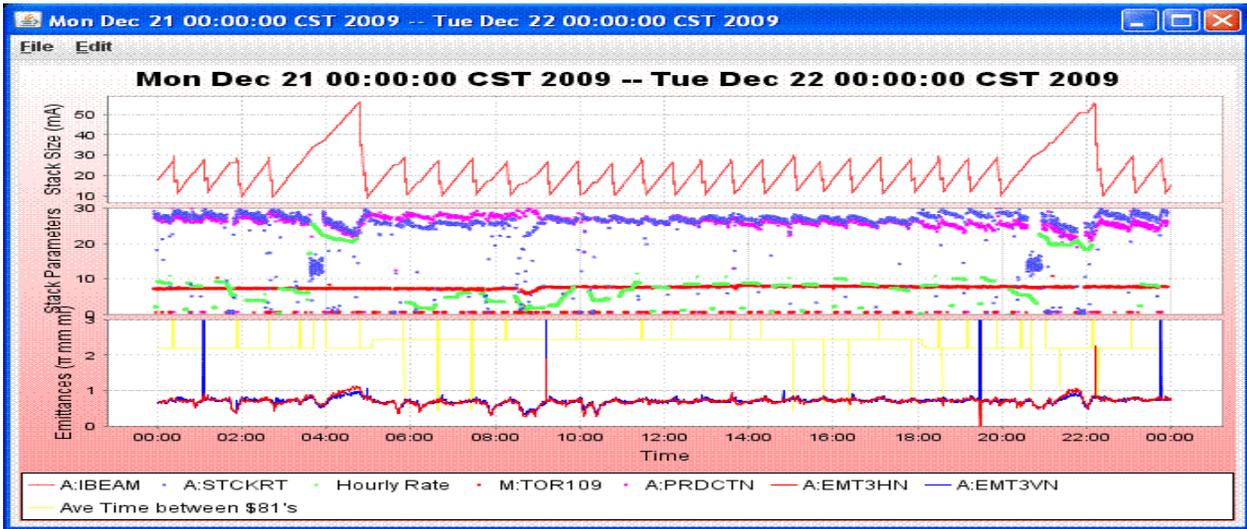
- Unstacked 597e10 in 64 transfers over 31 sets.

Studies

The Numbers

- Stacking
 - Pbars stacked: 590.99 E10
 - Time stacking: 23.75 Hr
 - Average stacking rate: 24.88 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 36025
 - Number of pulses with beam: 34674
 - Fraction of up pulses was: 96.25%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 22.86 Hr
 - Possible average stacking rate: 25.85 E10/Hr
 - Could have stacked: 614.02 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 597.51 E10
 - Number of transfers : 64
 - Number of transfer sets: 31
 - Average Number of transfer per set: 2.06
 - Time taken to shoot including reverse proton tuneup: 00.25 Hr
 - Transfer efficiency: 79.36%
- Other Info
 - Average POT : 7.15 E12
 - Average production: 23.83 pbars/E6 protons
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Plots



Microsoft Excel

transfers-v13.xls:2 [Compatibility Mode]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
		Column 1 Number_0_Phar Transfers Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A1 BEAMS sampled on \$91 (A-BEA M7), E10	Column 22 Number_21_A1 BEAMS sampled on \$94 (A-BEA M9), E10	Unstacked (mA)	Column 23 Number_22_R-BEAMS ME(0) pre refer E10	Column 24 Number_23_R-BEAM ME(1) post refer, E10	Stashed	Acc to RR EH	Acc to MI EH	Acc to M2 EH	Transfers	Set s	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance				
1																						
2			Totals =>				597.51		569.66	95.34%	97.36%	97.49%	64	31	7.0056	6.7885	1.7573					
3		15775	Tuesday, December 22, 2009	6:51	29.37	11.19	19.52	261.68	280.29	18.65	95.52%	97.56%	98.16%	2	1	7.1	6.898	6.697	1.735			
4		15774	Tuesday, December 22, 2009	6:03	27.45	10.42	18.35	244.43	261.99	17.57	95.77%	97.25%	97.69%	2	1	6.99	6.697	1.733				
5		15773	Tuesday, December 22, 2009	5:21	29.33	11.17	19.46	226.15	244.77	18.66	95.86%	98.15%	97.31%	2	1	6.92	6.593	1.739				
6		15772	Tuesday, December 22, 2009	4:35	30.28	11.34	20.27	207.18	226.44	19.31	95.29%	98.03%	99.87%	2	1	7.276	6.729	1.757				
7		15771	Tuesday, December 22, 2009	3:47	26.77	10.42	17.73	190.58	207.46	16.91	95.33%	97.15%	97.37%	2	1	7.067	6.851	1.749				
8		15770	Tuesday, December 22, 2009	3:09	26.77	10.71	17.39	174.10	190.70	16.69	95.97%	97.67%	97.35%	2	1	7.11	6.87	1.762				
9		15769	Tuesday, December 22, 2009	2:33	27.65	12.01	16.99	158.19	174.26	16.00	94.18%	97.08%	97.33%	2	1	7.058	6.607	1.743				
10		15768	Tuesday, December 22, 2009	1:53	28.78	11.46	18.69	140.54	158.28	17.78	95.17%	97.72%	97.53%	2	1	7.402	7.101	1.729				
11		15767	Tuesday, December 22, 2009	1:09	28.04	11.14	18.26	123.27	140.73	17.51	95.89%	96.91%	96.75%	2	1	7.404	6.8	1.755				
12		15766	Tuesday, December 22, 2009	0:28	28.05	11.02	18.39	105.88	123.35	17.52	95.24%	97.79%	97.48%	2	1	7.374	6.773	1.741				
13		15765	Monday, December 21, 2009	23:47	28.59	10.98	18.87	88.00	106.03	18.03	95.60%	98.13%	98.64%	2	1	7.159	7.165	1.738				
14		15764	Monday, December 21, 2009	23:05	29.29	11.25	19.26	69.73	88.02	18.30	95.04%	96.87%	97.10%	2	1	6.965	6.756	1.752				
15		15763	Monday, December 21, 2009	22:12	28.22	9.54	19.41	23.18	69.80	46.63	94.37%	97.29%	97.40%	4	1	7.301	7.301	1.734				
16		15762	Monday, December 21, 2009	19:53	28.83	9.93	19.64	389.88	408.44	18.65	94.94%	98.47%	97.09%	2	1	6.536	6.246	1.719				
17		15761	Monday, December 21, 2009	19:11	28.20	11.95	17.68	373.88	390.51	16.73	94.59%	94.91%	95.16%	2	1	7.204	6.659	1.734				
18		15760	Monday, December 21, 2009	18:32	28.08	11.87	17.61	357.75	374.49	16.78	95.25%	98.26%	99.45%	2	1	6.912	6.866	1.742				
19		15759	Monday, December 21, 2009	17:51	28.36	11.41	18.25	340.84	358.23	17.47	95.73%	97.42%	98.12%	2	1	6.704	6.555	1.732				
20		15758	Monday, December 21, 2009	17:07	28.70	11.02	18.97	323.32	341.34	18.14	95.58%	96.02%	96.47%	2	1	7.025	7.13	1.743				
21		15757	Monday, December 21, 2009	16:23	28.22	11.46	18.15	306.58	323.83	17.34	95.54%	97.11%	96.79%	2	1	7.128	6.943	1.758				
22		15756	Monday, December 21, 2009	15:42	26.99	11.66	16.66	291.26	307.04	15.73	94.39%	97.05%	96.88%	2	1	7.254	6.83	1.725				
23		15755	Monday, December 21, 2009	15:04	28.90	12.22	18.04	274.65	291.65	17.08	94.68%	96.45%	95.96%	2	1	7.238	7.28	1.82				
24		15754	Monday, December 21, 2009	14:19	27.74	10.82	18.22	257.79	275.10	17.32	95.02%	96.95%	97.31%	2	1	7.013	6.596	1.777				
25		15753	Monday, December 21, 2009	13:35	26.90	10.72	17.53	241.43	258.15	16.82	95.95%	96.19%	95.31%	2	1	6.667	6.753	1.767				
26		15752	Monday, December 21, 2009	12:53	26.87	10.22	18.00	224.55	241.74	17.19	95.51%	97.63%	96.16%	2	1	6.831	6.753	1.797				
27		15751	Monday, December 21, 2009	12:11	26.32	10.11	17.53	208.04	224.77	16.76	95.61%	97.59%	97.05%	2	1	6.821	6.715	1.781				
28		15750	Monday, December 21, 2009	11:29	27.32	10.40	18.23	190.88	208.39	17.48	95.88%	97.50%	99.30%	2	1	6.856	6.886	1.798				
29		15749	Monday, December 21, 2009	10:46	25.97	10.09	17.23	174.54	191.11	16.73	97.11%	97.76%	98.64%	2	1	6.584	6.838	1.806				
30		15748	Monday, December 21, 2009	9:56	26.61	10.15	17.80	157.73	174.76	17.09	96.04%	99.35%	98.84%	2	1	6.933	6.567	1.789				
31		15747	Monday, December 21, 2009	9:13	26.63	10.13	17.83	140.94	157.94	17.05	95.60%	96.38%	96.69%	2	1	6.756	6.405	1.777				
32		15746	Monday, December 21, 2009	8:16	26.70	9.92	18.11	123.86	141.13	17.23	95.13%	98.21%	98.40%	2	1	6.563	6.748	1.783				
33		15745	Monday, December 21, 2009	7:28	28.39	10.24	19.43	105.54	123.95	18.53	95.34%	97.06%	98.20%	2	1	6.666	6.533	1.76				

