# Miscellanea

ALICE Offline Week, 02 Nov 2016

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# Outline

- AliPIDResponse
- Centrality Calibration
- Twiki for analysis
- Event selection class
- Latest reconstruction passes: summary
- Statistics
- Event plane calibration files

# AliPIDResponse

Y. Pachmayer
P. Antonioli
M. van Leeuwen

- AliPIDResponse and AliAnalysisTaskPIDqa classes in AliRoot
- They use the centrality framework, which used to be steered by AliCentrality (in AliRoot), and now is in AliMultSelection (in AliPhysics)
  - AliRoot cannot depend in compilation on AliPhysics
  - AliMultSelection varies often, sometimes requiring a daily tag for analysis → cannot go to AliRoot
  - AliPIDResponse is used by several classes in AliRoot
    - Some are strictly PID related (e.g. AliTRDPIDResponse.cxx))
    - Some are not strictly PID related (e.g. AliInputEventHandler.h)

    → Difficult to judge if the whole PID-related classes can be moved to AliPhysics
    - Note that the PID framework uses the OADB, which is in AliPhysics

# Centrality Calibration

A. Toia
D. Chinellato
A. Morsch

- Centrality task should be run for AOD analyses only for runs that were calibrated after the moment of the AOD creation (→ no centrality info in AODs):
  - Newly calibrated runs: 244947 245061 245096 245099 245100 245101 245103 **245148** 246469 **246543 246553 246567 246568 246575 246583** 246639 **246648 246671** (in **bold**: runs w/o ZDC in data taking)
    - nothing changed for those already calibrated in June (from muon_calo pass)
  - Runs with issues in the ZDC in data taking did get calibrated
- Centrality experts suggest to:
  - Run the multiplicity task in the analysis when using fine centrality bins
  - Use SetUseDefaultCalib(kTRUE) in order to have a default centrality calibration if no calibration was done (it will be good within <1%)
  - Always check the centrality distribution
    - Pay attention especially to the plots with the tracklet density vs. V0 percentile: data and MC should be consistent
- Memory footprint reduced recently to use ~25 MB (from 450)
  - Further improvement from the OADB framework possible (and true for every OADB object)
    - Relying on accessing and keeping in memory only the object valid for the current run

# Latest reconstruction passes

| Period | Pass | Aliroot version | Characteristics | | | |
|---|---|---|---|---|---|---|
| | | | TPC cluster error assigment (1) and TPC SP maps | BB in tracking (2) | PID in TPCin step (3) | EMCAL online trigger data stream |
| ***Pb-Pb*** | | | | | | |
| LHC15o lowIR | pass2 | v5-08-09a | Old | Wrong, 5-sigma | All pions | OK |
| | pass3_lowIR_pidfix | v5-08-13l | New | Correct, 15-sigma | All pions | OK |
| | pass4_lowIR_pidfix_cookdedx | v5-08-13q-cookdedx | New | Correct, 15-sigma | Fixed | OK |
| LHC15o highIR | | | | | | |
| group1 | pass1 | v5-08-13d | New | Wrong, 5-sigma | All pions | Needs offline fix (4) |
| group2 | pass1 | v5-08-13e | New | Wrong, 5-sigma | All pions | OK |
| group3 | pass1 | v5-08-13h | New | Wrong, 5-sigma | All pions | OK |
| group4 | pass1_pidfix | v5-08-13l | New | Correct, 15-sigma | All pions | OK |
| ***pp 5 TeV*** | | | | | | |
| LHC15n | pass2 | v5-08-13d | New | Wrong, 5-sigma | All pions | |
| ***pp 13 TeV*** | | | | | | |
| LHC16l | pass1 | v5-08-13m-cookdedx | New | Correct, 15-sigma | Fixed | |

# Guidelines for analyses using Run2 data

- https://twiki.cern.ch/twiki/bin/view/ALICE/AliDPGRun2DataSets

TWiki > ALICE Web > AliceDPG > AliDPGRunLists > AliDPGRun2DataSets (2016-10-26, ChiaraZampolli)

Aliroot versions and properties used in the reconstruction of run2 samples

| Period | Pass | Aliroot version | Characteristics | | | | |
|---|---|---|---|---|---|---|---|
| | | | TPC cluster error assigment | TPC SP maps | BB in tracking (1) | PID in TPCin step (2) | EMCAL online trigger data stream |
| *Pb-Pb* | | | | | | | |
| LHC15o lowB | pass2 | v5-08-00a | Old | Old | Wrong, 5-sigma | All pions | OK |

...

How to merge together different 15o reconstruction passes (see here for the run lists)

15o HighIR pass1 and pass1_pidfix

**Suggested approach** to verify the compatibility between pass1 and pass1_pidfix

1. Check **LHC15o data** from **pass1** and **pass1_pidfix** *separately*
   - Expectation: the results from pass1 and pass1_pidfix should be compatible, differences mainly for:
     - Protons at low pt (pt<0.4 GeV/c)
     - Kaons at low pt (pt<0.3 GeV/c)
     - Nuclei (deuteron ...)
   - Extra:
     - For analyses using invariant mass distributions: compare also line shape (position and width) of the signal peaks keping in mind that the background shape could be distorted due to the wrong mass hypothesis in the tracking
     - For analysis of signals from rare decays not visible in the two subsamples separately, the suggestion is to rely on the decay kinematics from MC and on the checks on inclusive pions, kaons, protons and nuclei (depending on the decay products of the channel being studied)
     - *For systematic checks*: the mass hypothesis used in the tracking can be retrieved using **!AliESDtrack::GetPIDForTracking()**
       - Return values (Int_t) of this function: Electron = 0, Muon = 1, Pion = 2, Kaon = 3, Proton = 4, Deuteron = 5, Triton = 6, He3 = 7, Alpha = 8,
2. Repeat the same checks on **Monte Carlo productions**
   - Simulations reproduce the conditions of the data reconstruction for the BB parameterization and the n-sgma cut used in the tracking
     - Hence: wrong BB and 5-sigma cut for 15n and runs of the groups 1, 2, 3 of LHC15o --- good BB and 15-sigma cut for runs of 4th group of LHC15o and for LHC16l
   - Same matching efficiencies expected for the first three groups of runs (w/o pidfix) and the 4th (with pidfix), a part for the cases of low pt protons, kaons and nuclei listed above
   - *Suggested systematic check*: verify that the fraction of particles tracked with the wrong mass hypothesis (using GetPIDForTracking) matches between data and MC

# Event selection class

M. Puccio

- Develop a **class for event selection** which can be used in all analyses
  - Simple to apply standard selections + flexible for user-specific cuts
- Candidate: PWGLF/NUCLEX/Nuclei/NucleiPbPb/AliNuclexEventCuts
  - Discussed on Jira: ALPHY-69
  - Next steps:
    - move to OADB
    - advertise to PWGs
    - Maintain and keep up2date

```
class AliNuclexEventCuts : public TList {
  public:
    AliNuclexEventCuts(bool savePlots = false);

    bool   AcceptEvent (AliVEvent *ev);
    void   AddQAplotsToList(TList *qaList = 0x0);
    void   SetManualMode (bool man = true) { fManualMode = man; }
    void   SetupLHC15o();
    void   SetupRun2pp();
```

```
AliAnalysisUtils fUtils;                    ///< Analysis utils for the pileup rejection

bool          fRequireTrackVertex;          ///< if true all the events with only the SPD vertex are rejected
float         fMinVtz;                      ///< Min z position for the primary vertex
float         fMaxVtz;                      ///< Max z position for the primary vertex
float         fMaxDeltaSpdTrackAbsolute;    ///<
float         fMaxDeltaSpdTrackNsigmaSPD;   ///<
float         fMaxDeltaSpdTrackNsigmaTrack; ///<
float         fMaxResolutionSPDvertex;      ///<

bool          fRejectDAQincomplete;         ///< Reject events that have incomplete information

int           fRequiredSolenoidPolarity;    ///< 0: does not require any particular polarity. Positive numbers ->

int           fSPDpileupMinContributors;    ///< Reject all the events with SPD pile-up vertices with more than fR
```

# Statistics of good runs (CentralBarrel)

LHC15o, PbPb, 5 TeV

| pass | N. Run (tot) | N. Ev (tot) (M) | N. Ev with TPC (tot) (M) | N. kINT7 (tot) (M) | Anchored Gen Purp MC |
|---|---|---|---|---|---|
| **Golden runs (→ requiring full TPC acceptance)** | | | | | |
| pass2_lowIR | 12 (12) | 9 (9) | 8 (8) | 5 (5) | n/a |
| pass3_lowIR_pidfix | 11 (12) | 9 (9) | 8 (8) | 5 (5) | LHC16g1(a, b, c) |
| pass4_lowIR_pidfix_cookdedx | 11 (12) | 9 (9) | 8 (8) | 5 (5) | LHC16j7(a, b) |
| pass1 | 78 (108) | 299 (406) | 111 (154) | 71 (100) | LHC16g1(a, b, c) |
| pass1_pidfix | 6 (42) | 15 (140) | 6 (55) | 5 (44) | LHC16g1(a, b, c) |
| **Golden runs (→ requiring full TPC acceptance), no ZDC** | | | | | |
| lowIR (all passes) | 1 (1) | 0.1 (0.1) | 0.1 (0.1) | 0.1 (0.1) | LHC16g1(a, b, c), LHC16j7(a,b) |
| pass1 | 4 (8) | 17 (27) | 6 (9) | 4 (7) | LHC16g1(a, b, c) |
| pass1_pidfix | 1 (1) | 0.2 (0.2) | 0.2 (0.2) | 0.2 (0.2) | LHC16g1(a, b, c) |
| **Golden runs (→ requiring full TPC acceptance), fix ZDC** | | | | | |
| pass1 | 3 (9) | 13 (34) | 6 (14) | 5 (12) | LHC16g1(a, b, c) |

# Statistics of good runs (CentralBarrel)

LHC15o, PbPb, 5 TeV

| pass | N. Run (tot) | N. Ev (tot) (M) | N. Ev with TPC (tot) (M) | N. kINT7 (tot) (M) | Anchored Gen Purp MC |
|---|---|---|---|---|---|
| **Not full TPC acceptance** | | | | | |
| pass1 | 6 (108) | 14 (406) | 6 (154) | 5 (100) | LHC16g1(a, b, c) |
| pass1_pidfix | 33 (42) | 120 (140) | 46 (55) | 38 (44) | LHC16g1(a, b, c) |
| **Not Full TPC acceptance, no ZDC** | | | | | |
| **Not Full TPC acceptance, fix ZDC** | | | | | |
| pass1 | 6 (9) | 21 | 8 | 6 | LHC16g1(a, b, c) |

N.B.:

1. The runs with “Not Full TPC Acceptance” are excluded by definition in the “Golden runs lists”
2. The “Golden run lists” are defined asking for full ITS, V0, ZDC, TPC
3. Only runs with full ITS, TPC, TRD in data taking are considered (in “tot” numbers)

# Statistics of good runs (CentralBarrel)

| pass | N. Run (tot) | N. Ev (tot) (M) | N. Ev with TPC (tot) (M) | N. kINT7 (tot) (M) | Anchored Gen Purp MC |
|---|---|---|---|---|---|
| **Golden runs (→ requiring full TPC acceptance)** | | | | | |
| pass2 | 27 (27) | 187 (187) | 138 (138) | 13 (13) | n/a |

LHC15n, pp, 5 TeV

LHC16l run lists being prepared

# Event plane calibration

V. Gonzales
C. Loizides
J. Onderwaater

- Calibrations **available for LHC15o pass1**:
  - 10 event plane estimators (TPC, SPD, T0A, T0C, FMDA, FMDC, ZDCA, ZDCC, V0A and V0C) and harmonics 1, 2, 3 and 4
  - Files stored on a per run basis in /alice/cern.ch/user/v/victor/TESTS/LHC15oHIR
  - Size ~ 4.5 MB per run -> total size for LHC15o pass1 ~ ***400 MB***
- For HF and DQ, 3 additional estimators being worked out:
  - V0 "full" (better resolution than V0A and V0C) and TPC split in 2 halves
  - About ***30% increase*** of calibration file size
- Runs of **pass1_pidfix still to be calibrated** -> expected size ~***200MB***

- Where do we store these large calibration files?
  - Possibilities: **MORE TOMORROW AT 15:15**
    - Commit to AliPhysics waiting for new repo in February → practical for the user when doing analysis, increase the size of the repository
    - Keep the files on the Grid → works on the grid, needs connection when running locally
    - Use CVMFS → works on the grid, not locally if you don't have CVMFS

# Monte Carlo for Quark Matter

R. Preghenella
C. Ristea

| Period | OCDB | Requestor | Priority | | | Production | M events | JIRA | AliRoot | AliDPG | OCDB | Custom settings | Status | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LHC15f | | HMTF | | EPOSLHC | | LHC16d3 | 150 | ALIROOT-6626 | v5-08-09-02-cookdedx | v5-08-XX-10 | self | | Final QA | |
| LHC15n | ClusterParam | DPG | | PYTHIA6 | minimum bias | LHC16h8a | 70 | ALIROOT-6827 | | | | | Waiting OCDB | |
| | | | | PYTHIA8 | minimum bias | LHC16h8b | 70 | | | | | | Waiting OCDB | |
| | | HF | | PYTHIA6 | D2H | LHC16i5a | 3 | ALIROOT-6861 | | | | | Waiting OCDB | |
| | | | | PYTHIA6 | HFE | LHC16i6b | 3 | | | | | | Waiting OCDB | |
| | | GA | | PYTHIA8 | $\pi^0 + \eta$ | | 10 | ALIROOT-6933 | | | | | To be validated | |
| | | | | PYTHIA8 | $p_T$-hard | LHC16h3 | 160 | ALIROOT-6823 | | | | | Waiting OCDB | |
| | | LF | | PYTHIA8 | $p_T$-hard | LHC16h3 | 50 | ALIROOT-6823 | | | | | Waiting OCDB | |
| LHC15o | | DPG | | HIJING | minimum bias | LHC16j7(ab) | 4.7 | ALIROOT-6967 | v5-08-13q-01-cookdedx-1 | v5-08-XX-13 | self | | 10% QA | Low-IR (pass4) |
| | | | | HIJING | minimum bias | LHC16g1 | 3 | ALIROOT-6784 | v5-08-13o | v5-08-XX-13 | self | | 10% QA | high-IR runlist #1 |
| | | | | | central | LHC16g1a | 0.3 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | semi-central | LHC16g1b | 2 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | peripheral | LHC16g1c | 6 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | LF | | HIJING | ITSsa | LHC16h1 | 0.2 | ALIROOT-6797 | v5-08-13m | v5-08-XX-12 | self | ITSpureSA | Waiting general QA | Low-IR (pass3) |
| | | | | HIJING | strangeness | LHC16i1a | 0.2 | ALIROOT-6858 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | | | | | LHC16i1b | 2.5 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | | | | | LHC16i1c | 10 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | | | HIJING | nuclei | LHC16h7a | 0.1 | ALIROOT-6825 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | | | | | LHC16h7b | 0.4 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | | | | | LHC16h7c | 0.4 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | HF | | HIJING central | D2H | LHC16i2a | 1 | ALIROOT-6860 | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | | HFE | LHC16i3a | 1 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | HIJING semicentral | D2H | LHC16i2b | 3 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | 10% QA | |
| | | | | | HFE | LHC16i3b | 2 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | 10% QA | |
| | | | | HIJING peripheral | D2H | LHC16i2c | 3 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | | HFE | LHC16i3c | 1 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | PYTHIA6 | D2H | | 20 | ALIROOT-6877 | v5-08-13p | v5-08-XX-13 | LHC16g1 | GeneratorCustom.C | To be validated | pp anchored to Pb-Pb |
| | | UD | | STARLIGHT | | LHC16h9 | 120 | ALIROOT-6832 | v5-08-13o | v5-08-XX-13 | LHC16g1 | GeneratorCustom.C | To be validated | waiting for feedback |
| | | GA | | HIJING | $\pi^0 + \eta$ | LHC16h4 | 3 | ALIROOT-6824 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | HIJING | pr-hard | LHC16h2 | 60 | ALIROOT-6822 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Low priority | |
| | | DQ | | HIJING | $J/\psi \rightarrow ee$ | LHC16j1 | 1.5 | ALIROOT-6865 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Waiting general QA | high-IR runlist #1 |
| | | JE | | PYTHIA8 | pr-hard | LHC16j5 | 20 | ALIROOT-6905 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | CF | | AMPT | | | 1 | ALIROOT-6904 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Under discussion | configuration not available |
| LHC16k LHC16l | ClusterParam MuonAlign | DQ | | PYTHIA | low mass ee | LHC16j4 | 36 | ALIROOT-6867 | | | | GeneratorCustom.C | Waiting OCDB | |
| | | HMTF | | PYTHIA8 | minimum bias | LHC16j2a1 | 150 | ALIROOT-6873 | | | | | Waiting OCDB | |
| | | | | EPOSLHC | | LHC16j2b1 | 50 | | | | | | Waiting OCDB | |
| | | | | PYTHIA8 | strangeness | LHC16i4a | 30 | ALIROOT-6874 | | | | | To be validated | |

# Conclusions

- In its 6.5 months of activities, the DPG has dealt with several and many aspects of the data processing
  - Not all mentioned here or in the previous talks (improved QA feedback and information collection, systematic studies on the track selections…)
  - Not everything finalized (macros for data processing from AliDPG, RCT improvements, interface for QA, definition of cuts for analysis of data with TPC SP distortions…) but work is in progress on most of the fronts
  - Crucial interaction with Barrel Tracking Group (e.g. R. Shahoyan), detector experts (e.g. J. Wiechula): **Thanks!**
  - Crucial interaction with PWGs and analyzers to define the analysis tools (e.g.: A. Dobrin): **Thanks!**
  - Crucial interaction with Offline (to which DPG belongs) for code development and frameworks (e.g. C. Grigoras): **Thanks!**
  - Many **thanks** to all the DPG members, with a special mention to QA and MC people

  → From April: "The DPG **will** function as a **glue** between the several different parties involved in the data processing"

  → To now: "The DPG **is** functioning as a **glue** between the several different parties involved in the data processing"

# BACKUP

# More information

- Good runs ordered per IR
  - https://twiki.cern.ch/twiki/pub/ALICE/AliDPGRunLists/OrderedGoodRuns_IR_LHC15o_20161027_Sheet1.pdf
  - Runs with non full TPC acceptance included → they will go to MC
- Splines for 15o: released for pass1, checks ongoing for pass1_pidfix
  - ~2 weeks

# Ongoing Monte Carlo

PbPb

- **General-purpose Monte Carlo productions anchored to Pb-Pb 5.02 TeV runs (LHC15o) – ALIROOT-6784**
  - LHC16g1(minbias), LHC16g1a(central), LHC16g1b (semicentral), LHC16g1c (peripheral)
- **pi0 and eta particles embedded in HI MC events anchored to LHC15o – ALIROOT-6824**
  - LHC16h4
- **Pb-Pb central barrel simulation with injected J/psi signals – ALIROOT-6865**
  - LHC16j1
- **jet-jet Pythia events anchored to LHC15o – ALIROOT-6905**
  - LHC16j5, 20 sub-cycles per pt bin
- **Pb-Pb 5020 GeV, Hijing+injected (multi-)strange 0-90% cent, LHC15o anchors – ALIROOT-6858**
  - LHC16i1{a,b,c}
- **Pb-Pb, 5020 GeV, Hijing plus injected nuclei, hypernuclei and exotica, LHC15o anchors – ALIROOT-6825**
  - LHC16h7{a,b,c}
- **HF MC productions for 2015 PbPb central barrel analyses – ALIROOT-6860**
  - HF2had: LHC16i2[a..c], HF2ele: LHC16i3[a..c]

pp 15f

- **General-purpose Monte Carlo production anchored to pp 13 TeV runs (LHC15f, EPOS-LHC) – ALIROOT-6626**
  - LHC16d3

More runs to be injected after good runs lists have been updated (yesterday)

# Status of MC

| Period | OCDB | Requestor | Priority | | | Production | M events | JIRA | AliRoot | AliDPG | OCDB | Custom settings | Status | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LHC15f | | HMTF | | EPOSLHC | | LHC16d3 | 150 | ALIROOT-6626 | v5-08-09-02-cookdedx | v5-08-XX-10 | self | | Final QA | |
| LHC15n | ClusterParam | DPG | | PYTHIA6 | minimum bias | LHC16h8a | 70 | ALIROOT-6827 | | | | | Waiting OCDB | |
| | | | | PYTHIA8 | minimum bias | LHC16h8b | 70 | | | | | | Waiting OCDB | |
| | | HF | | PYTHIA6 | D2H | LHC16i6a | 3 | ALIROOT-6861 | | | | | Waiting OCDB | |
| | | | | PYTHIA6 | HFE | LHC16i6b | 3 | | | | | | Waiting OCDB | |
| | | GA | | PYTHIA8 | $\pi^0 + \eta$ | | 10 | ALIROOT-6933 | | | | | To be validated | |
| | | | | PYTHIA8 | $p_T$-hard | LHC16h3 | 160 | ALIROOT-6823 | | | | | Waiting OCDB | |
| | | LF | | PYTHIA8 | $p_T$-hard | LHC16h3 | 50 | ALIROOT-6823 | | | | | Waiting OCDB | |
| LHC15o | | DPG | | HIJING | minimum bias | LHC16j7 | 4.7 | ALIROOT-6967 | v5-08-13g-01-cookdedx-1 | v5-08-XX-13 | self | | Running 10% | Low-IR (pass4) |
| | | | | HIJING | minimum bias | LHC16g1 | 3 | ALIROOT-6784 | v5-08-13o | v5-08-XX-13 | self | | 10% QA | high-IR runlist #1 |
| | | | | | central | LHC16g1a | 0.3 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | semi-central | LHC16g1b | 2 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | peripheral | LHC16g1c | 6 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | LF | | HIJING | ITSsa | LHC16h1 | 0.2 | ALIROOT-6797 | v5-08-13m | v5-08-XX-12 | self | ITSpureSA | 10% QA | Low-IR (pass3) |
| | | | | HIJING | strangeness | LHC16i1a | 0.2 | ALIROOT-6858 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | | LHC16i1b | 2.5 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | | LHC16i1c | 10 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | HIJING | nuclei | LHC16h7a | 0.1 | ALIROOT-6825 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | | LHC16h7b | 0.4 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | | | | | LHC16h7c | 0.4 | | v5-08-13o | v5-08-XX-13 | LHC16g1 | | 10% QA | high-IR runlist #1 |
| | | HF | | HIJING central | D2H | LHC16i2a | 1 | ALIROOT-6860 | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | To be validated | |
| | | | | | HFE | LHC16i3a | 1 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | To be validated | |
| | | | | HIJING semicentral | D2H | LHC16i2b | 3 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | | HFE | LHC16i3b | 2 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | Running 10% | |
| | | | | HIJING peripheral | D2H | LHC16i2c | 3 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | To be validated | |
| | | | | | HFE | LHC16i3c | 1 | | v5-08-13p | v5-08-XX-13 | LHC16g1 | AODtrainsim.C | To be validated | |
| | | | | PYTHIA6 | D2H | | 20 | ALIROOT-6877 | v5-08-13p | v5-08-XX-13 | LHC16g1 | GeneratorCustom.C | To be validated | pp anchored to Pb-Pb |
| | | UD | | STARLIGHT | | LHC16h9 | 120 | ALIROOT-6832 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | To be validated | waiting for feedback |
| | | GA | | HIJING | $\pi^0 + \eta$ | LHC16h4 | 3 | ALIROOT-6824 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Running 10% | high-IR runlist #1 |
| | | | | HIJING | pT-hard | LHC16h2 | 60 | ALIROOT-6822 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Low priority | |
| | | DQ | | HIJING | $J/\psi \rightarrow ee$ | LHC16j1 | 1.5 | ALIROOT-6865 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Running 10% | high-IR runlist #1 |
| | | JE | | PYTHIA8 | pT-hard | LHC16j5 | 20 | ALIROOT-6905 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Running 10% | high-IR runlist #1 |
| | | CF | | AMPT | | | 1 | ALIROOT-6904 | v5-08-13o | v5-08-XX-13 | LHC16g1 | | Under discussion | configuration not available |
| LHC16k | ClusterParam MuonAlign | DQ | | PYTHIA | low mass ee | LHC16j4 | 18 | ALIROOT-6867 | | | | GeneratorCustom.C | Waiting OCDB | |
| | | HMTF | | PYTHIA8 | minimum bias | LHC16j2a1 | 75 | ALIROOT-6873 | | | | | Waiting OCDB | |
| | | | | EPOSLHC | | LHC16j2b1 | 25 | | | | | | Waiting OCDB | |
| | | | | PYTHIA8 | strangeness | LHC16i4a | 15 | ALIROOT-6874 | | | | | To be validated | |
| LHC16l | ClusterParam MuonAlign | DQ | | PYTHIA | low mass ee | LHC16j4 | 36 | ALIROOT-6867 | | | | GeneratorCustom.C | Waiting OCDB | |
| | | HMTF | | PYTHIA8 | minimum bias | LHC16j2a2 | 75 | ALIROOT-6873 | | | | | Waiting OCDB | |
| | | | | EPOSLHC | | LHC16j2b2 | 25 | | | | | | Waiting OCDB | |
| | | | | PYTHIA8 | strangeness | LHC16i4b | 15 | ALIROOT-6874 | | | | | To be validated | |

# LHC15o

- Runs QA'ed manually:
  - Runs without ZDC (to go in dedicated lists)
    - 246543, 246553, 246567, 246568, 246575, 246583, 246648, 246671, 245148

    → In contact with ZDC + spectra team to evaluate the effect of not having the ZDC in the data taking
  - Runs with issues in ZDC signal
    - 245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793
  - Run for which the merging failed (ongoing)
    - 245453

- 245148 246543 246553 246567 246568 246575 246583 246648 246671
-

# Other productions

- LHC16l, 90 runs
  - 260014, 260011, 260010, 259979, 259961, 259888, 259868, 259867, 259866, 259860, 259842, 259841, 259822, ~~259792~~, 259789, 259788, 259781, 259756, 259752, 259751, 259750, 259748, 259747, 259713, 259711, 259705, 259704, 259703, 259700, 259697, 259668, 259650, 259649, 259477, 259473, 259469, 259396, 259395, 259394, 259389, 259388, 259382, 259381, 259378, 259342, 259341, 259340, 259339, 259336, 259334, 259307, 259305, 259303, 259302, 259274, 259273, 259272, 259271, 259270, 259269, 259264, 259263, 259261, 259257, 259204, 259164, 259162, 259118, 259117, 259099, 259096, ~~259095~~, 259091, 259090, 259088, 259086, 258964, 258962, 258931, 258926, 258923, 258921, 258920, 258919, 258890, 258889, 258886, 258885, 258884, 258883

Reco failing – missing MUON OCDB, 7 mins run
Low stat, no TPC calibration possible
TPC sparse readout tests, low nb of bunches, high mu
Low nb of bunches, high mu

# LHC15o: groups of runs

- Group 1: 31 runs
  - 245683, 246807, 246808, 246809, 246810, 246844, 246845, 246846, 246847, 246851, 246855, 246858, 246859, 246864, 246865, 246867, 246870, 246871, 246928, 246930, 246937, 246942, 246945, 246948, 246949, 246980, 246982, 246984, 246989, 246991, 246994
- Group 2: 34 runs
  - 245692, 245700, 245702, 245705, 246424, 246428, 246431, 246434, 246487, 246488, 246493, 246495, 246540, 246543, 246553, 246567, 246568, 246575, 246583, 246648, 246671, 246675, 246676, 246750, 246751, 246757, 246758, 246759, 246760, 246763, 246765, 246766, 246804, 246805
- Group 3: 20 runs
  - 246087, 246089, 246113, 246115, 246148, 246151, 246152, 246153, 246178, 246180, 246181, 246182, 246185, 246217, 246222, 246225, 246271, 246272, 246275, 246276
- Group 4: 27 runs
  - 245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793, 245829, 245831, 245833, 245923, 245949, 245952, 245954, 245963, 246001, 246003, 246012, 246036, 246037, 246042, 246048, 246049, 246052, 246053
- Group 3+4: 47 runs
  - 245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793, 245829, 245831, 245833, 245923, 245949, 245952, 245954, 245963, 246001, 246003, 246012, 246036, 246037, 246042, 246048, 246049, 246052, 246053, 246087, 246089, 246113, 246115, 246148, 246151, 246152, 246153, 246178, 246180, 246181, 246182, 246185, 246217, 246222, 246225, 246271, 246272, 246275, 246276
- Group 5: 42 runs
  - 245145, 245146, 245148, 245151, 245152, 245231, 245232, 245233, 245259, 245343, 245345, 245346, 245347, 245349, 245353, 245396, 245397, 245401, 245407, 245409, 245410, 245411, 245439, 245441, 245446, 245450, 245452, 245453, 245454, 245496, 245497, 245501, 245504, 245505, 245507, 245535, 245540, 245542, 245543, 245544, 245545, 245554

# Run list LHC15o – high IR – Purged list

- 245145, 245146, 245148, 245151, 245152, 245231, 245232, 245233, 245259, 245343, 245345, 245346, 245347, 245349, 245353, 245396, 245397, 245401, 245407, 245409, 245410, 245411, 245439, 245441, 245446, 245450, 245452, 245453, 245454, 245496, 245497, 245501, 245504, 245505, 245507, 245535, 245540, 245542, 245543, 245544, 245545, 245554, 245683, 245692, 245700, 245702, 245705, 245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793, 245829, 245831, 245833, 245923, 245949, 245952, 245954, 245963,, 246001, 246003, 246012, 246036, 246037, 246042, 246048, 246049, 246052, 246053, 246087, 246089, 246113, 246115, 246148, 246151, 246152, 246153, 246178, 246180, 246181, 246182, 246185, 246217, 246222, 246225, 246271, 246272, 246275, 246276, 246424, 246428, 246431, 246434, 246487, 246488, 246493, 246495, 246540, 246543, 246553, 246567, 246568, 246575, 246583, 246648, 246671, 246675, 246676, 246750, 246751, 246757, 246758, 246759, 246760, 246763, 246765, 246766, 246804, 246805, 246807, 246808, 246809, 246810, 246844, 246845, 246846, 246847, 246851, 246855, 246858, 246859, 246864, 246865, 246867, 246870, 246871, 246928, 246930, 246937, 246942, 246945, 246948, 246949, 246980, 246982, 246984, 246989, 246991, 246994

First bunch – 302087, 98M events (35.6M with TPC)
Second bunch – 328630 chunks, 102M events (36M with TPC)
Third bunch – 358780 chunks, 104M events (39M with TPC)
Fourth bunch – 342503 chunks, 108M events (45M with TPC)
Fifth bunch – 592677 chunks, 140M events (55M with TPC)

# Runs with no TRD, SPD, SDD, SSD

- No SDD:
  - 246942, 246937, 246930, 246855 (first group)
- No SPD:
  - None
- No SSD:
  - None
- No TRD:
  - None

→ For the statistics, use:

- Group 1: 27 runs
  - 245683, 246807, 246808, 246809, 246810, 246844, 246845, 246846, 246847, 246851, 246858, 246859, 246864, 246865, 246867, 246870, 246871, 246928, 246945, 246948, 246949, 246980, 246982, 246984, 246989, 246991, 246994
- Group 2: 34 runs
  - 245692, 245700, 245702, 245705, 246424, 246428, 246431, 246434, 246487, 246488, 246493, 246495, 246540, 246543, 246553, 246567, 246568, 246575, 246583, 246648, 246671, 246675, 246676, 246750, 246751, 246757, 246758, 246759, 246760, 246763, 246765, 246766, 246804, 246805
- Group 3+4: 47 runs
  - 245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793, 245829, 245831, 245833, 245923, 245949, 245952, 245954, 245963, 246001, 246003, 246012, 246036, 246037, 246042, 246048, 246049, 246052, 246053, 246087, 246089, 246113, 246115, 246148, 246151, 246152, 246153, 246178, 246180, 246181, 246182, 246185, 246217, 246222, 246225, 246271, 246272, 246275, 246276
- Group 5: 42 runs
  - 245145, 245146, 245148, 245151, 245152, 245231, 245232, 245233, 245259, 245343, 245345, 245346, 245347, 245349, 245353, 245396, 245397, 245401, 245407, 245409, 245410, 245411, 245439, 245441, 245446, 245450, 245452, 245453, 245454, 245496, 245497, 245501, 245504, 245505, 245507, 245535, 245540, 245542, 245543, 245544, 245545, 245554
- All:

  245683, 246807, 246808, 246809, 246810, 246844, 246845, 246846, 246847, 246851, 246858, 246859, 246864, 246865, 246867, 246870, 246871, 246928, 246945, 246948, 246949, 246980, 246982, 246984, 246989, 246991, 246994,

  245692, 245700, 245702, 245705, 246424, 246428, 246431, 246434, 246487, 246488, 246493, 246495, 246540, 246543, 246553, 246567, 246568, 246575, 246583, 246648, 246671, 246675, 246676, 246750, 246751, 246757, 246758, 246759, 246760, 246763, 246765, 246766, 246804, 246805,

  245729, 245731, 245738, 245752, 245759, 245766, 245775, 245785, 245793, 245829, 245831, 245833, 245923, 245949, 245952, 245954, 245963, 246001, 246003, 246012, 246036, 246037, 246042, 246048, 246049, 246052, 246053, 246087, 246089, 246113, 246115, 246148, 246151, 246152, 246153, 246178, 246180, 246181, 246182, 246185, 246217, 246222, 246225, 246271, 246272, 246275, 246276,

  245145, 245146, 245148, 245151, 245152, 245231, 245232, 245233, 245259, 245343, 245345, 245346, 245347, 245349, 245353, 245396, 245397, 245401, 245407, 245409, 245410, 245411, 245439, 245441, 245446, 245450, 245452, 245453, 245454, 245496, 245497, 245501, 245504, 245505, 245507, 245535, 245540, 245542, 245543, 245544, 245545, 245554

# OADB improvements

A. Morsch

- Standard procedure for reading OADB objects
  - read the AliOADBContainer instance from a file
  - Use GetObject(run) to obtain object for a given run
- Issue: The OADB objects for all runs stay in memory. This can be problematic if OADB objects are very large.
  - First thing to do: try to understand why they are so big.
  - Solution
    - Write collection of objects (TObjArray) separately into the same file.

```
root [1] AliOADBContainer* container = _file0->Get("MultSel");
root [2] TObjArray* array = container->GetObjArray();
root [3] container->SetToZeroObjArray();
root [4] TFile *_file0 = TFile::Open("OADB-LHC15o-new.root");
root [5] container->Write();
root [6] array->Write();
```

    → GetObject(run) will check whether the OADBContainer has a pointer to the TObjArray. If not it will read the object directly via its key from the file. Only the object needed for the current run is in memory.

    → Caveat: When reading the object for another run in the same task one has to change the current directory to the file containing the OADBContainer.