Operations Manager Report

Arnd Meyer
Feb 28, 2002

- 4 stores
- 2 intentionally ended
  - Store 1013 quench at E11 caused by crate PS failure
  - Store 1020 dumped due to E3 Cold Compressor tripping off

Store		Initial Lum	Duration	$L_{delivered}$/nb	L_{live}/nb	Eff
1013	Sat 2/23	11.8E10	1.9h	69.8	0.0	0.0%
1018	Sun 2/24	8.5E10	12.9h	236.0	144.3	61.1%
1020	Sun 2/24	6.7E10	14.0h	179.3	110.1	61.4%
1023	Tue 2/26	8.3E10	10.4h	220.7	119.5	54.1%
				705.8	373.9	53.0%

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- Thursday/Friday supervised access
  - COT sense wire SL4 cell 224 S1 disabled → complete chamber at full HV
  - 7 additional L00 PS → 11 out of 12 installed
  - Many more things done in collision hall... cal, muons, rp, mp, ...
- Saturday store 1013
  - Lasted less than 2hrs. 100% lost for CDF due to XTRP clock board failure
- Sunday/Monday store 1018, store 1020
  - Studies: take low luminosity minimum bias run, two-track trigger tests, Silicon calibration
- Tuesday store 1023 until noon
  - Tested spare CLIST at end of store
- Hand detector over to experts
  - Debug new L2 Magic Bus backplane, test spare IsoList, CMU calibration code, endwall sourcing, test new trigger table, L3 maintenance and development, CDF_ERROR debugging, ...
  - All systems now on HV global page
- Thursday morning controlled access to fix bad PHA channel. Also swapped bad SMXR
- Next week: likely 24h access to replace Recycler stochastic cooling tank 12 (cancelled this week)

Beams

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- Thursday/Friday
  - NOT replacing Recycler stochastic cooling tank 12 (not ready)
  - Leak on Main Injector quad (Q130)
  - Reestablish operation. LINAC unable to deliver beam due to breaker trip
- Saturday reestablish beams after LINAC repairs
- Store 1013 lost after 2 hours. Restack, recover
- Two stores in on Sunday. Second one low luminosity due to bad pbar efficiencies
- Lost stack due to power supplies being turned off (lack of cooling)
- Monday bring back cooling to Booster and pbar systems, then stack to 60mA. Store in Tuesday owl.
- Studies Tuesday noon to Thursday 8am

Initial Luminosity

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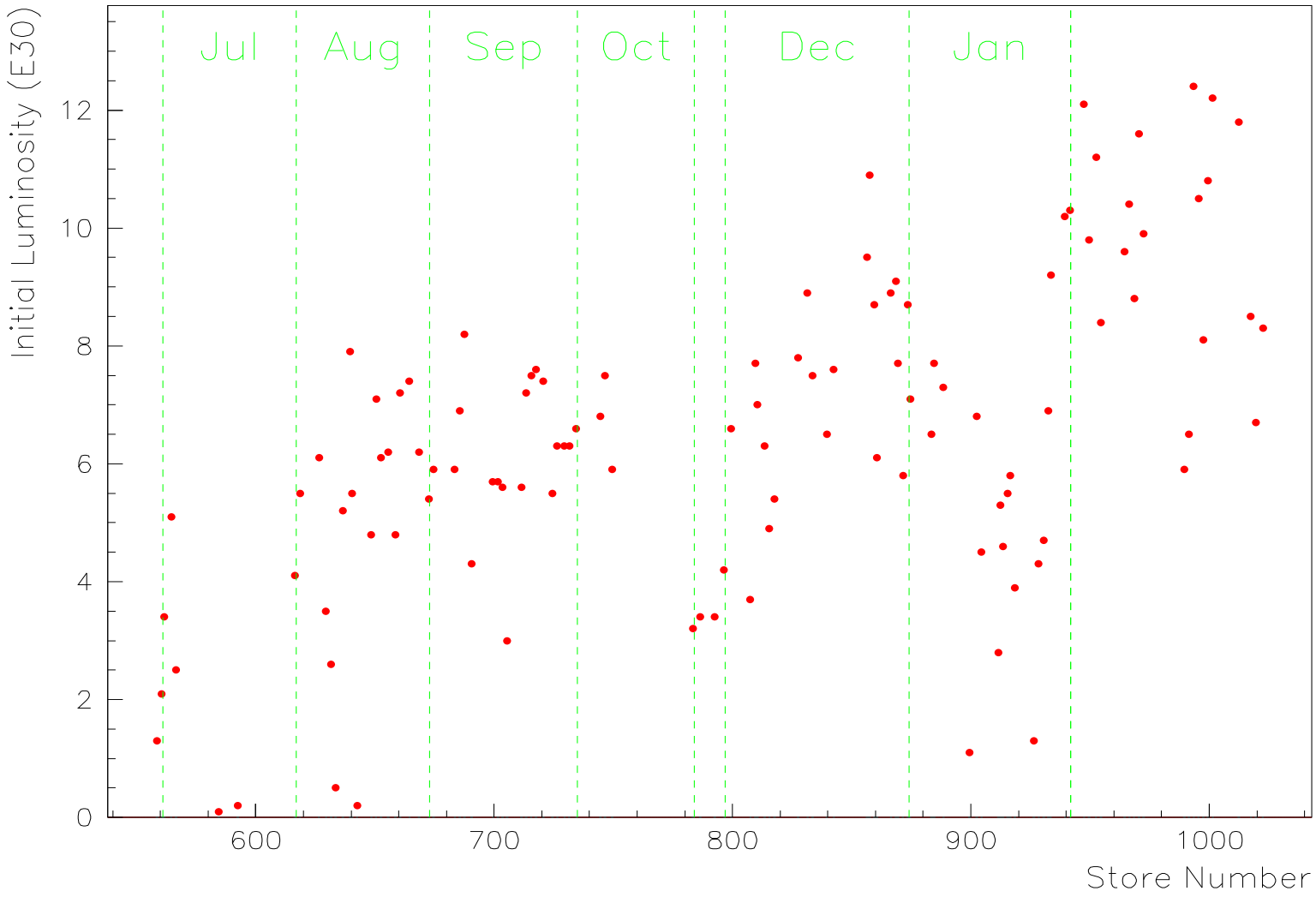
- Dave made some nice scripts, we will keep updating these plots. See http://www-b0.fnal.gov:8000/opshelp/opshelp.html → Store information



Store Duration

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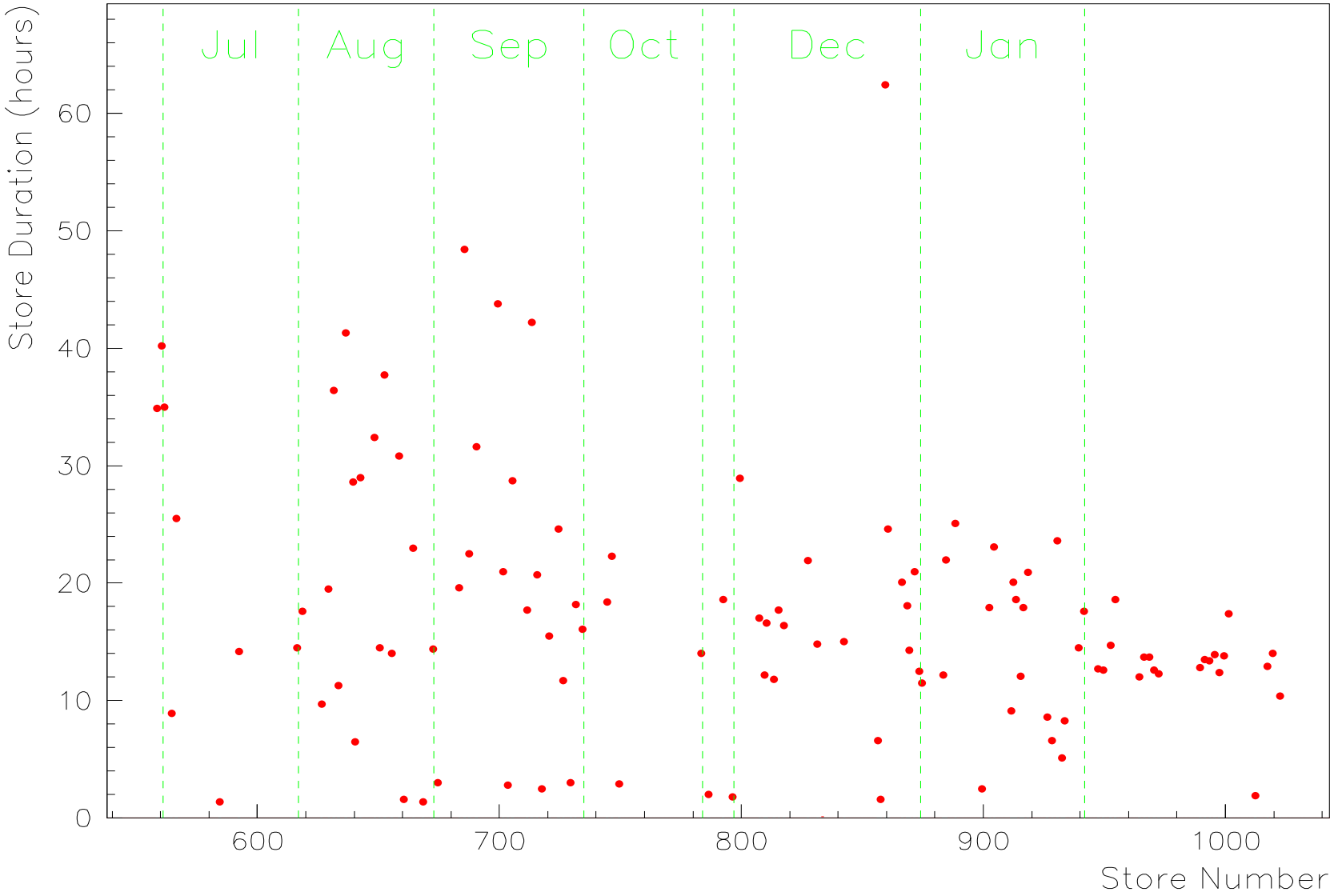
- Very few stores unintentionally ended in February



Store Integrated Luminosity

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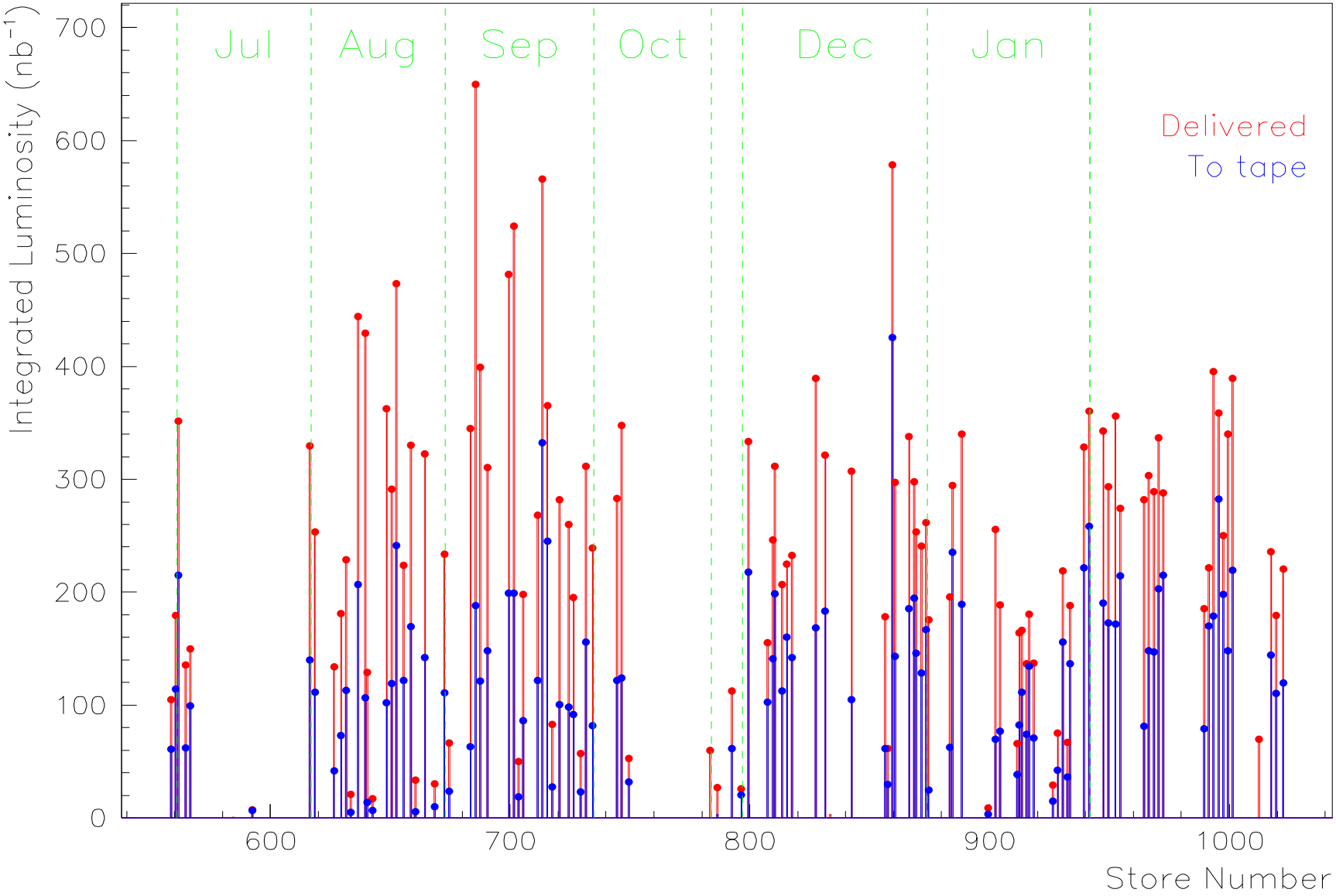

CDF Efficiency

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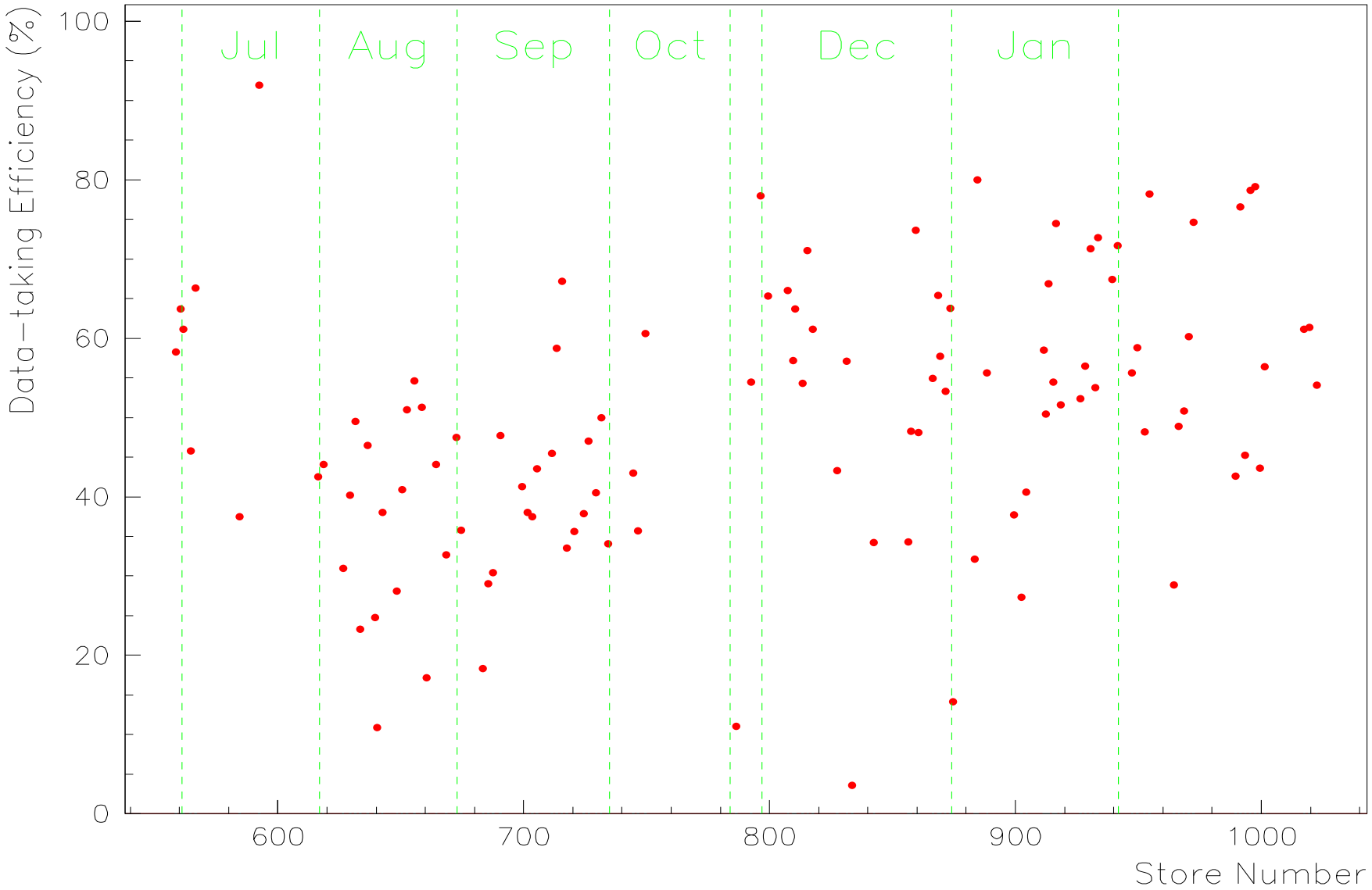

Integrated Luminosity

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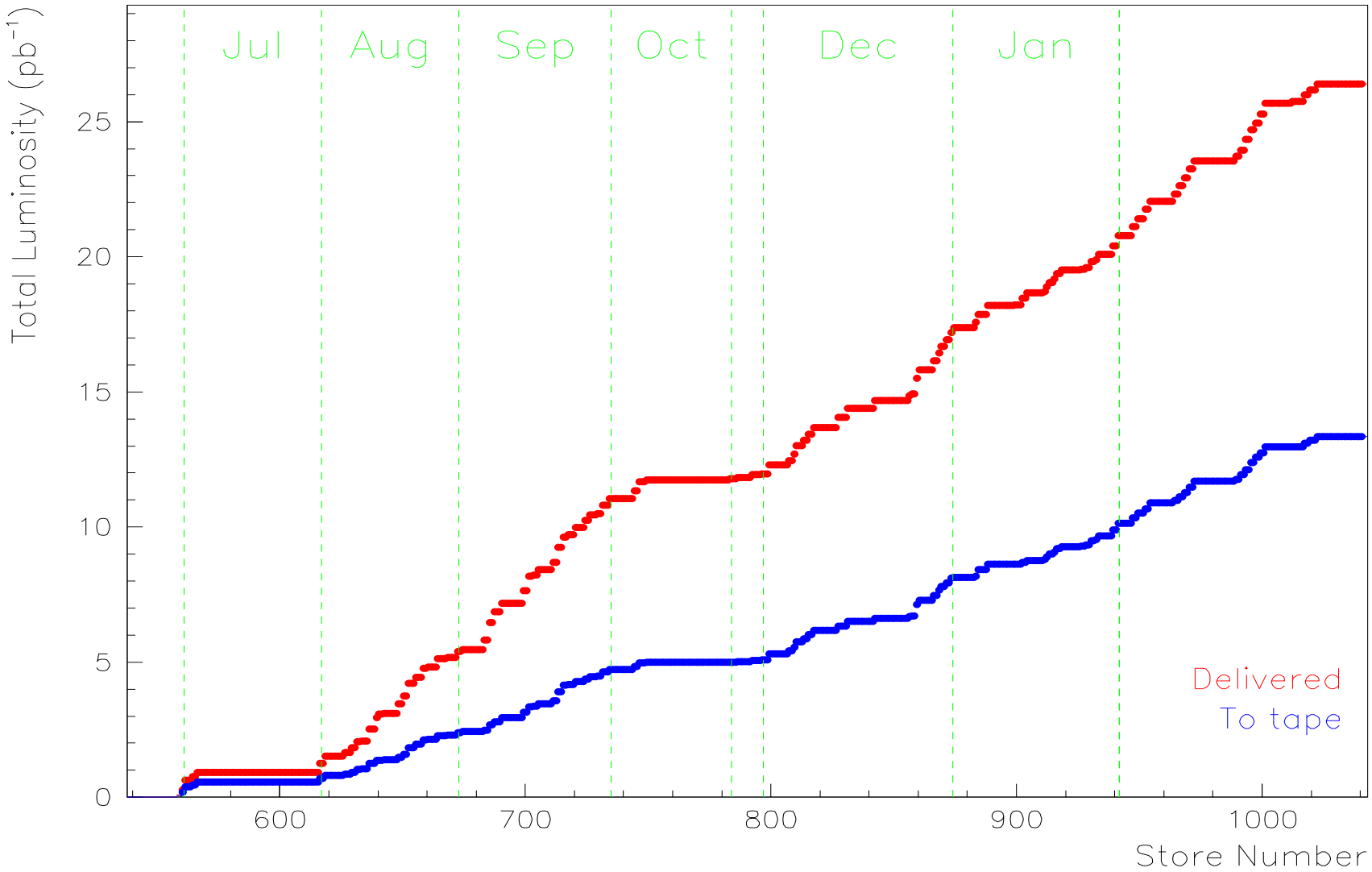

Downtime Accounting

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- Store 1013 (0% efficiency)
  - 2h XTRP failure
- Store 1018 (61% efficiency)
  - 20min starting up
  - 10min many timeouts; cleanup EVB
  - 50min SVT pulling CDF_ERROR (unannounced), confusing SVX+TDCs
  - 20min SVT crate crashes (fixed I.)
  - 30min Silicon trips
  - 45min "Had to restart run control, 'rejoin partition' didn't work..."?!?
  - 20min Minimum Bias run
  - 20min Silicon calibration
  - 10min prepare for end of store

~45% of downtime due to operational decisions, procedures
~55% of downtime due to hardware/software failures, operator errors

Downtime Accounting

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Feb 28, 2002

- Store 1020 (61% efficiency)
  - 45min starting up (problems ramping up Silicon)
  - 40min had to cleanup EVB. Then b0eb16 failed, reset manually
  - 10min SVT crate crashes (fixed II.)
  - 120min Track trigger studies
- Store 1023 (54% efficiency)
  - 45min starting up (SVX trip)
  - 180min data corruption (reformatter errors) from Silicon, plus operator error
  - 30min test spare CLIST
  - 40min Silicon calibration
  - 8min prepare for end of store

~45% operational decisions, procedures
~55% hardware/software failures, operator errors

Can expect ~80−85% efficiency if all goes well (due to careful operation of the detector and ongoing commissioning)
Typically 50−60% if something breaks