

RUN2 PREPARATION: DETECTOR STATUS

Offline Week, 19-21 November 2014

C. Zampolli

What is left...

- Many detectors have nothing to report wrt last Offline Week(s) concerning Run2
- A few slides about LuminousRegion, EMCAL/DCAL, MUON in the following

EMCAL/DCAL

Gustavo Conesa Balbastre



EMCal Offline: preparation for Run2

Gustavo

- DCal geometry
 - Implemented in master and release v5-05
 - Under final validation
 - MC production with Run2 geometry is requested [ALIROOT-5623](#)
 - Almost ready to be launched
 - Blocked due to some TPC OCDB files
- EMCal/DCal trigger:
 - TRU orientation in EMCal changed
 - Super-modules, rectangular, are covered by 3 TRU (trigger unit cards).
 - Before, the 3 TRU covered the same eta region and different phi, now they cover the same phi region and different eta:
 - Needed to have the same cable distance to avoid timing issues of Run1
 - This implies changing the mapping of the already existing EMCal and do it in a way it is compatible with Run1 data.
 - DCal trigger part needs to be included, more important the possible combination of DCal+PHOS for jet triggering.
 - This will imply quite an important effort/modifications
 - Not foreseen to be ready until next year
- QA: Analysis task to be updated to consider DCal,
 - Minimal changes needed.



EMCal/DCal calibration

Gustavo

- Calibration
 - Need to accumulate ~200M triggered events in EMCal and other ~150 M events in DCal
 - Trigger as low as possible, cluster $E > 1.5-2$ GeV, L0 or L1-Gamma trigger
 - Run in a separate partition to get as much statistic as possible ASAP
 - Run it with Magnetic field ON
 - To do: update the analysis task to consider DCal channels
- Alignment:
 - 4 super-modules installed on C-side, 4 more to be installed in A-side in November
 - When installed and survey provided, OCDB will be populated

LUMINOUS REGION

Davide Caffarri

What is needed...

Daide

- Luminous region feedback to be provided:
 - each ~1 minutes for the LHC and DQM monitoring
 - at the end of the run to be stored in the OCDB.
- Starting point:
 - ITS SA primary tracking now available in the HLT
 - recalculation of the primary vertex done together with the tracking
 - Use those vertices to extract the luminous region.
- Usage of the global tracker (ITS+TPC) under discussion. It might be a good cross check but it would bound the luminous region measurement to the TPC calibration.

Steps:

- Implementation of the primary vertex information storage (from ITS SA tracker) for the different “time interval” in an HLT component
- Implementation of the luminous region calculation for different “time interval” (single component?)
- Evaluation of the performance
- Test the chain in the HLT cluster
- Propagation of the information to the LHC and DQM involving HLT and DQM experts
- Implement the cross check using the ITS+TPC tracks?
- Compare the results and decide which determination is better?

Daide

Dec '14 – Jan '15

Feb '15

March '15 (if needed).

NB: TPC v drift calibration needed

MUON

Laurent Aphecetche

Run2 Muon Software Preparation

Laurent

- Current assumption : everything is working as in Run1, so nothing *critical* to be done
- Still, developments to be introduced sooner...
 - standalone dqm shifter agent (instead of current qa-framework-based one) : ~not started
 - streamlining alignment procedures : done
- ... or later
 - MCH DA occupancy in HLT : ongoing (*)
 - MTR trigger decision mock-up in HLT : started (*)
- ... or much later (O2-related, so Run3 strictly speaking, but will retrofit to Run2 if possible / if worthwhile)
 - revisited online reconstruction in HLT : ~barely started (*)
 - some work on MCH pre-clustering optimisation (x100 speedup) : proof of principle done
 - MCH clustering speedup : just starting

(*) part of the Muon Run3 Reconstruction Task Force, "officially" launched in Oct. 2014

<https://indico.cern.ch/event/342718/> : who's doing what. No time estimates yet at this point.

BACKUP
