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# Update of the MUON Offline Status

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For Dimuon Project

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# Outline

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- *The slides titles and titles numbering follow the items & sub-items in Franck's mail sent to detectors representatives*
- *The task in project planning (item 2) will be discussed at the end of the presentation*

# 3.A. Online Calibration (1/3)

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Any news/updates on the procedures?

- **Electronics calibration:**
  - No changes in the production of the calibration parameters (done online by the DAs)
  - The only update done so far was the split of the DA : Pedestal and Calibration.
  - Plan to implement (under way) an AliAnalysisTask in order to read the ESD (the fraction with pad info) and to produce an AliMUONClusterInfo object that will be used to check the validity of the calibration. This analysis task will be launched for each of different calibration methods.
  - New DA for calculation of “occupancy map”, MUONTRKOCcda, is in preparation; en effort to make it ready for the next release
    - In development, committed in SVN trunk last week

## 3.A. Online Calibration (2/3)

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- Is everything properly integrated in the Shuttle framework?
  - **GMS preprocessor - not 100% validated, but almost OK**
    - Need to port the GMS sub-processor from trunk to the release
      - Savannah bug #51766 (open a week ago)
    - The GMS file is published to the FXS. The Shuttle can read it, storing in the OCDB was failing because due to an old version and a central problem
  - **New sub-processor to be added to get the occupancy map per (physics) run**
    - In development
- Are any updates necessary in the Shuttle code running at P2?
  - **GMS: <https://savannah.cern.ch/bugs/?51766>**
  - **The update will be needed for the new OccupancyMap sub-processor**

# 3.A. Online Calibration (3/3)

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- For which run type would you need the GRP object (in order to be able to reconstruct the run)?
  - Besides the PHYSICS run, storing GRP can be useful also for the PEDESTAL and CALIBRATION runs
    - For long term evolution studies (here the idea is to use the run timestamps information of the GRP)

# 3.B. Alignment/Calibration offline procedures (1/4)

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- If you did not mention this during the review, do you foresee any offline procedure especially as far as alignment is concerned?
  - **Alignment: The approach stays as it was presented at the calibration strategy meeting.**
    - Production of ESD with  $B = 0$  by core team
    - Filtering of ESD to produce ESDMuon
    - Running the alignment program locally
    - No progress yet on testing whether running on grid or CAF (on a single cpu) directly over the full ESD is viable or not. It will be done before defining our final procedure.

# 3.B. Alignment/Calibration offline procedures (2/4)

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- Does your procedure comply with the Framework?
  - Alignment : The MUON filtering not comply with the Framework
  - Electronics calibration : The validation of the calibration can be done within the framework, namely reading the ESD and using the AliMUONClusterInfo as an input (but the tree output scales with the number of events...).
- In case of filtering the ESD friends
- What is the size of the fraction you would need to store (compared to the present size/ to the ESDs size; depending on the type of collision, energy...)?
  - Not yet evaluated

# 3.B. Alignment/Calibration offline procedures (3/4)

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- Would you need to store any other object?
  - Yes, `AliMUONClusterInfo`
- What is the foreseen size of the object you will need to store? (depending on the type of collision, energy...)
  - We don't plan to store (a priori) the `AliMUONClusterInfo` on the grid.
- Is the memory consumption of your procedure under control?
  - We believe, it is.
- Is the `AnalysisTask` to compute the alignment/calibration constants already defined?
  - The task is defined but not committed



# 3.B. Alignment/Calibration offline procedures (4/4)

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- Would you need manual intervention before writing the object in the OCDB? Do you foresee to have it automatic?
  - For the electronics calibration: the OCDB is filled online.
  - For the alignment: the procedure is manual.
- What are the specific requirements of your task, if any?
  - The task requires the ESDs.
  - For the alignment  $B = 0$  one and for the calibration the pad info ones.

# 3.C. Online/Offline Calibration Objects

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- What is the status of your calibration objects? Any new objects needed?
  - The recently added KillMap object is being redefined and will be replaced with a new OccupancyMap, which will be filled online, via a new DA and a new Shuttle sub-processor

# 4. HLT matters

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Are you planning to use HLT and if so for what purpose?

- Reconstruction? Calibration? QA output?
  - For event display and online monitoring and online reconstruction.
- As a basis for physics trigger studies?
  - Yes, to study physics performances of HLT triggers.
- For something else?
  - No

# 5. What are your detector's Special Plans for first data?

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- No special detector plans
- The aim is to get detector working and as it will be in the ALICE DAQ and in the CPT system from the very beginning, we hope to get a data sample good enough to proceed with the first physics publication

# 6. Important problems reported in Savannah:

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- Is your detector concerned by any important Savannah report?
  - Yes, QA not working (once more) for cosmic events.
- If yes, does this affect the quality of the physics results?
  - Not really, but we'd run blind...
- What are the current actions to solve these problems?
  - *We hope that the core team takes some action to solve it!!!*

# 7. Performance issues

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- Is your detector affecting the overall CPU and memory (resident and virtual) consumption in the simulation (including the expert QA mode)?
  - Not beyond normal
- Is your detector affecting the overall CPU and memory (resident and virtual) consumption in the reconstruction (including the expert QA mode)?
  - Not beyond normal

## 2. Tasks in planning tool (1/3)

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- The status of most tasks updated
- Closed:
  - Use of OCDB parameters in simulation
  - Use of OCDB parameters in reconstruction
  - Definition of the GRP parameters to be used in reconstruction
  - Propagation of MC labels to reconstructed objects
- Progress in:
  - Finalization of GMS DA
  - Finalization of the alignment procedures running on the ESD definition of the strategy to be followed

## 2. Tasks in planning tool (2/3)

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- Progress in (cont.)
  - Verification of Reco Params for cosmic, high flux, low flux and calibration:
    - The high flux parameters will not be used before Pb-Pb collision, so we leave their definition for later time.
    - The Low flux parameters are tuned for the standard p-p simulations
    - The Cosmic parameters are tuned to the last cosmic runs.
    - We do not have parameters for calibration.
- Not updated
  - HV+Current OCDB object to be implemented for the MTR
  - Implementation of the code for trigger parameters for the simulation of the trigger input to the CTP



## 2. Tasks in planning tool (3/3)

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- No progress yet
  - Implementation of the new DPs
  - QA: Implementation of run type
    - Task needs to be clarified
  - QA: Implementation of reference data
  - Handling of the time information from hits during digitization - assigned
  - Accounting for detector response in the time information stored in digits - assigned
  - Verification of the event merging procedures – not yet assigned
  - Correct treatment of the detector signal in the sdigits for event merging – not yet assigned