The Week in Review

Arnd Meyer
(Fermilab)
Mar 4, 2002

Store		Initial Lum	Duration	$L_{delivered}$/nb	L_{live}/nb	Eff
1020	Sun 2/24	6.7E30	14.0h	179.3	110.1	61.4%
1023	Tue 2/26	8.3E30	10.4h	220.7	119.5	54.1%
1036	Thu 2/28	12.3E30	13.5h	363.7	295.2	81.2%
1038	Fri 3/1	12.4E30	15.7h	379.5	304.3	80.2%
1040	Sat 3/2	9.7E30	2.2h	64.4	48.2	74.8%
1043	Sat 3/2	10.1E30	12.9h	272.0	234.1	86.1%
1045	Sun 3/3	11.0E30	13.1h	254.8	296.3	86.0%
				1734.4	1407.7	81.2%

- Some special runs Sunday/Monday during stores
  - Low luminosity minimum bias run
  - Two-track trigger studies
- Lost 3hrs of store 1023 due to data corruption from a part of the Silicon. Will be investigated in upcoming access

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- During Tueday/Wednesday beam studies
  - Commission new Level 2 Magic Bus backplane
  - Test spare Level 2 boards
  - Source endwall calorimeter
  - Test new trigger tables
  - Calibration software development
  - Level 3 maintenance and development - we have a harddisk/motherboard compatibility problem with part of the L3 farm, this requires weekly "clean-up" procedure
  - Trigger system development / integration (fast sync error recovery)
- Requested 4hr access for Thursday morning to repair a bad channel in Plug hadron calorimeter (drifting pedestals)
  - Swapped front-end electronics board $\rightarrow$ fixed
  - Also replaced a ShowerMax readout board
- We are in good shape since then

Plug Hadron Calorimeter

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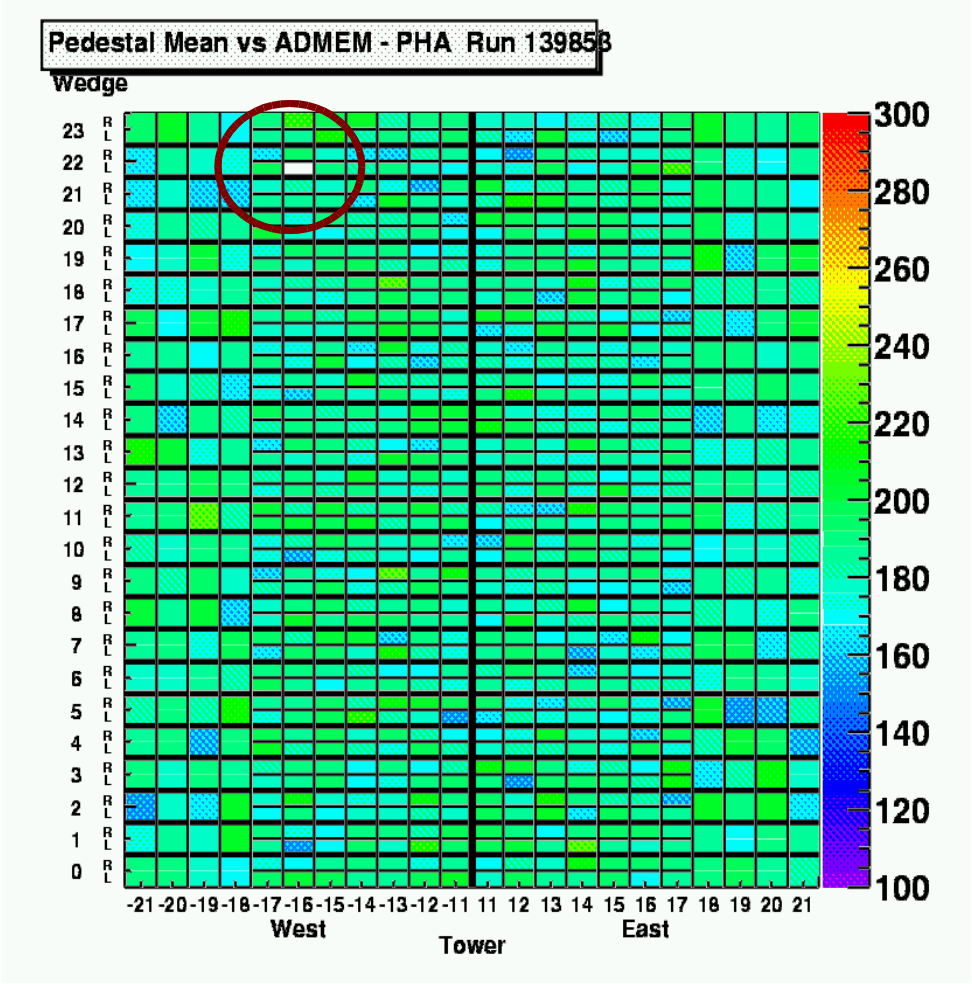

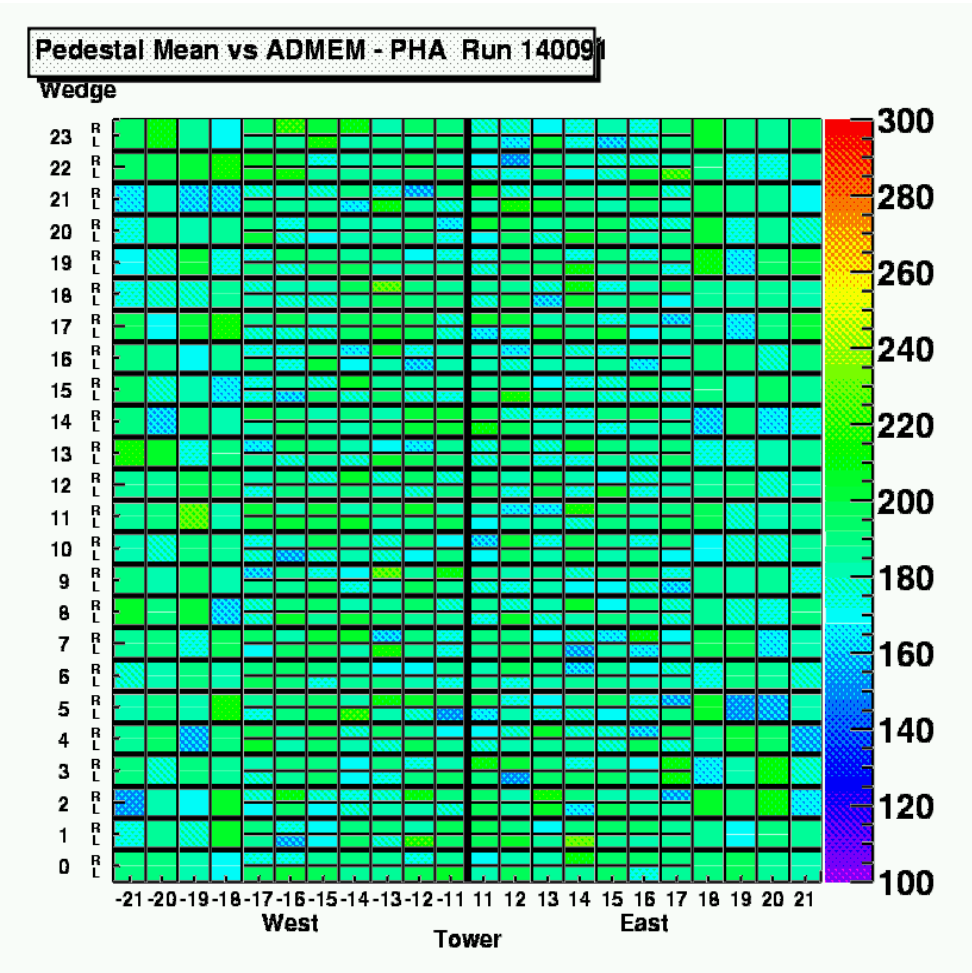

Plug Hadron Calorimeter

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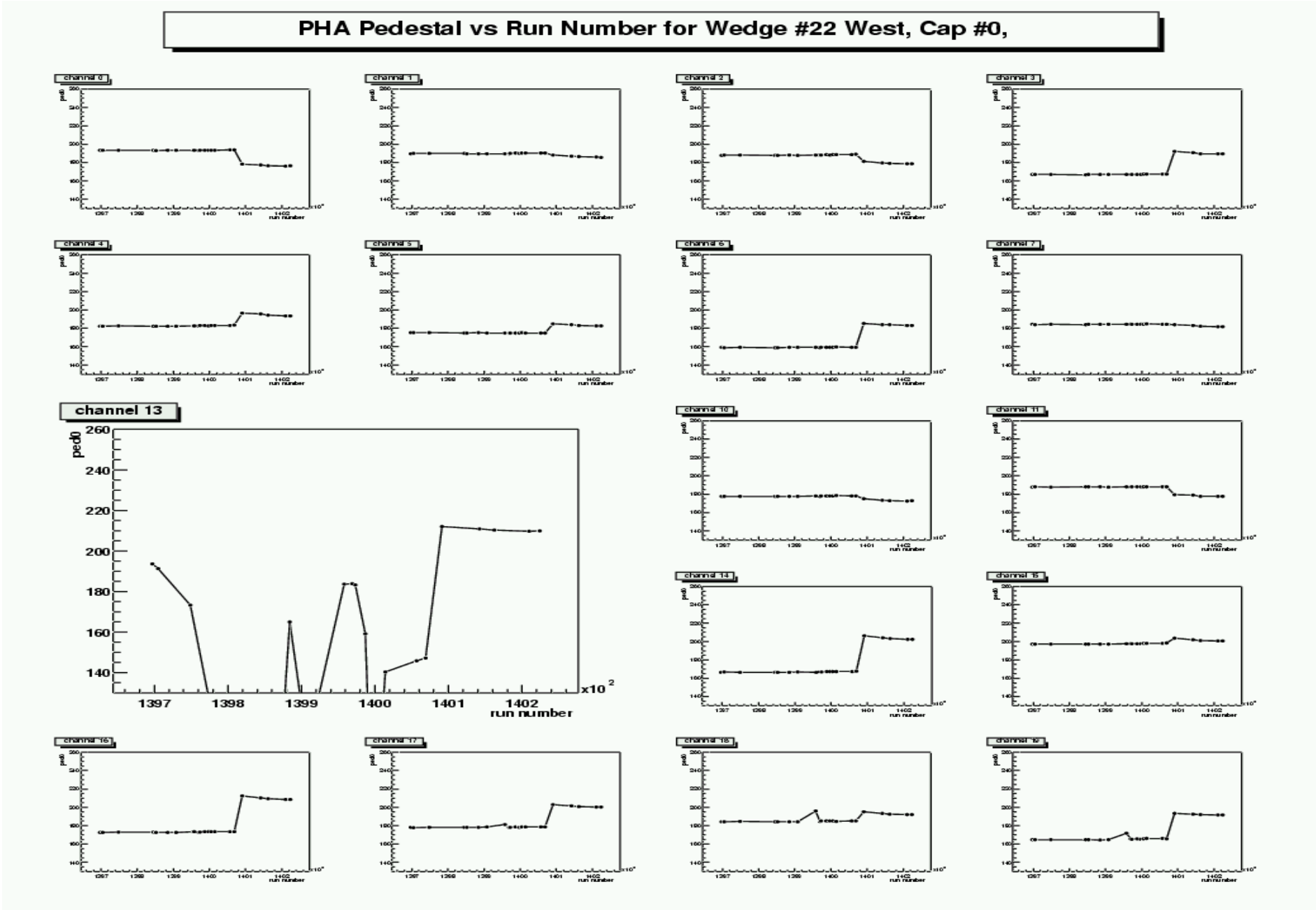

Data Taking Efficiency

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- For physics results by Summer, it is essential that we keep our efficiency at 80% and above
- Operational decisions and remaining commissioning work make it very hard to go beyond 90%
  - Careful operation at beginning and end of store
  - Trigger table testing
  - Silicon calibrations during stores
  - Commissioning L00
- Have to work hard to
  - Prevent fatal events - we recently lost 2hrs due to a trigger board failure. Most likely this could have been detected before the store went in
  - Identify and fix problems faster. In store 1023, we lost more than 3hrs because of data corruption from a part of the Silicon
- Before this week, there was only a single significant store with >80% efficiency. This week we added ~~four~~ five.
- Currently shaking down online data quality classification

Data Taking Efficiency

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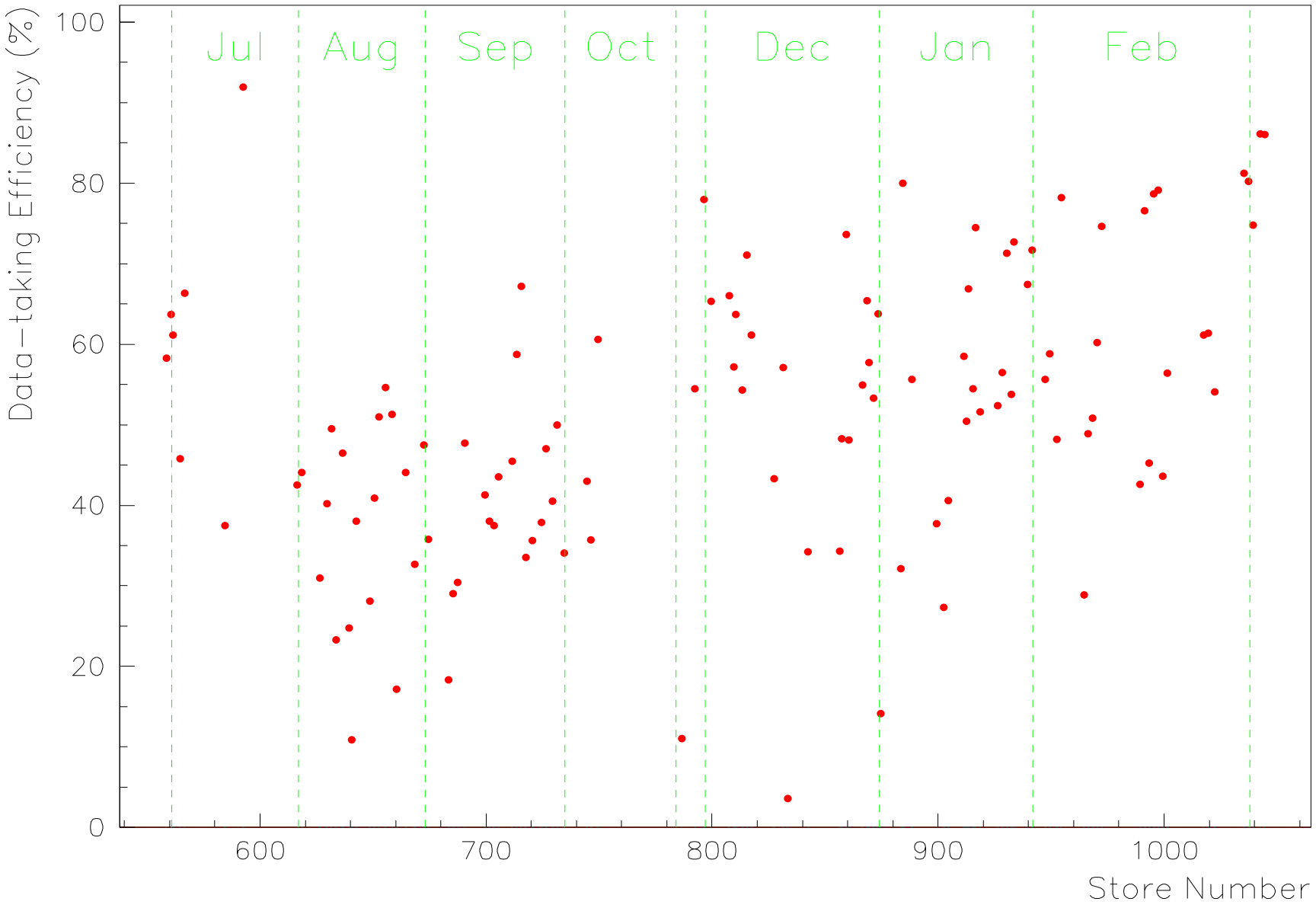

Data Taking Efficiency

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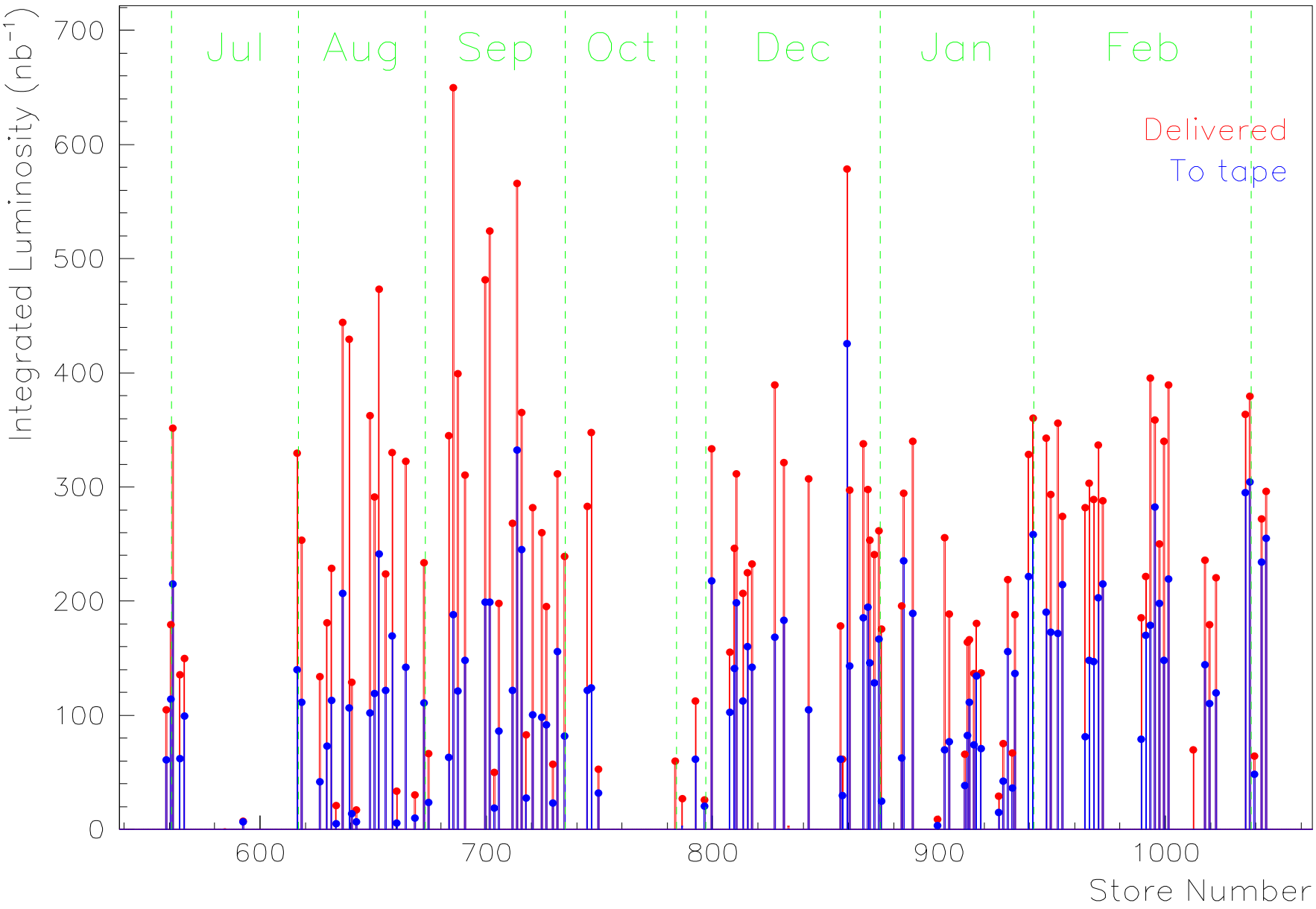

Sources of Downtime

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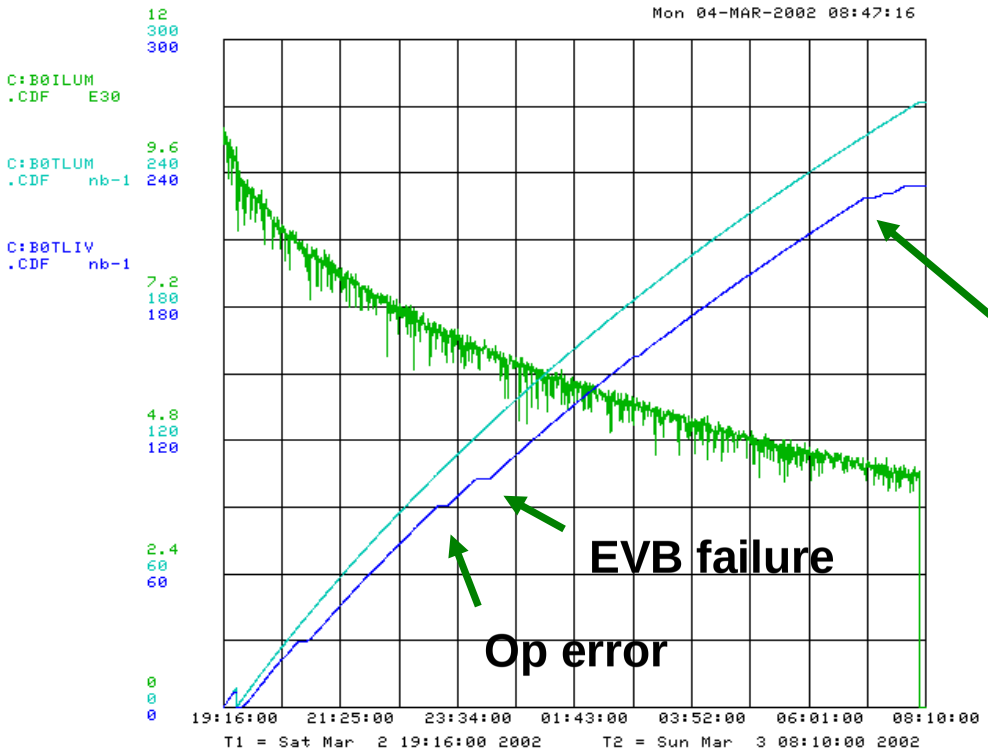
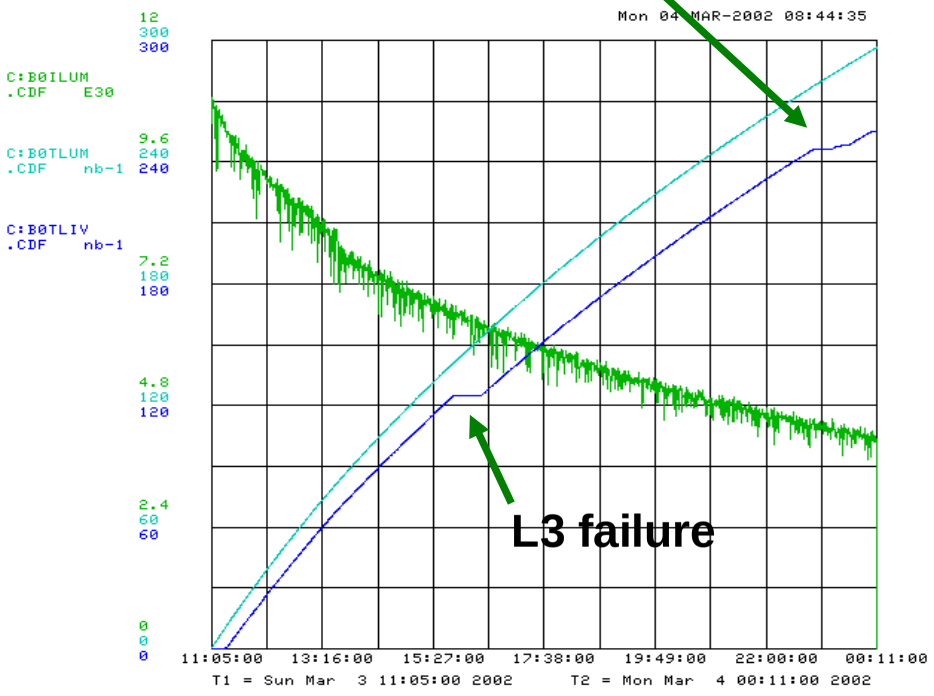


Silicon calibration



Sometimes slow start up (10min to 1h)

Plans

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- Keep running at high efficiency
- No major repairs yet for Thursday access
- Watch closely background/loss situation
  - We are currently able to operate the complete detector
  - Aging study underway for Muon chambers
  - Develop additional shielding to be added in Summer
- Continue commissioning of Layer 00, Miniplugs
- Upgrade Level 2 for higher luminosity (> N $10^{31}cm^{-2}s^{-1}$)
  - Add muon interface board
  - Commission new L2 Magic Bus

Layer 00

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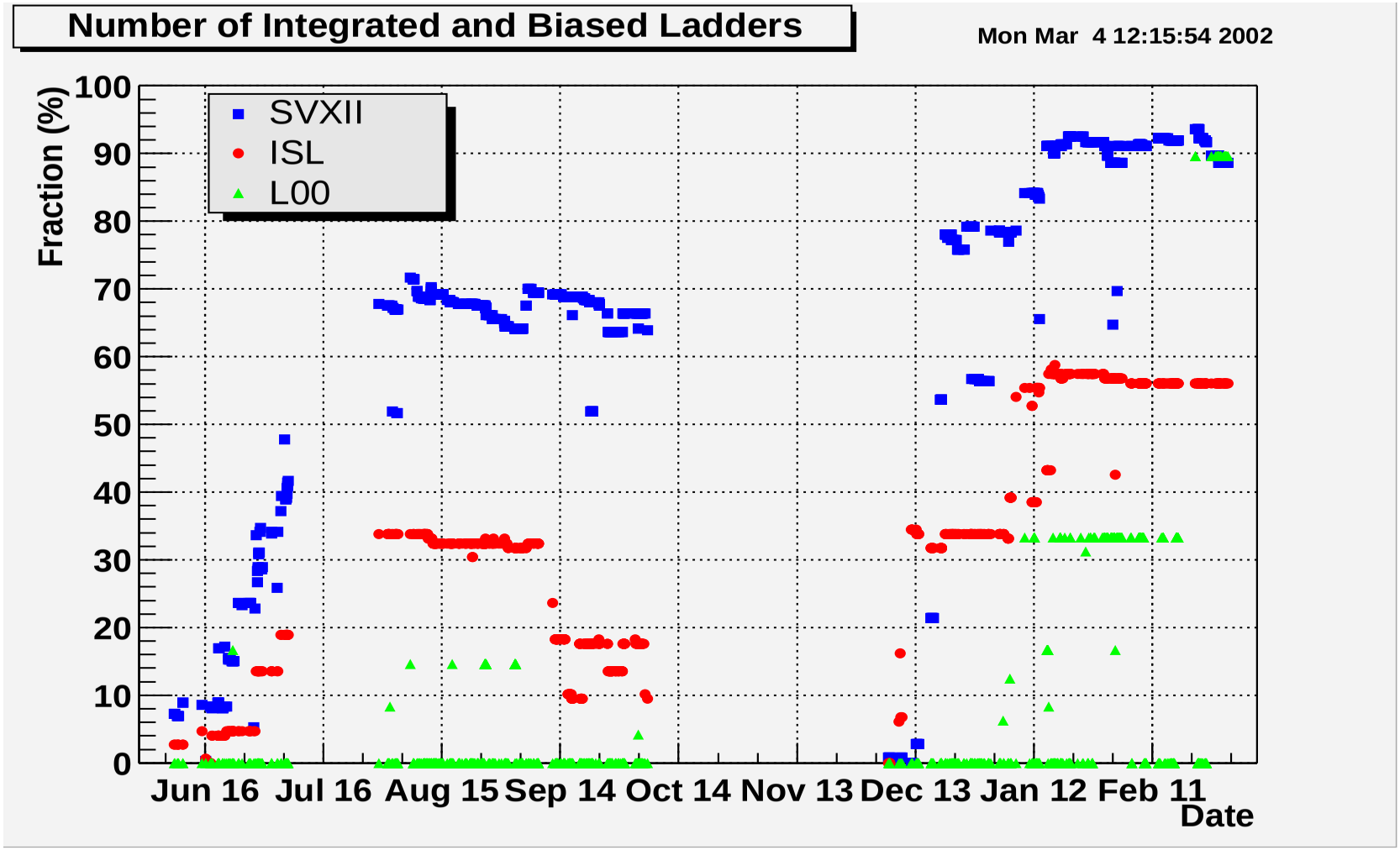
- L00 commissioning is proceeding rapidly
- 11/12 wedges now operational