

## **Calibration Summary**

Murrough Landon 29 June 2012

#### Recent activities

- Summary of calibration activities
- Latest LAr/Tile/L1Calo calibration workshop
- Curiosities
- To do list
- Worries



## 2012 Calibration Updates

#### • Timing

- •Updates from Valerie applied (Feb,Apr)
  - •Fiddling at the 1ns level (apart from corrections for former LAr hole)
- •Recent 1ns shift in endcap C (pp5 crate power supply)

#### •FIR filter and LUT slopes

- •No change to FIR filter coefficients since early 2011
- •LUT slopes updated in April & FCAL/EMEC noise cuts applied

#### Pulser->Physics corrections

- •Update from Yuriy applied in March
- •Further corrections in preparation by Heiko
- Energy calibration (receiver gains)
  - •All updated in March. Many small updates for LAr HV changes •Some now even quite soon afterwards!
  - •Still pending: update for drifted Tile towers?



# Maps of towers with gain updates since March Colour scale: number of days ago



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- •Regular workshop for L1Calo and LAr/Tile experts
  - •Discuss issues in L1Calo calibrations with calorimeter experts
  - •23 May: <a href="https://indico.cern.ch/conferenceDisplay.py?confId=187639">https://indico.cern.ch/conferenceDisplay.py?confId=187639</a>
- Main issues and actions
  - Calibration operation is running smoothly
  - Tile drawer misconfiguration after trips: largely solved
    Monitoring also improved (Marcos)
  - •More formal LAr policy on disabling/reenabling problem cells
- •Reacting to LAr HV changes
  - •Common desire to update gains more quickly after HV changes
  - •Work started on "gain predictor" script (Craig)
    - Some tests already made
    - •Help received from LAr on extracting HV factors from their DB



## **Collection of Curiosities**

Ins timing shift in crate pp5
Related to power supply change but whats the mechanism?
2% gain shift in Tile & EMEC
Whats changed since 2011?



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#### Calibration updates

New pulser->physics corrections from Heiko

#### •Update FIR Filters?

• Study by Andrew: trivial filter may be better for FCAL?

#### •Rapid HV corrections

- •Work already in progress...
- •NB need to put energy calibration results into Oracle

#### Normal gain updates

- Continual need to keep up to date with calo changes
  Eg job option, database tags, etc
- •More automation/documentation/tidying of scripts etc
- Keep looking at scope pulses

•Still have intention to improve calib results database

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## Worries

#### Receiver instabilities

- •Receivers go into bad state and cannot be configured
- •Workarounds being developed by Pittsburgh (Carlos, Jun)
- Underlying reason not understood
  - •Seems to happen more often in calibrations, but no idea why

#### • Tile drifting towers

- •Usually get 10-20 Tile towers drifting soon after gain update
- •Not really investigated (priority on misconfiguration issues)