

TOF: preparation for Run2

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TOF plan for Run2

- Profit of Run1 experience
 - 1) to improve track-TOF misassociation rejection (feedback from several analysis groups);
 - 2) to better tune TOF description in simulation (in particular materials thresholds in the galice.cuts);
 - 3) to reduce the number of non automatic procedures still running at calibration level.

TOF and STEER code update

- We investigated the possibility to improve the TOF performance using information of multiple hits.
- We revisited our framework to get better results.
- Update in TOF information available in ESDs (announced on [13 Jan 2014 Offline weekly meeting](#) by F.Noferini)
 - Code committed, optimized, coverity solved (thanks to R.Shahoyan) and bug found at analysis/calibration level fixed since Feb 2014
 - Backward compatibility guaranteed
 - Transparency for the analysis users
 - The amount of TOF information available at the analysis level increased without enhance the AliESDs.root file size
- This will allow TOF experts to study how to improve TOF performance for Run2, in reconstruction as well as in MC description

Reconstruction request with the updated TOF data structure ([JIRA: ALIROOT-5347](#))

- Reporter: P. Antonioli
- This will allow
 - to optimize clustering algorithm on real data and assess new performance and develop data structure for AOD (M. Colocci service task);
 - to check TOF cluster distribution against results with MC, obtained in turn with different sets of galice.cuts thresholds since a better tuning of these parameters for TOF materials is needed. This tuning needs to go together with others (efficiencies at edges of the MRPC pads, for example) to ensure data are correctly described by MC.

Reconstruction request with the updated TOF data structure ([JIRA: ALIROOT-5347](#)) – cont.

- Run to reconstruct:
 - p-p 2011: 146824 → will be used to further optimize the clustering algorithm (cleaner environment);
 - Pb-Pb 2010: 137161 → will be used to further optimize matching strategies to curb the level of mismatch (relevant also for upgrade studies).
- Status:
 - QA for 146824:
 - **OK** (details in the [F.Bellini TOF-QA today report](#))
 - QA for 137161:
 - **QA files empty** 😞 (details in the [F.Bellini TOF-QA today report](#));
 - to be checked QA train configuration or event selection.
- Deadline for TOF clustering algorithm implementation:
 - first version: October 2014;
 - stable running version: end of this year (2014).

Calibration procedure: more and more automatic

- Plan to:
 - automatize TOFill estimate using BPTX measurements;
 - investigate the origin of the variations in the TOF calibration parameters, i.e. time slewing.