Operations Manager Report

Arnd Meyer
May 9, 2002

Store		Initial Lum	Duration	$L_{delivered}$/nb	L_{live}/nb	Eff	Si
1280	Thu 5/2	19.1E30	16.5h	660.4	443.9	67.2%	0
1285	Fri 5/3	16.2E30	14.8h	573.6	442.8	77.2%	70%
1287	Sat 5/4	13.9E30	10.2h	364.0	216.5	59.5%	50%
1288	Sun 5/5	17.2E30	13.2h	501.3	317.2	63.3%	0
1289	Mon 5/6	20.4E30	14.4h	664.4	563.4	84.8%	70%
1291	Mon 5/6	13.3E30	10.8h	377.8	312.8	82.8%	90%
(1303	Wed 5/8	20.0E30)					
				3141.5	2296.6	73.1%	

Delivered	3141.5 nb^{-1}
Live (Store Summaries)	2296.6 nb^{-1}
Run DB	2329.0 nb^{-1}
GoodRun ("potentially good")	2262.5 nb^{-1}
GoodRun ("almost all" components)	816.2 nb^{-1}

Initial Luminosity

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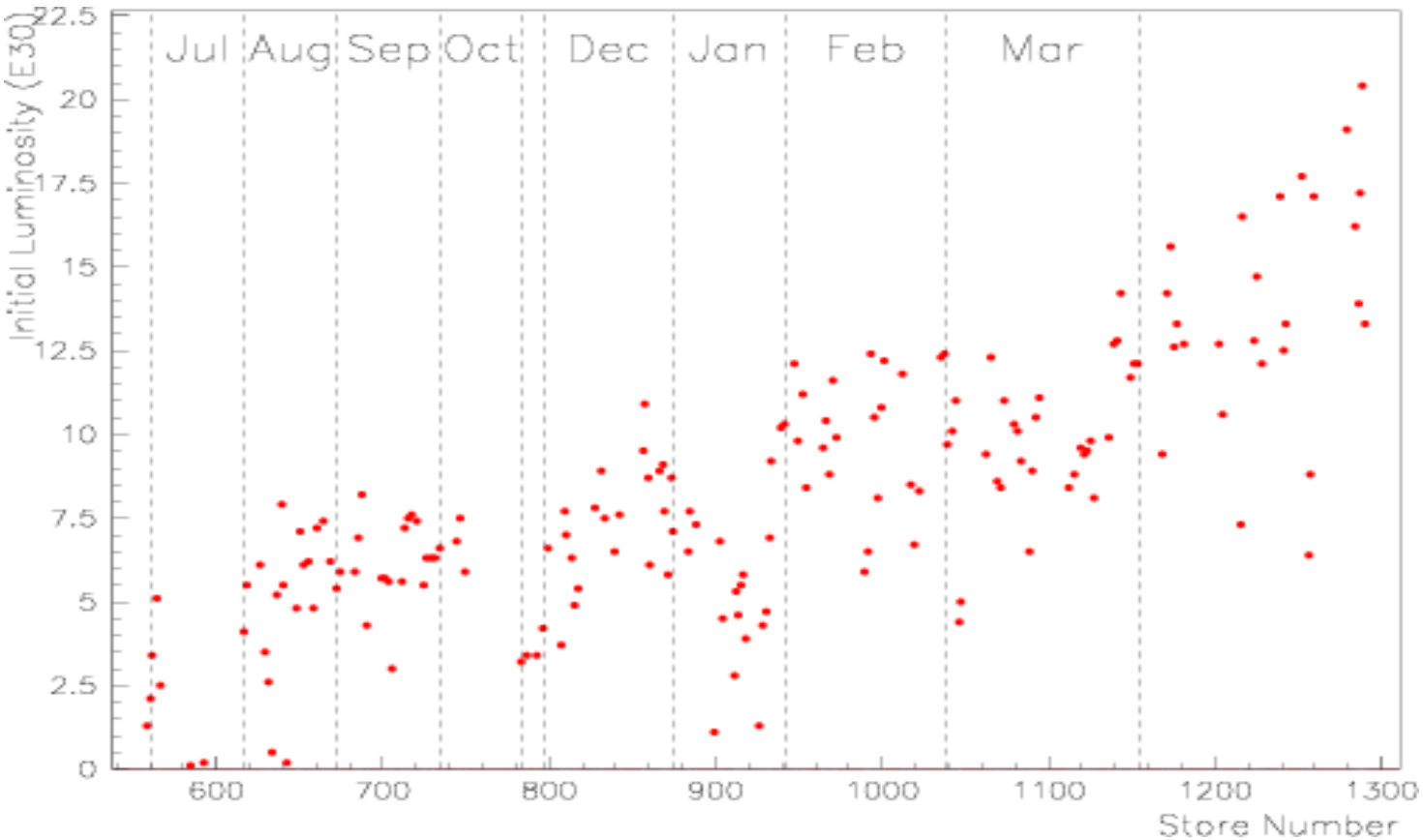
- New octopole tuning expert-intensive, but pays off: improved lifetime at injection
- ~ Weekly record, but large unexplained spread



Integrated Luminosity

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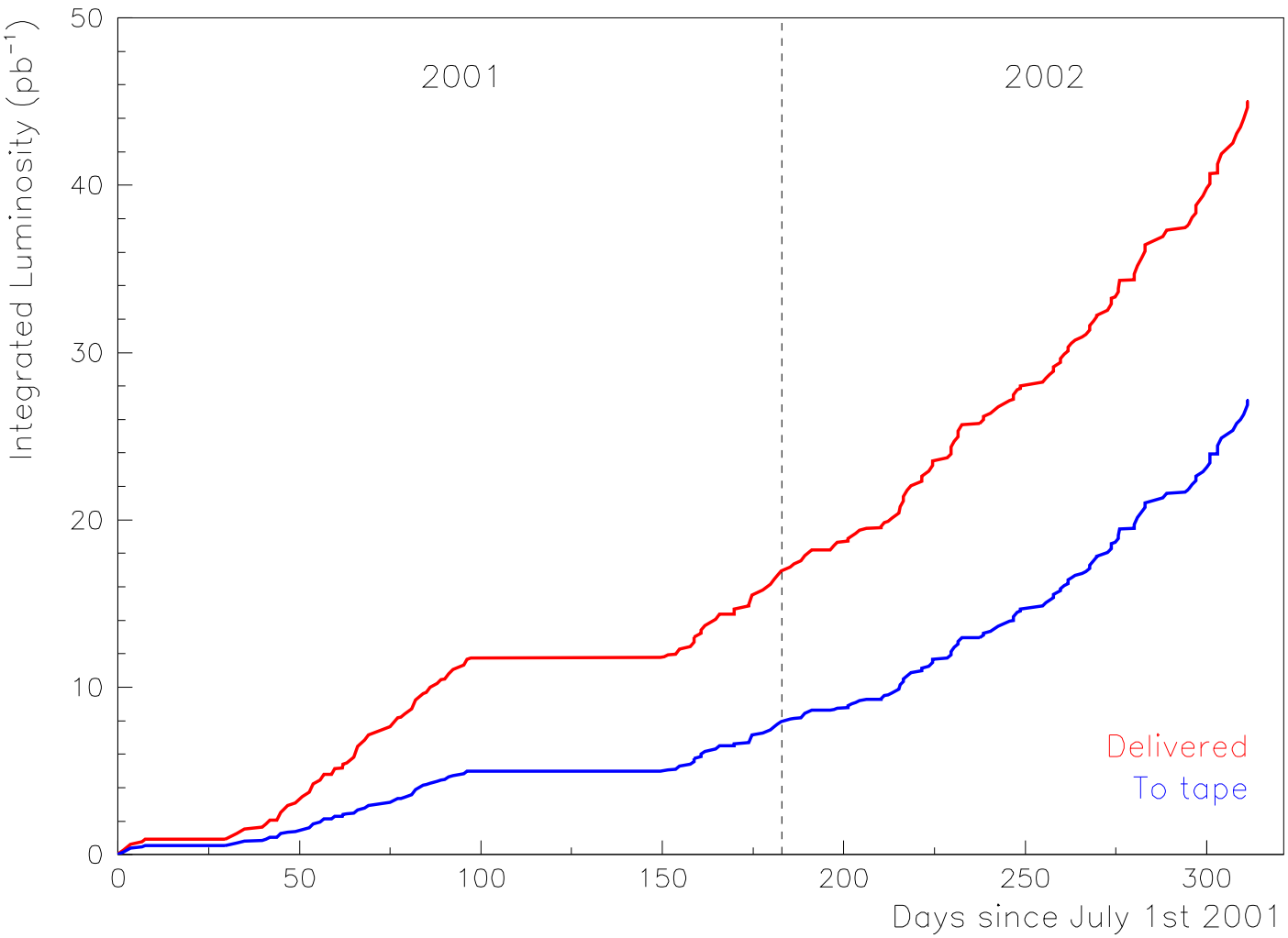

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- COT VME power supply lost Sunday morning during shot setup, replaced Sunday evening
  - No Silicon for this store
- Studies Tuesday 8am to Wednesday 4pm
- 12x0 store Wednesday evening, study timing structure of losses, and initial attempt at beam-gas study (not particularly successful)
- Scheduled online production DB downtime, longer than expected (9 to 19h)
  - Corrupted root partition (and mirror) while applying kernel patches
  - During startup, a server process (L3Manager) was started twice, causing file corruption and L3 filter crashes. Took long time to sort out.

DAQ / Trigger Limitations

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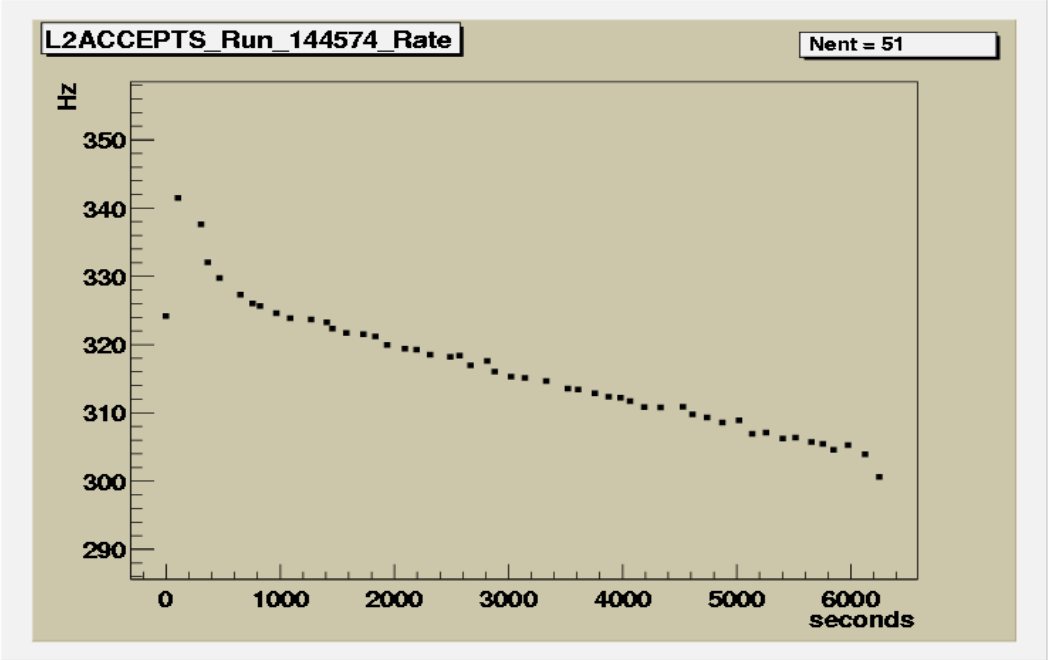
- DAQ deadtime becomes noticable with current trigger table above $1.5 \cdot 10^{31} cm^{-2} s^{-1}$
- Current store:
  - Without Silicon, $L = 2.0 \cdot 10^{31} cm^{-2} s^{-1}$:

    L1A/L2A/L3A = 8.4kHz / 325Hz / 30Hz

    5-6% deadtime (50% L2, 50% readout)

    average event size at CSL 190kB

  - Integrate Silicon at 1.7E31: deadtime 11-12%, evenly split between L2/readout/BUSY



Major downtimes

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- Lost a total of 22 hrs out of 80 hrs store time
- 6hrs — Level 2 (~40% scheduled)
- 2hrs++ — Startup at beginning of store
- 2hrs++ — DAQ deadtime
- 1hr 50min — EVB and Level 3 failures
- 1hr 10min — Integrating Silicon, L00 trip
- 1hr — End-of-store preparation
- 1hr — Silicon D-mode calibration
- Major cause for L2 downtime has been addressed by adding diagnostics (bad TSI-L2 connection)
- Several hours could be attributed to inefficient operation... documentation, instructions, training...

Backgrounds and Losses

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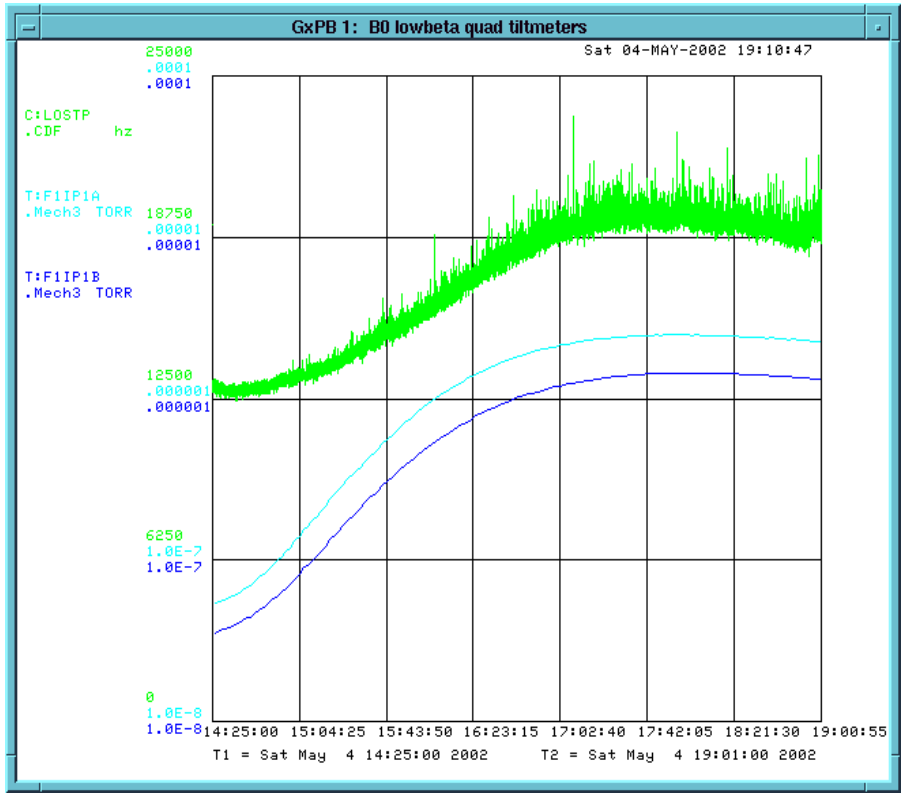
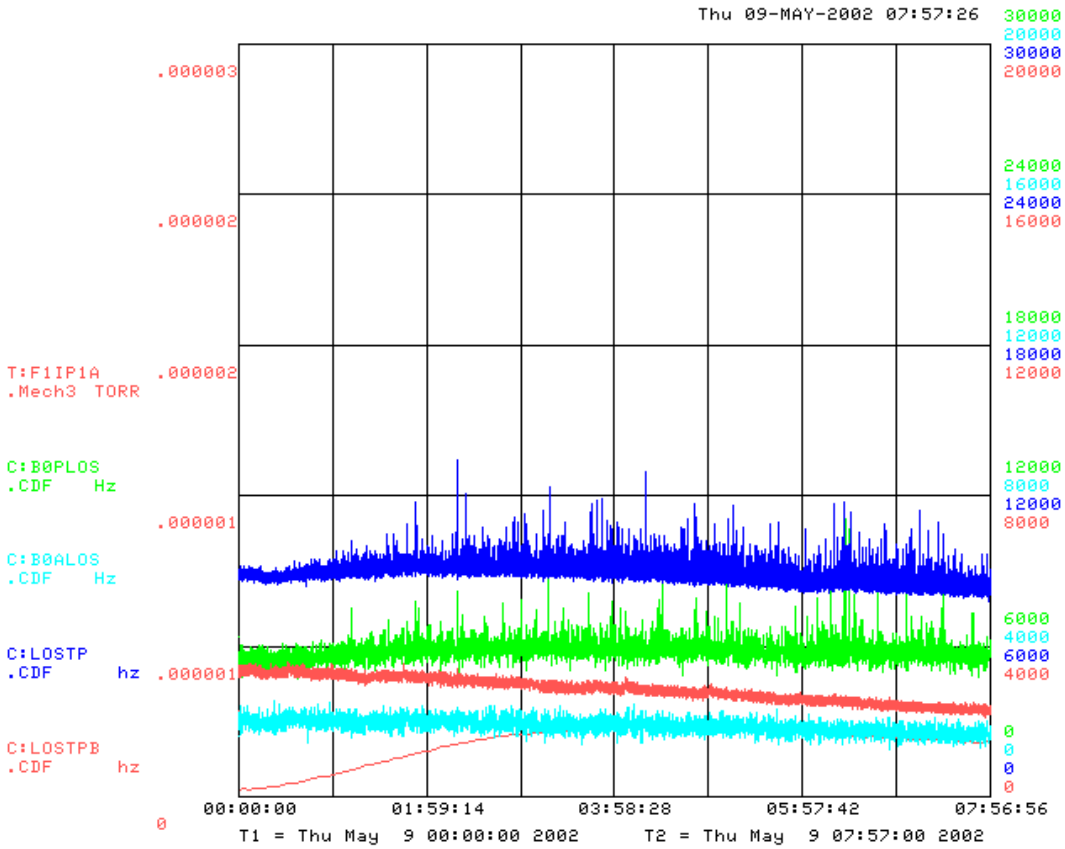
May 9, 2002

- Peculiar structure in losses better understood (bad vacuum in F-sector)
- Will be fixed in June shutdown
- Large variation from store to store