Numi/Minos Status

Fermilab All-Experimenters' Meeting
12/12/05

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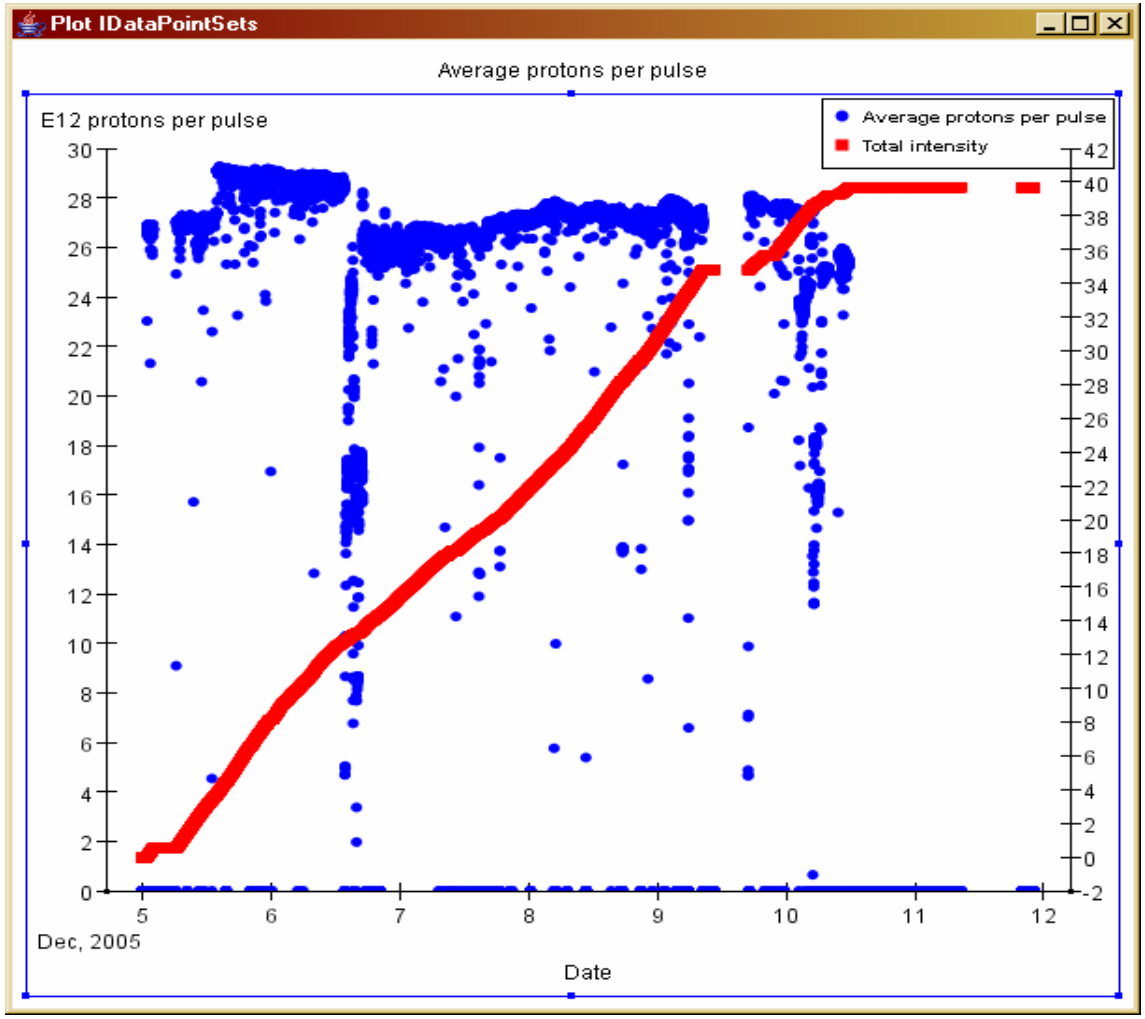
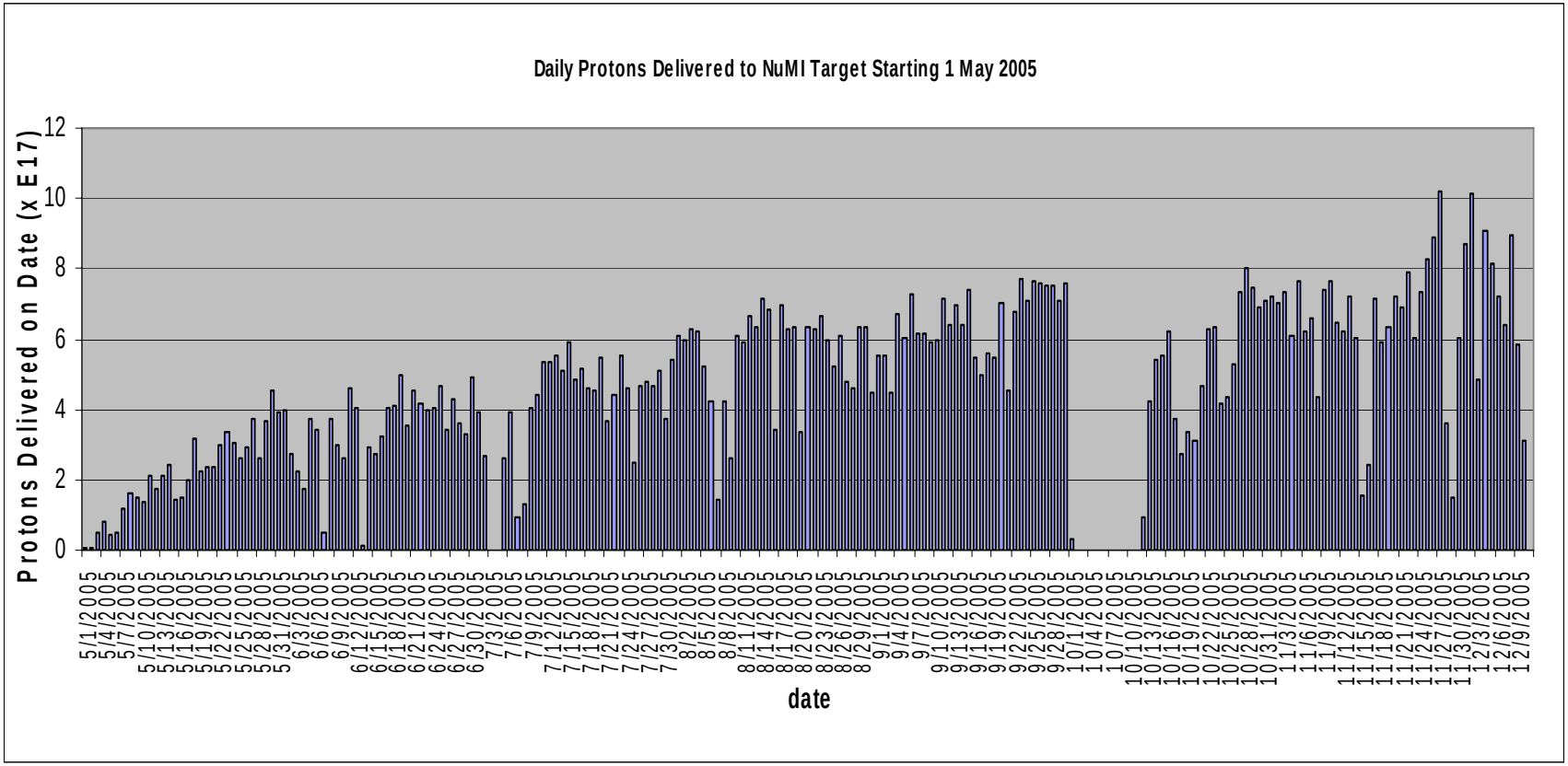
NuMI Beam Status

- As discussed at Fermilab all-hands meeting on Friday, NuMI is a likely generator of the tritium appearing in lab ponds, a small amount of which traveled offsite.
- Actively seeking sources and investigating mitigations.
- A clue to a significant possible source is chiller condensate from high-volume target chase air-cooling system.
- No contamination currently being found in streams.
- Current beam status is OFF. All condensate discharge has been stopped.

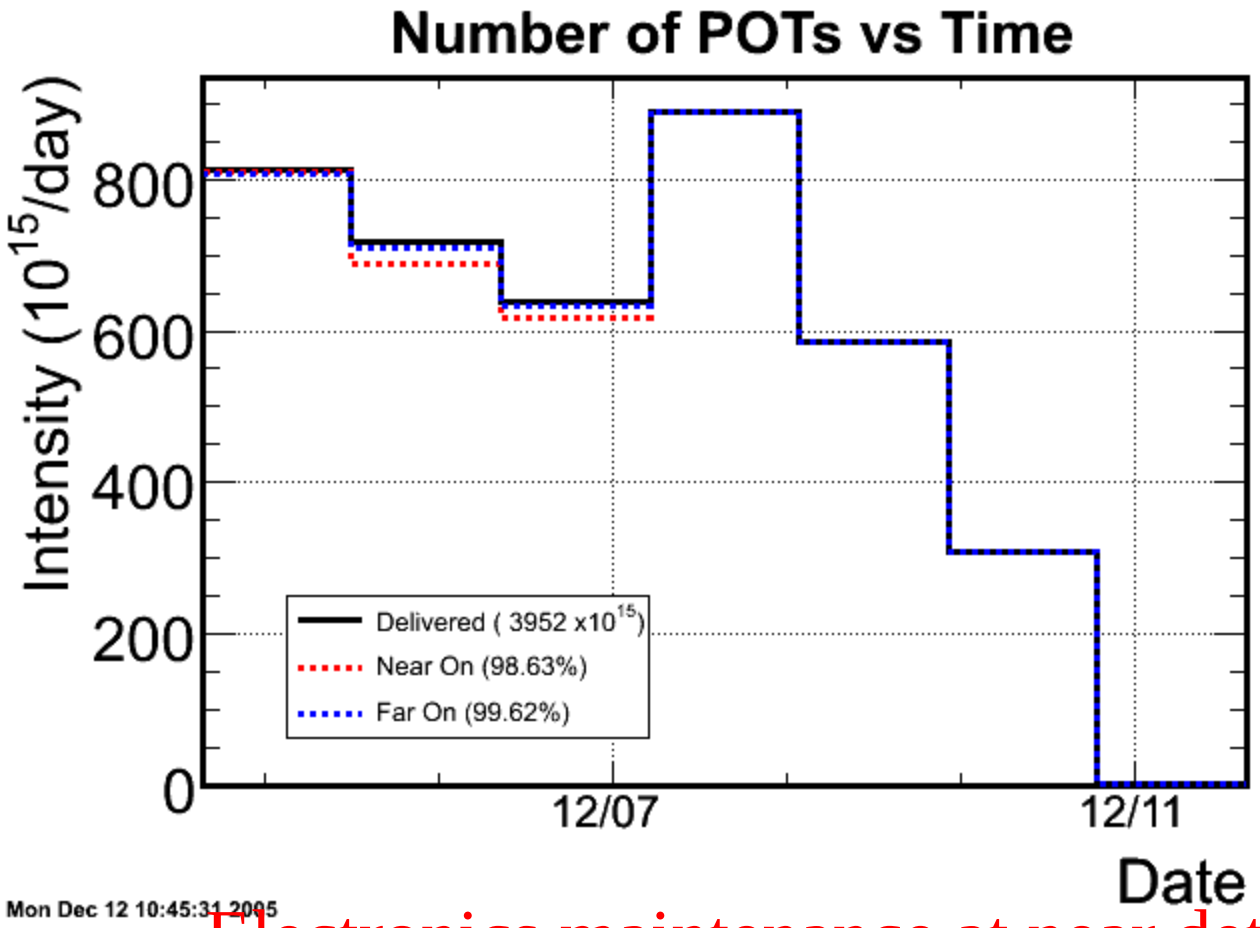
Protons Delivered in Last Week



Protons per Day since 1 May



Detector Performance



Electronics maintenance at near detector

Far detector ~100% uptime.

Status of MINOS Data Processing / Analysis

* **MINOS data set now > 1.0 e20 protons on target**
  - *Competitive measurement of osc'n params is already possible !!*
  - *Also would like to adjust target pos'n & horn currents if data suggests a higher or lower Δm^2*

* **Reprocessing Data w/ Minos S/W release R1.18.2**
  - *Features improved tracking & shower energy determination*
  - *Production began on Nov 14 on FNAL general purpose batch farm*
  - *ALL Far Detector beam data up to today has been (re-) processed*
  - *~1/3 of Near Detector beam data has been reprocessed so far*
  - *~1/2 of Monte Carlo (generated off-site) also run through reconstruction on FNAL GP batch farm so far*

* **Data analysis plan**
  - *Analysis groups are preparing for Jan. '06 collab. mtg*
  - *Decision on target / horn operating points expected by shutdown*

FAR Data Prod'n w/ R1.18.2

Two passes per data run…

Run separate reconstruction jobs on selected in-spill triggers and on all triggers

Have processed all beam data from March through December 11 (except April - no beam)

~ 24 runs per day
X ~30 days per month
X ~ 8.5 months beam data

= 6000 data runs processed (1-2 CPU hrs per run)

Month	Runs	Pass	Fail	Trigger	Cand GB	SNtp GB	SNtS GB
2005-03	29325 – 30612	680	0	All	47.40	13.44	1.68
				Spill	4.30	0.91	0.17
2005-05	31356 – 31811	741	0	All	53.34	15.17	1.91
				Spill	8.70	1.71	0.22
2005-06	31812 – 32029	715	1	All	52.06	14.81	1.87
				Spill	7.60	1.51	0.21
2005-07	32029 – 32480	734	0	All	53.26	15.17	1.92
				Spill	8.87	1.77	0.23
2005-08	32480 – 32654	744	0	All	53.89	15.37	1.95
				Spill	9.72	1.95	0.25
2005-09	32654 – 32814	724	0	All	52.78	15.01	1.90
				Spill	9.85	1.98	0.25
2005-10	32814 – 33077	744	0	All	52.11	14.79	1.86
				Spill	7.52	1.53	0.21
2005-11	33077 – 33256	712	0	All	50.55	14.39	1.83
				Spill	9.82	1.96	0.24
2005-12	33256 – 33294	197	5	All	14.16	3.79	0.49
				Spill	2.91	0.55	0.07

NEAR Data Prod'n w/ R1.18.2

Two passes per data run…

Also ~ 24 runs per day…
…but 12 - 24 CPU hrs / run

Reprocessing 1/3 of data runs from all months first. Plus, keeping up with data-taking. Also reco'ing only 1/8 of all cosmic mu's.

Note: failures mostly due to I/O problems on farm nodes & are recoverable.

Completion of 1/3 sample is expected this week.

Will then pick up the remaining 2/3 after that. Should be completely finished by Dec. 31.

Month	Runs	Pass	Fail	Trigger	Cand GB	SNtp GB	SNtS GB
2005-03	6681 – 7101	771	5	Cosmic	69.54	13.91	4.21
				Spill	12.14	1.78	0.35
2005-05	7607 – 7861	763	13	Cosmic	64.98	13.54	4.49
				Spill	141.82	21.06	3.30
2005-06	7861 – 8031	246	8	Cosmic	20.63	4.33	1.45
				Spill	45.25	6.73	1.09
2005-07	8031 – 8224	278	2	Cosmic	24.57	5.15	1.72
				Spill	63.91	9.55	1.53
2005-08	8230 – 8426	228	1	Cosmic	20.49	4.31	1.45
				Spill	72.29	10.75	1.71
2005-09	8436 – 8451	2	0	Cosmic	0.09	0.02	0.01
				Spill	0.00	0.00	0.00
2005-10	9017 – 9020	11	0	Cosmic	1.00	0.21	0.07
				Spill	1.80	0.27	0.05
2005-12	9300 – 9379	210	1	Cosmic	18.41	3.88	1.31
				Spill	87.76	13.13	2.05