

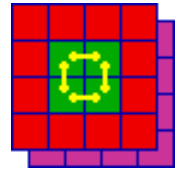
# L1Calo Joint Meeting

## First time in Cambridge

Thanks to Mark for organizing  
pleasant welcome/location/weather



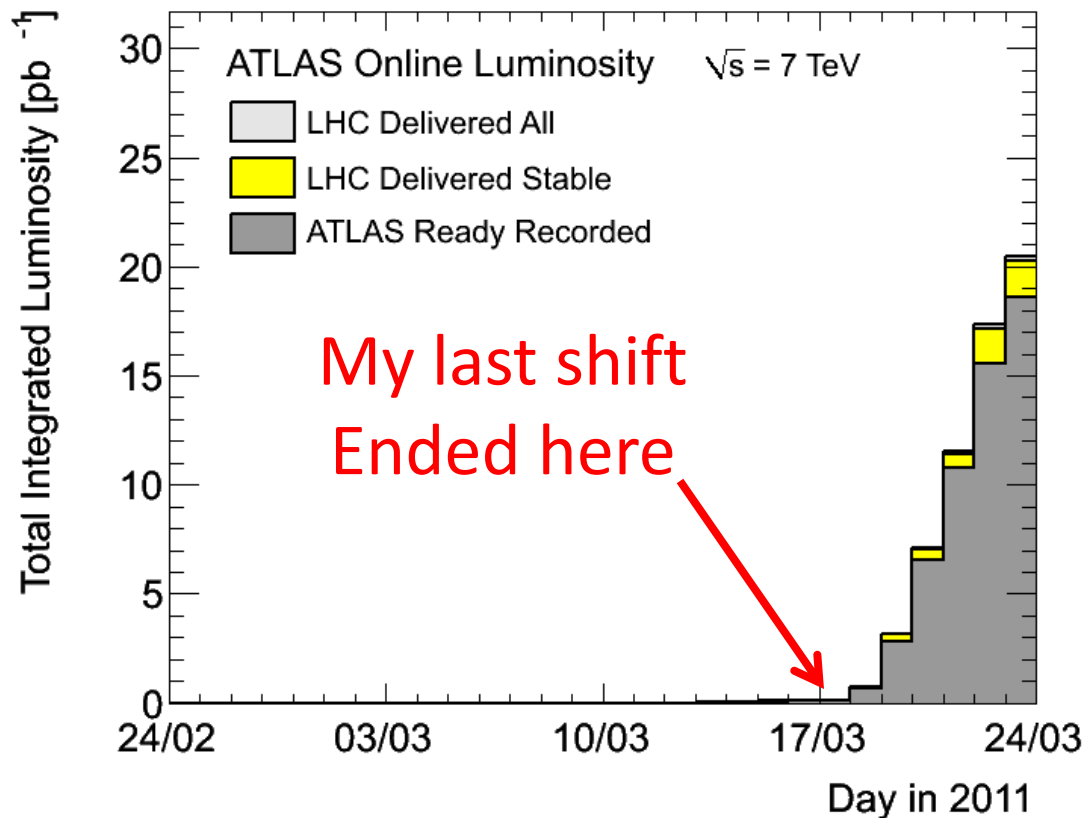
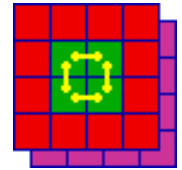
# A few random thoughts



- LHC/ATLAS startup performance
- Old problems
- New problems
- Upgrade
- Meeting format



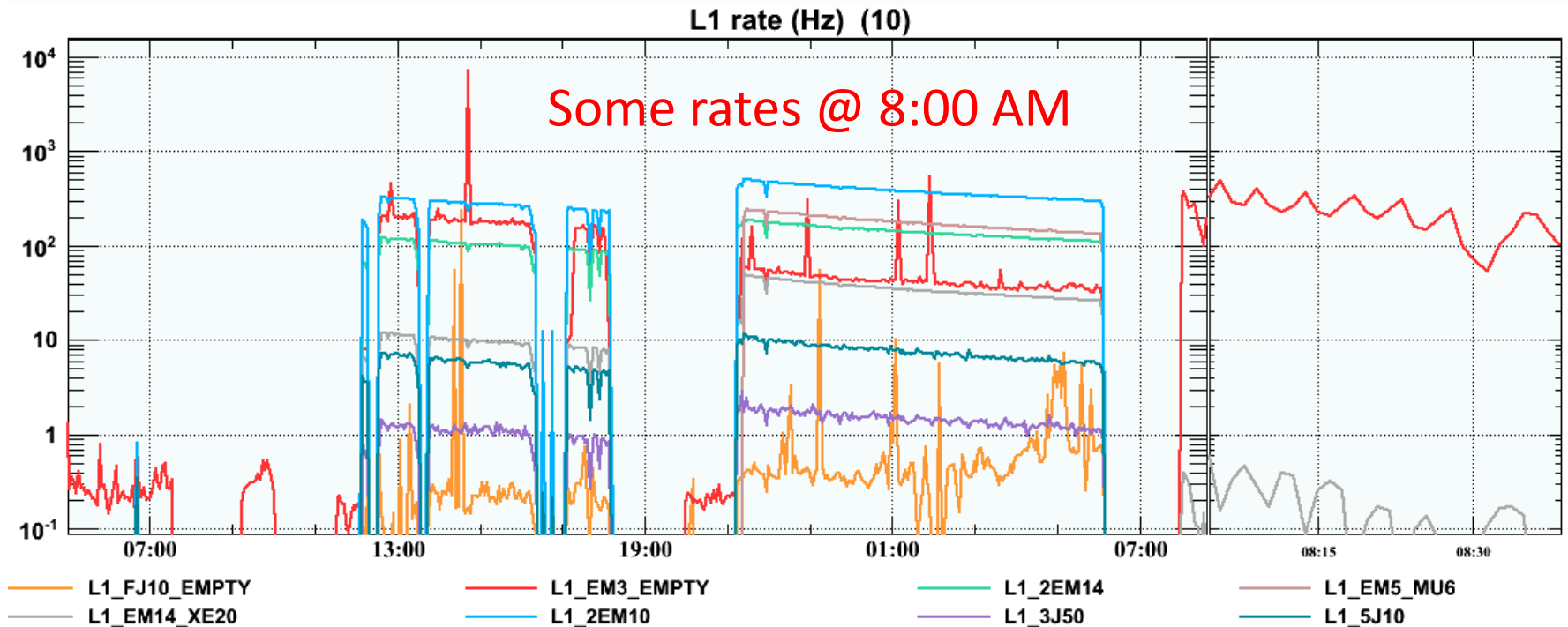
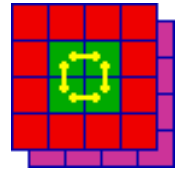
# 2011 start-up



- 20  $\text{pb}^{-1}$  delivered in (less than) one week
  - 14  $\text{pb}^{-1}$  with ATLAS magnets off! ☹️
- New record luminosity of  $2.5 \times 10^{32}$  achieved
  - With 194 colliding bunches
  - 75 ns spacing
- Large in and out-of-time pile-up



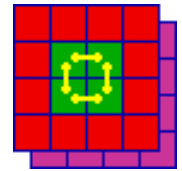
# Old favourites: Noise bursts



- EM3\_EMPTY (and other cosmic triggers) are/have always been unstable with beam
  - Was mostly stable before beam arrived this year
- This morning: 3 kHz input rate coming from one tower in Larg
- At least the EMPTY bunch-group is getting smaller...

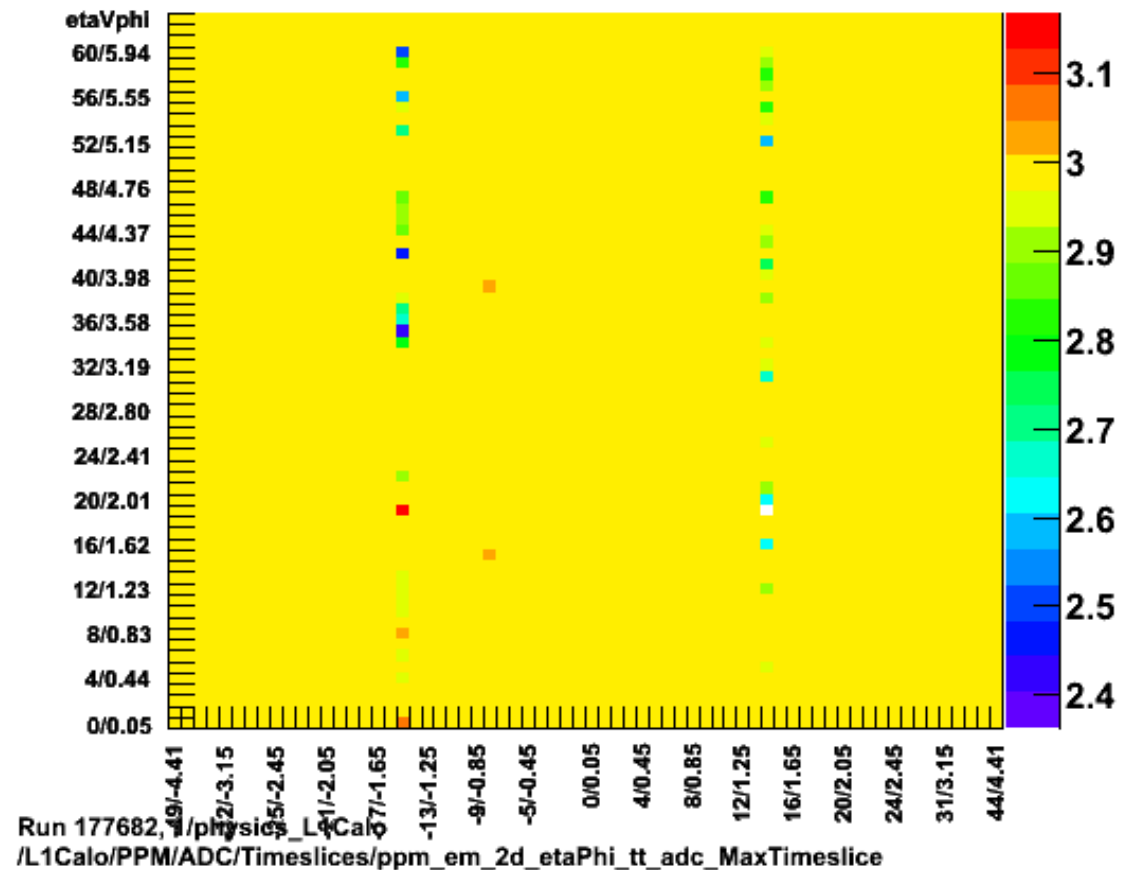


# Old favourites: Overlap



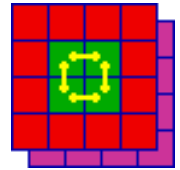
Average Maximum TimeSlice for em Signal (TS:1-15)

- The (famous) cables are now cut
- As expected, that's not the end of the story
- Dedicated runs over the w/e helped with debugging
- Hot news, bug in TBB delay setting found
- Damien is working on a new set of delays

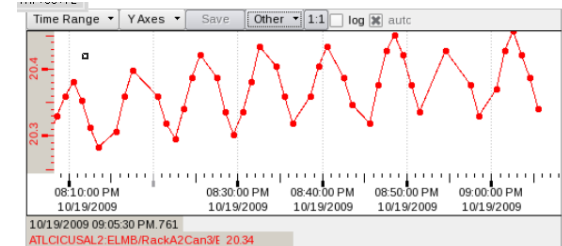
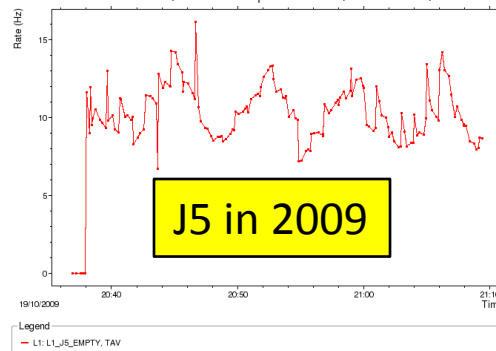
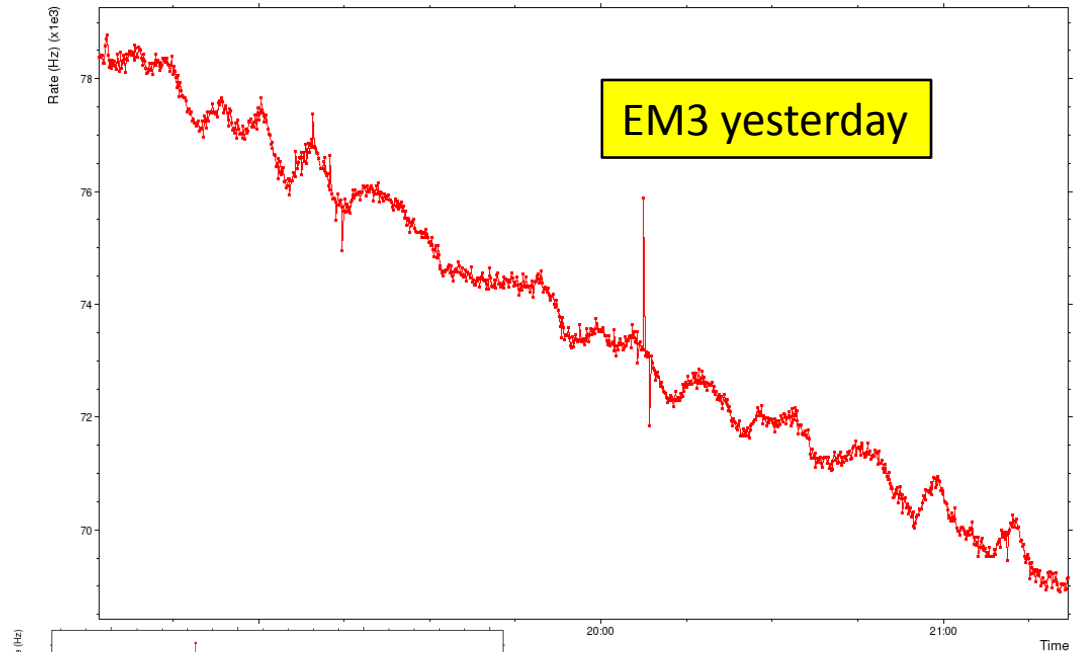




# Old favourites: Pedestal Oscillations

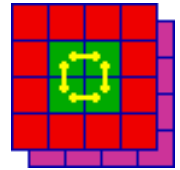


- Nice plot picked up by an alert shifter
  - Note that EM3 rate (70 kHz)
  - About 5% of interaction rate
- 6/7 minute oscillations seen before
- Driven by pedestal variation with cooling water temperature
- Was this a pedestal drift?
- Or is EM3 really on edge with current pile-up?

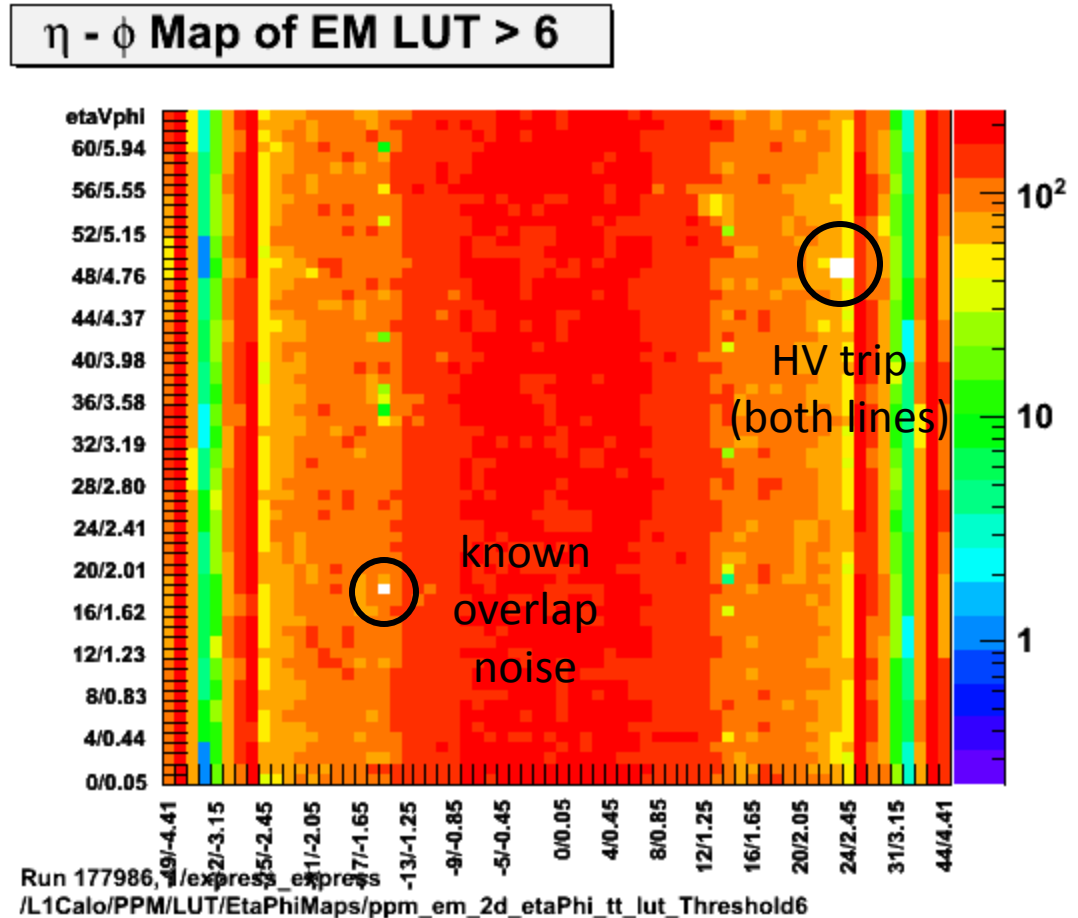




# New problems: HV trips

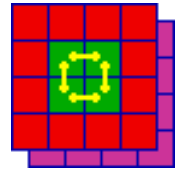


- EM energy distribution looks very even
- And almost complete
  - It **was** complete last week
- But HV gone entirely on 4 towers
  - First time this has happened in LArg





# Upgrade (and Operation)

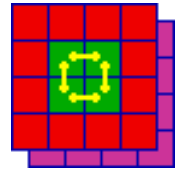


- Our first Upgrade has already happened
    - XS trigger implemented/tested/working
  - Will it open the floodgates:
    - XS improvements
    - Multiplicity ‘de-scoping’
      - Request for only 2 bits for some thresholds
  - Some improvements are possible with or without:
    - CMM++
    - Topological Processor
    - New MCMs
- But options improve as we build more of these
- Long term planning for Phase I and Phase II required
    - But let’s not forget L1Calo is needed right now too
    - High pile-up samples are arriving as we speak
      - They arrive quicker at Point 1 than in MC now





# Meeting Structure



- Wednesday
  - AM: Operation in 2011
  - PM: Upgrade
- Thursday
  - AM: Calibration, Analysis, Physics
  - PM: Humboldt and Upgrade Overflow
  - PM: Management Meeting
  - Group Meal (Emma Hall)
- Friday
  - Missing Energy Significance and Wrap-Up

## Note to speakers:

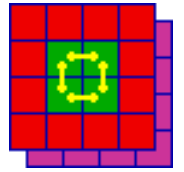
- Make sure work background is clear
- Try to avoid L1Calo jargon

All sessions on same  
EVO meeting ID



# Arrangements

---



- Introductions...
- Over to Mark...