Dimuon Offline Status

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For Dimuon Project

ALICE Offline Week, CERN,
20 - 24 October 2008

Outline

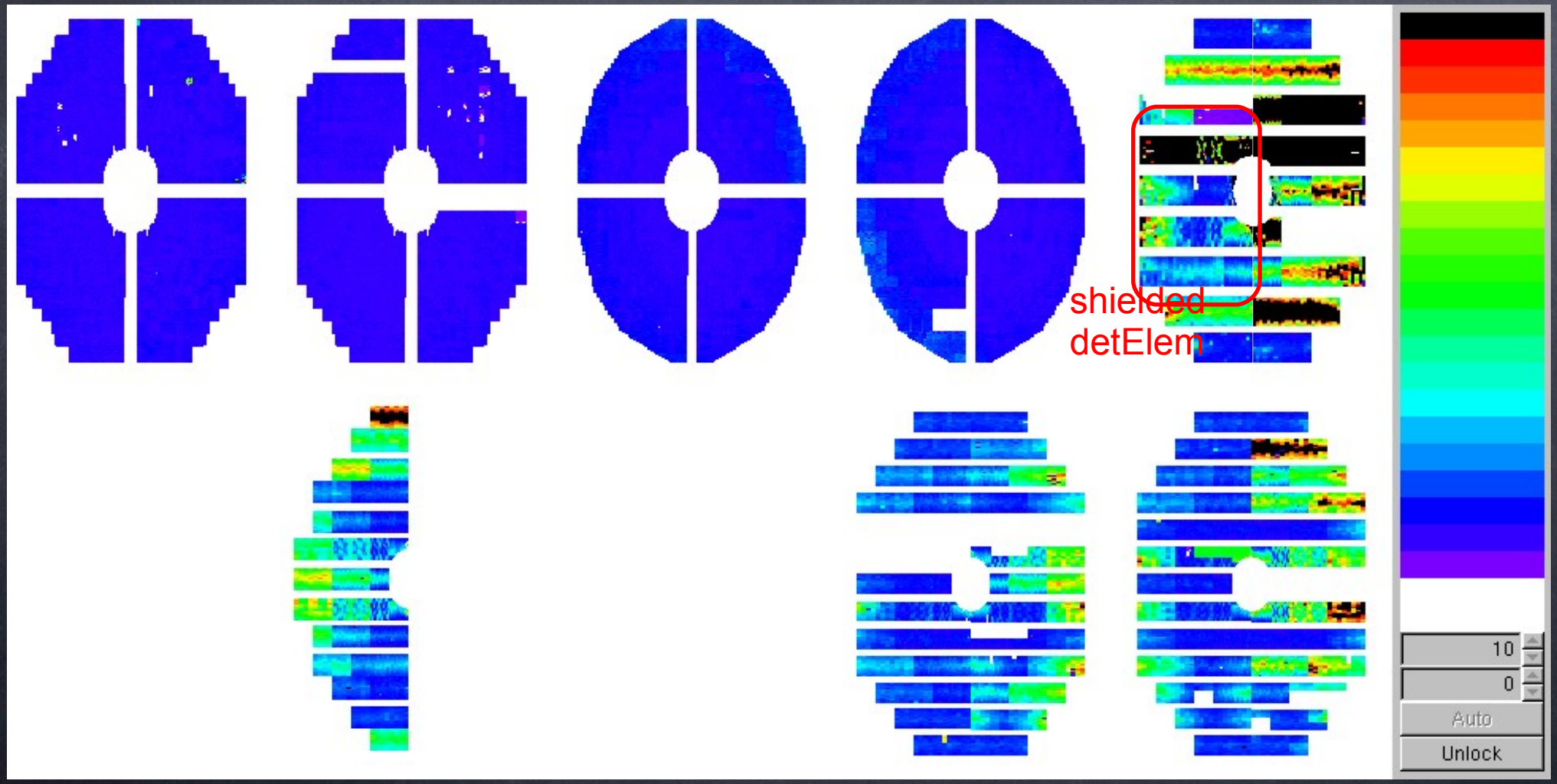
- News from Online
- News from Offline

Detector Status

- Detector configuration in Sept. 08
  - St. 1 & 2 + Ch 5 (St. 3) + Ch 7 Left + St 5 ➔ 5 LDC's
  - Ch 6, Ch 7 Right & Ch 8 missing (not fully commissioned)
  - Readout problems (instabilities) on Ch 5 Left and Ch 10 Right
- Work during the shutdown
  - Resume the commissioning of the missing chambers (6, 7R, 8)
  - Problem on 5L solved. Still working on 10R (hardware ?)
  - Start working on the noise (Ch 5)
    - Shielding of some detElem
    - Encouraging results
- Upcoming tests
  - Cosmic run with Muon Trigger (end of January 09 ?)

Pedestal #55759 -> 62818

2/9/08 -> 15/10/08
Noise



MUONTRKda

- The most common failure since December 2007 due to pedestal runs with no events used by the DA
- Works fine with the new decoding library
  - Parity errors are skipped for the faulty part of the detector
- Some bug correction and cleaning done
- No big changes are foreseen in future

Trigger

- From B. Vulpescu
- The MUON trigger code updated due to the changes in the mapping configuration files (detector configuration files for the electronics):
  - The global configuration file (also the object in the OCDB)
  - Corrected an iteration problem in order to have output=input when reading/writing detector configuration files (for the DA)
  - Added new methods for the global configuration:
    - Global input (also in the simulated raw data) and global masks
    - Masking mode (flag) of the global unit
  - Calculating the global response from the regional response with the new masking

MUONTRGda (1)

Tested offline with DATE 6.22

- New version exploiting the changes in the MUON code
- Performing a new task: mask only the global inputs
  - Before it was masking at the local boards level directly the individual strips
  - This new approach takes into account how the signal can be affected on the full electronics chain (cable noise, faulty connectors, etc.)
- Analyzing noisy/dead channels (mask calculation) in a single type of run with mixed events (PHYSICS and CALIBRATION) according to the event type extracted from the header
  - Before, an input flag was used for the DA executable to select the type of DA (pedestal, etc.)
- Done tests with raw data: "good" run, "noisy" run, "dead" run produced at CERN in standalone mode, each with 1000 mixed events

MUONTRGda (2)

- Tested with a real MySQL database for read/write of configuration files modified by the DA (part of the local DATE installation)
- This week (43) it will be tested at CERN (AliRoot v4-15-Release)
  - There are still some features to be understood before committing the code
- To be done:
  - Sending messages from the DA if the DA changes a mask, so that the operator could be informed without checking the status of the configuration files in the database

OCDB, Shuttle

- OCDB
  - No new object foreseen to be added in OCDB
- Input data for the Shuttle preprocessor from DCS, DAQ, HLT:
  - DCS - OK
  - DAQ – OK
  - HLT – not used
  - Still GMS which will be from DCS FXS is not yet tested
- Run types
  - No new run types to be handled by the preprocessor foreseen

Calibration

- The first reconstruction pass will be done with the geometry alignment and **no electronics calibration** that will be done for the second pass (after some studies)
- After the first data taking with real tracks we have to carefully apply the calibration parameters in different ways to determine which one is better, namely :
  - 1) Direct Calibration. Only using OCDB values of direct gain.
  - 2) Pulse calibration with/without capacitor correction
- Since we found which method is better, we will do the following passes with this method.

Geometry

- No overlaps from ideal, residual mis-aligned, full mis-aligned geometry reported from TgeoManager::CheckOverlaps(0.0001)
- The tool breaks when checking overlaps on mis-aligned geometry build via MC::Init(); it works ok if geometry is loaded from a file
  - The problem reported to Andrei, to be fixed in Root
- The status of survey will be reported by Javier Castillo on Wednesday

Reconstruction

- From P. Pillot
- In the AliMUONRecoParam class, we have implemented 3 cases:
  - LowFlux, HighFlux and Cosmic.
  - We do not run the reconstruction for the calibration runs.
- The AliMUONRecoParam object is now stored into the OCDB
  - New macros: MakeMUONSingleRecoParam.C and MakeMUONRecoParamArray.C.
  - For the moment we use SingleRecoParam: only 1 type of RecoParam is posted in the OCDB per run (or list of runs), because we will never mix different parametrisations within the same run.
    - For the moment, the OCDB contains the "LowFlux" parametrisation for every runs.
- The "goodness" criteria used to define the digit status wrt to HV and calibration data (pedestal, noise, gain, ...) have been moved to MUONRecoParam.