



Universiteit Utrecht



Quality assurance for LHC15h pass1

Fatiha Lehas

PWG-HF HFCJ

Outline

- 1 Data sample
- 2 QA plots - Event selection
- 3 QA plots - Tracks
- 4 QA plots - PID

Outline

1 Data sample

2 QA plots - Event selection

3 QA plots - Tracks

4 QA plots - PID

Monte Carlo sample

- Data sample LHC15h pass1.
- Run list from Jira ticket : 62 runs.
- D2H QA task was used : AliAnalysisTaskSEHFQA.

Outline

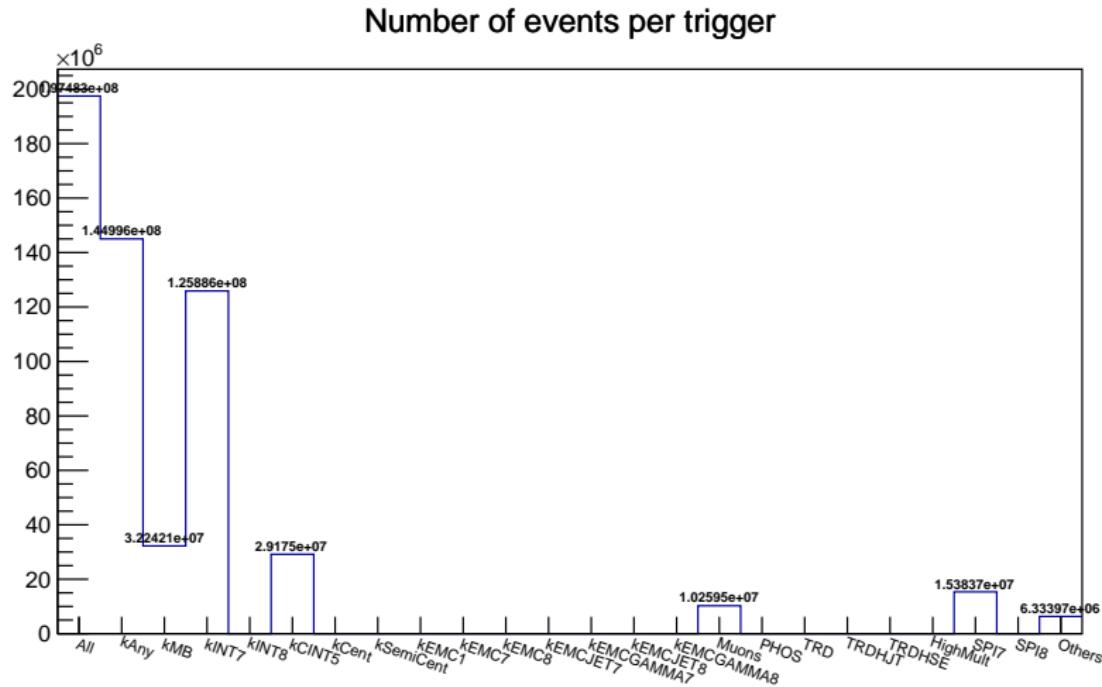
1 Data sample

2 QA plots - Event selection

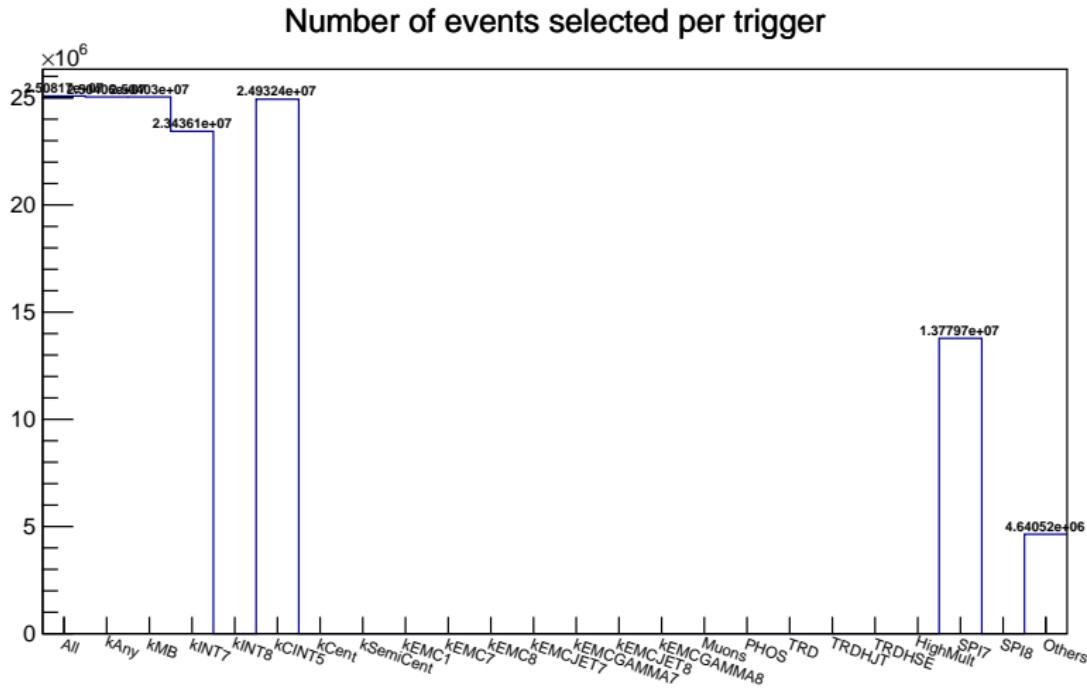
3 QA plots - Tracks

4 QA plots - PID

Event selection - Number of events per trigger

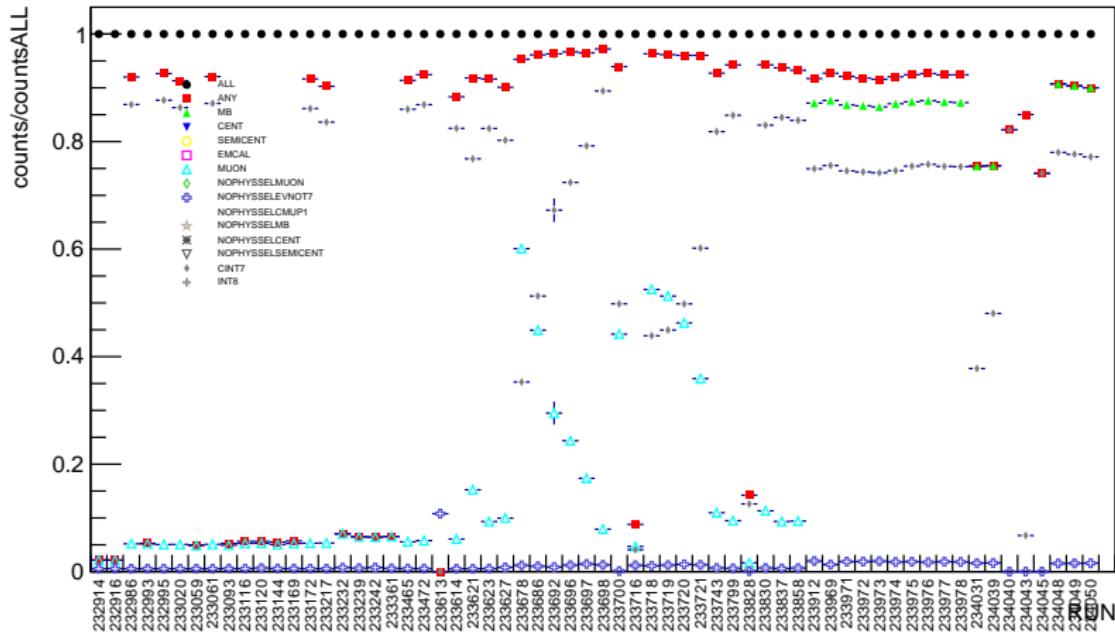


Event selection - Number of selected events per trigger



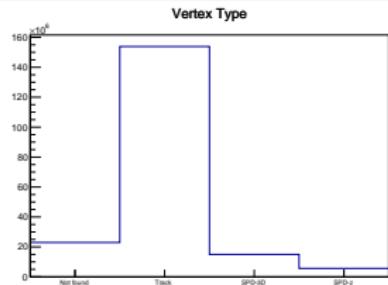
Event selection - Trigger type over all trigger

Trigger type over ALL trigger

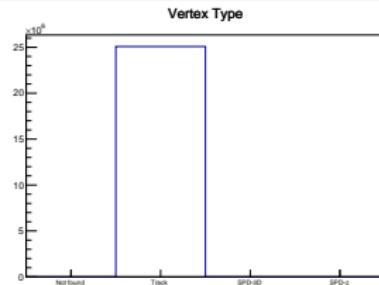


Event selection - Vertex Type

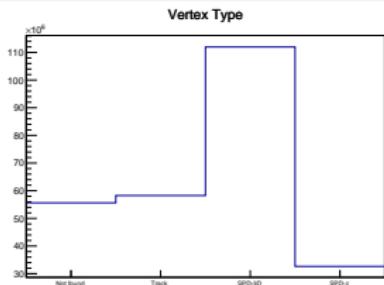
LHC15h pass1 All events



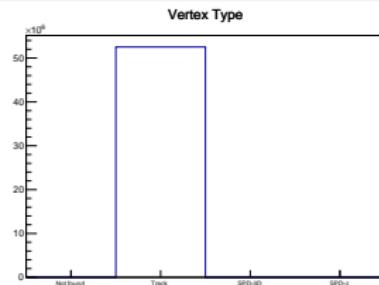
LHC15h pass1 selected Ev



LHC15f pass2 All events

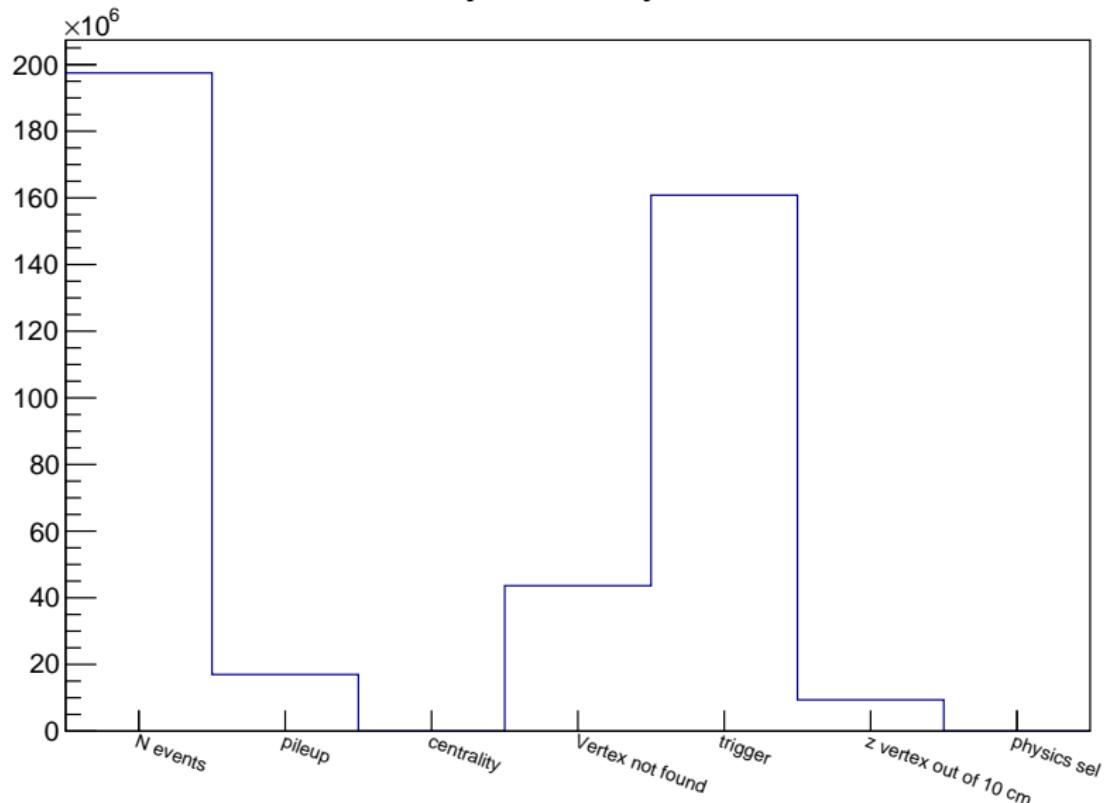


LHC15f pass2 selected Ev



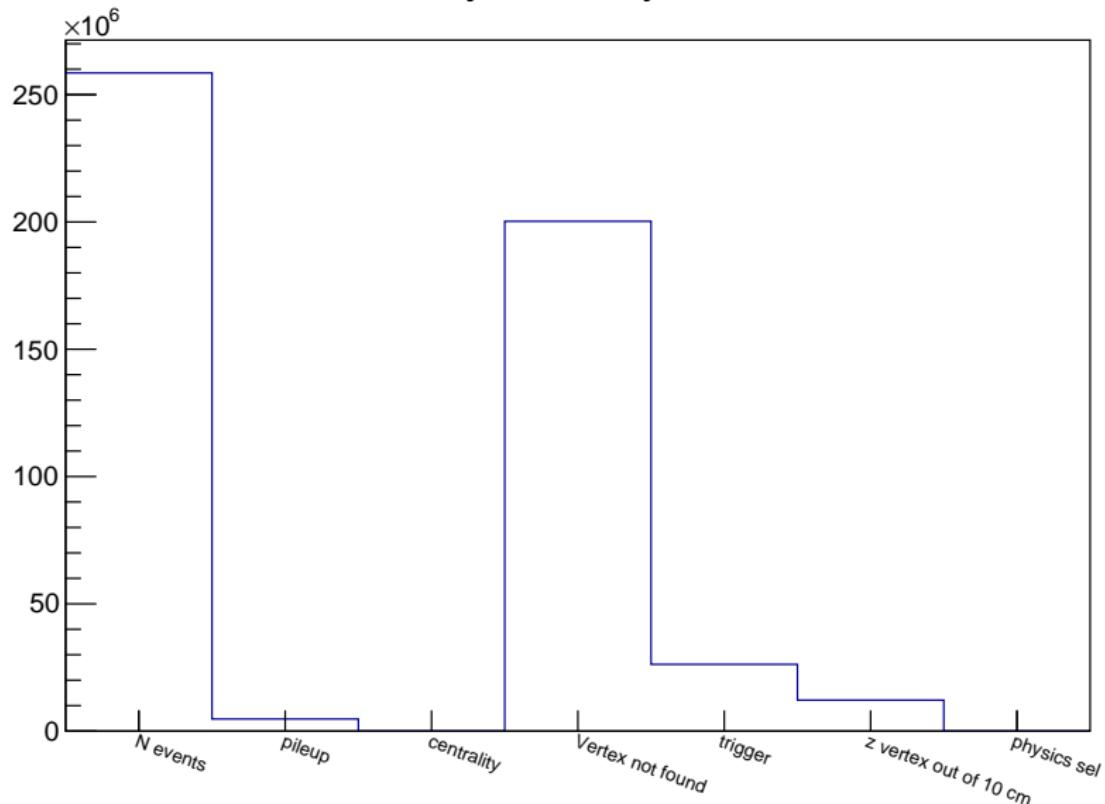
Event selection - Why Event rejected - LHC15h pass1

Why Event rejected



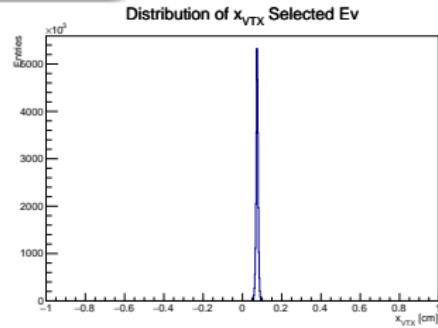
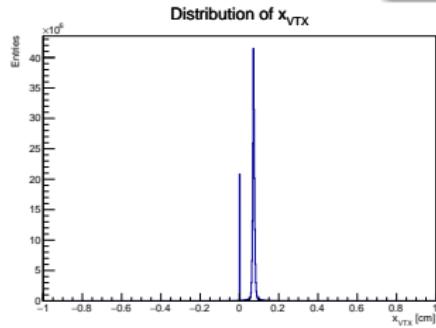
Event selection - Why Event rejected - LHC15f pass2

Why Event rejected

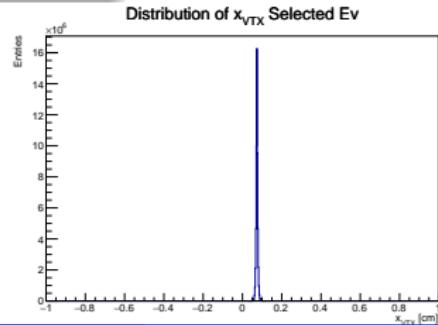
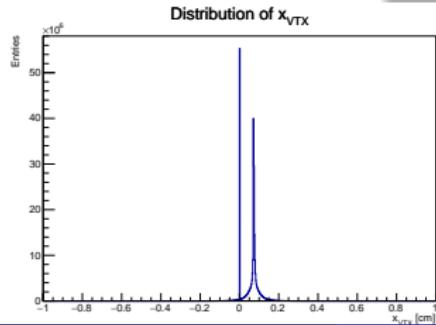


Event selection - X Vertex position

LHC15h pass1

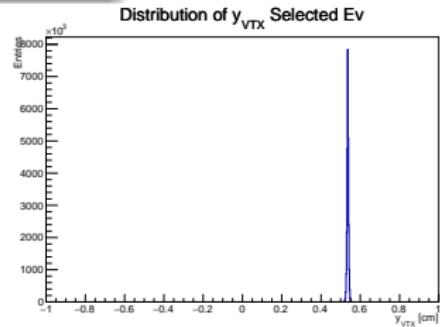
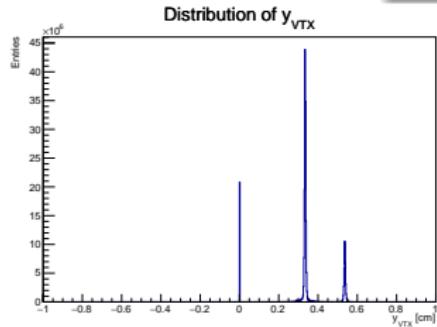


LHC15f pass2

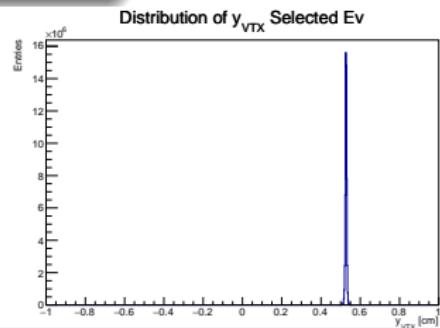
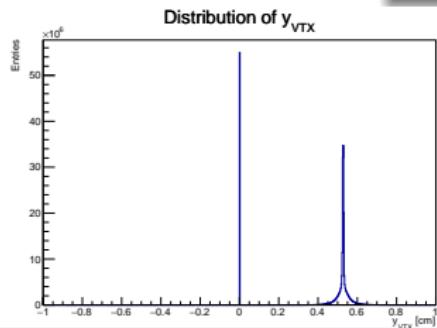


Event selection - Y Vertex position

LHC15h pass1

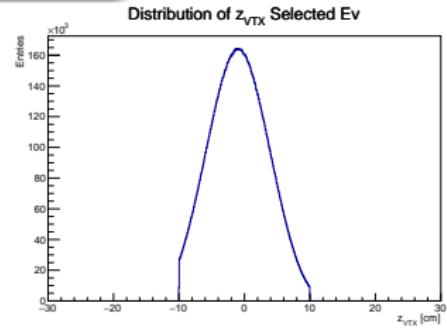
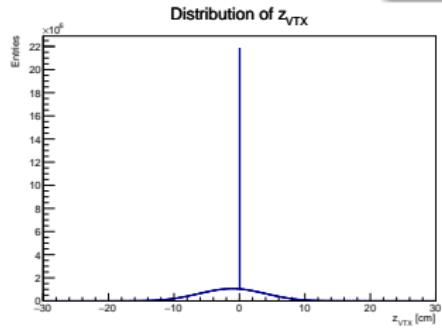


LHC15f pass2

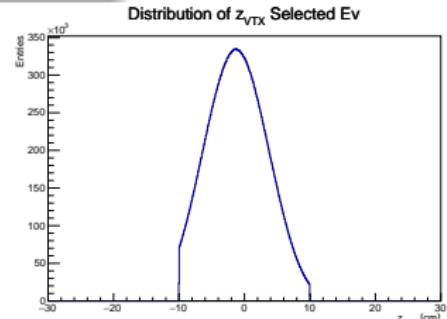
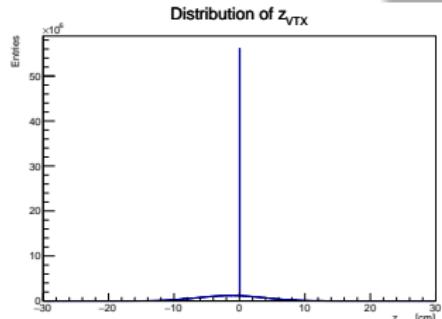


Event selection - Z Vertex position

LHC15h pass1



LHC15f pass2



Outline

1 Data sample

2 QA plots - Event selection

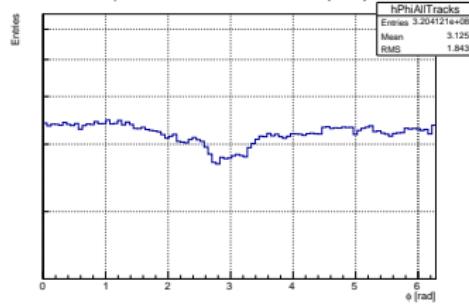
3 QA plots - Tracks

4 QA plots - PID

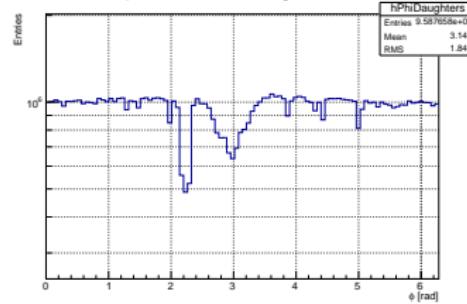
Tracks : ϕ distribution : AOD vs daughter Tracks

LHC15h pass1

ϕ distribution of the AOD tracks ($ID>0$)

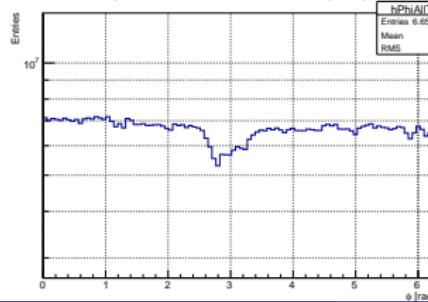


ϕ distribution of the daughter tracks

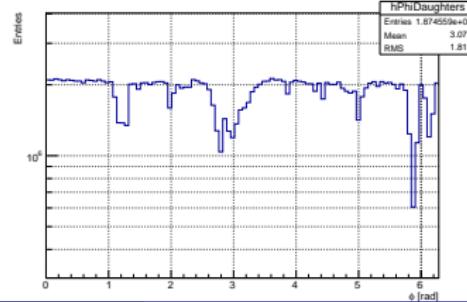


LHC15f pass2

ϕ distribution of the AOD tracks ($ID>0$)



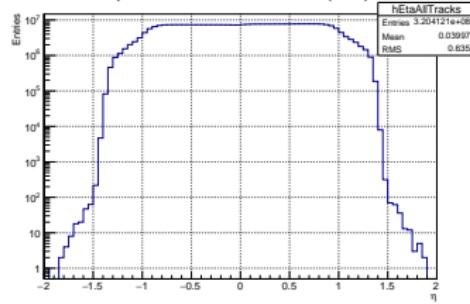
ϕ distribution of the daughter tracks



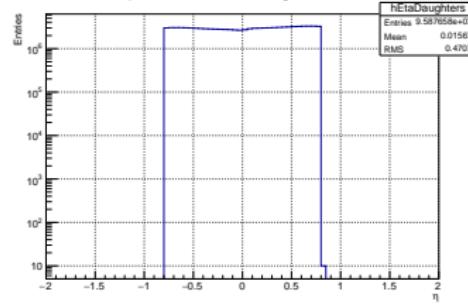
Tracks : η distribution : AOD vs daughter Tracks

LHC15h pass1

η distribution of the AOD tracks ($|D|>0$)

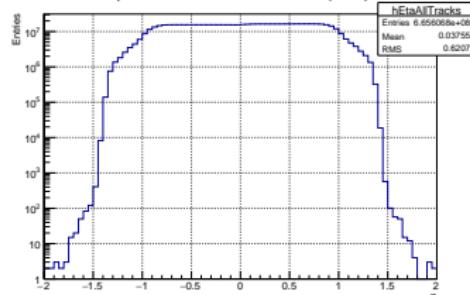


η distribution of the daughter tracks

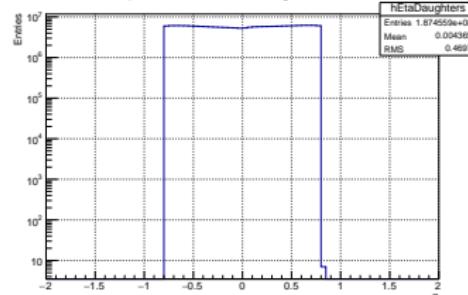


LHC15f pass2

η distribution of the AOD tracks ($|D|>0$)

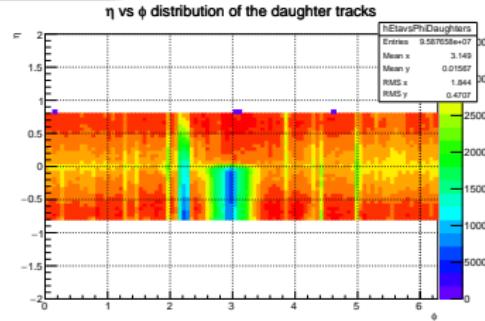
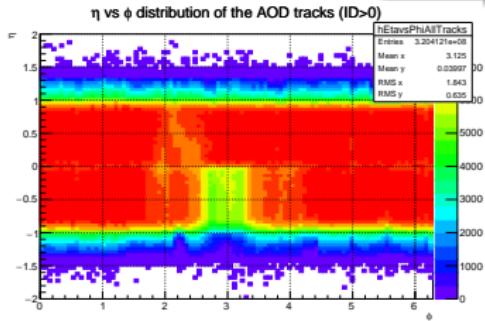


η distribution of the daughter tracks

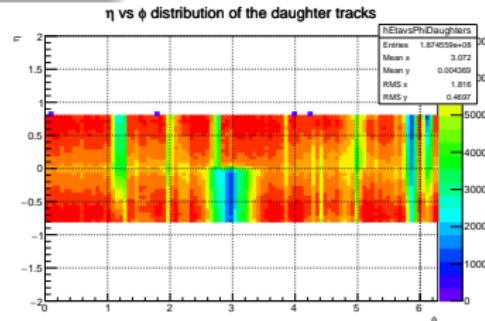
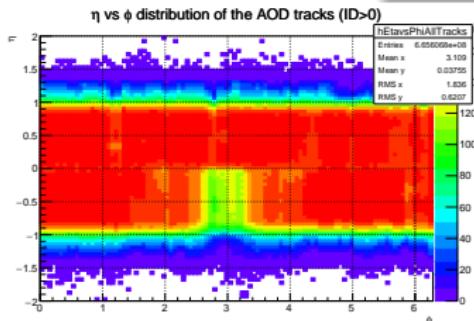


Tracks η vs ϕ distribution : AOD vs daughter Tracks

LHC15h pass1

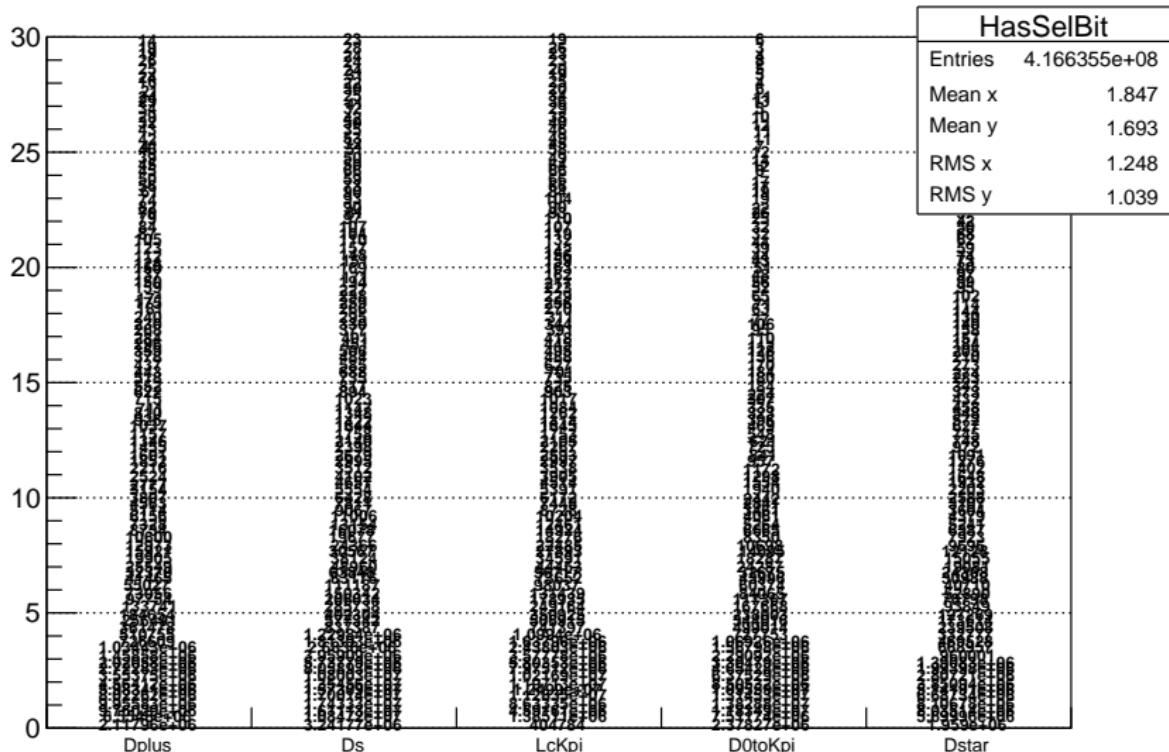


LHC15f pass2



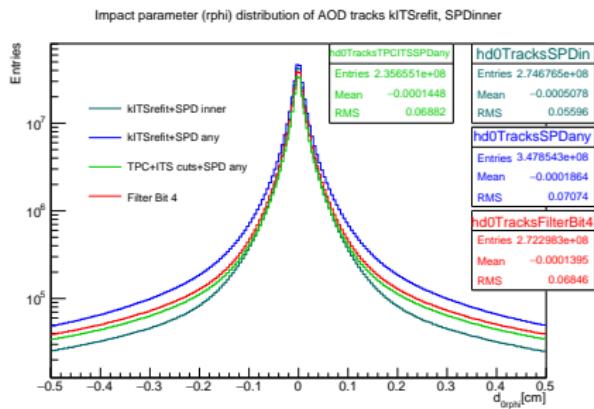
Tracks Number of events with SelectionBit

Counts the number of events with SelectionBit

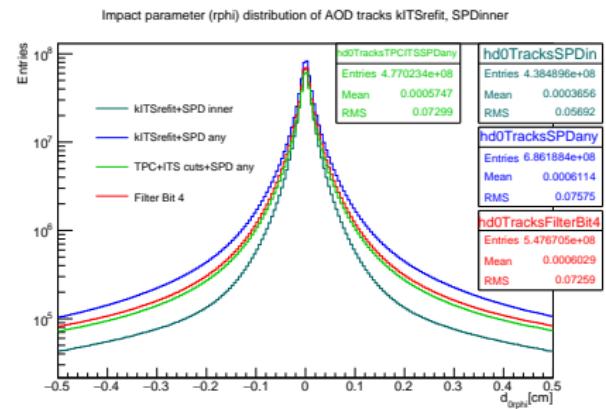


Tracks IP distribution of AOD Tracks

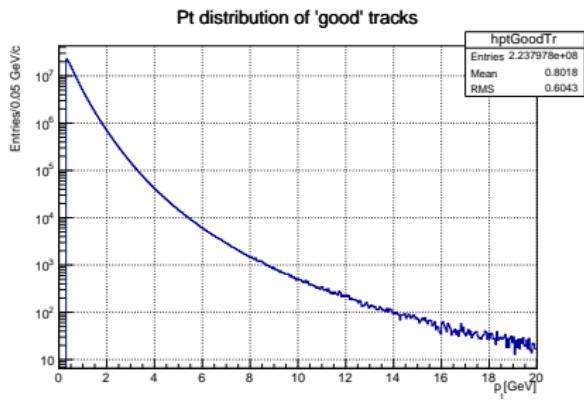
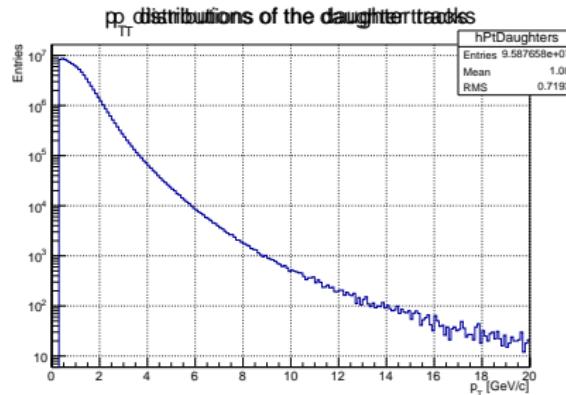
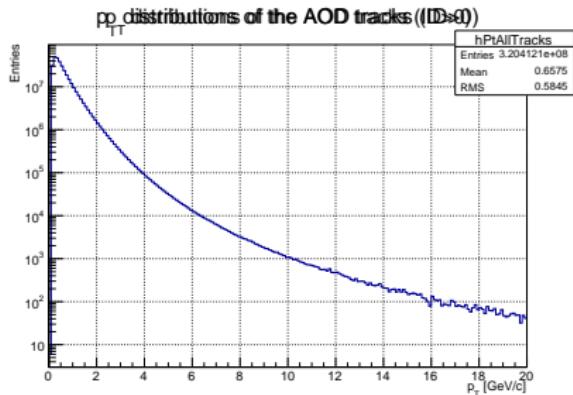
LHC15h pass1



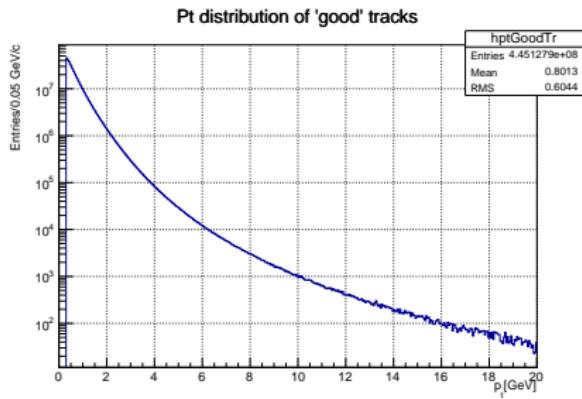
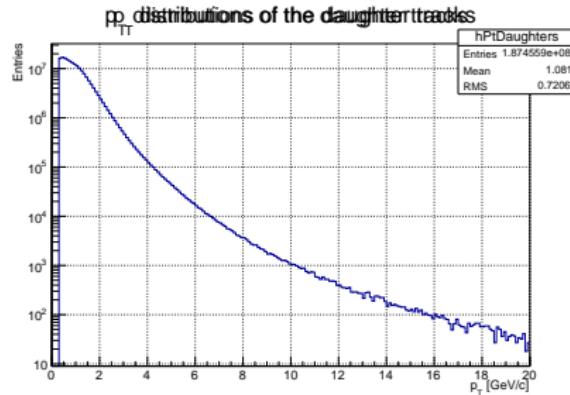
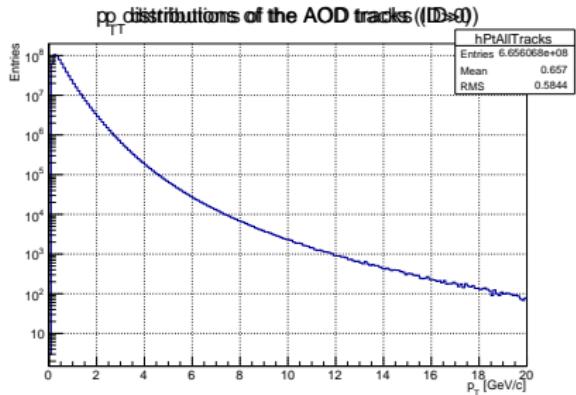
LHC15f pass2



Tracks - pt distributions - LHC15h pass1

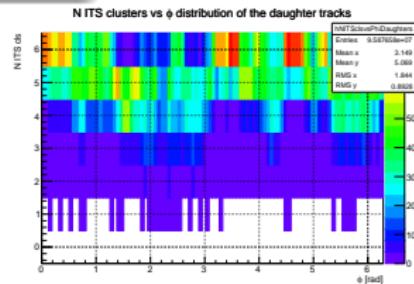
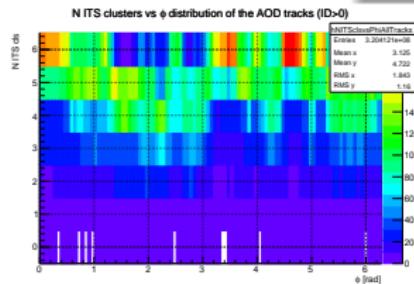


Tracks - pt distributions - LHC15f pass2

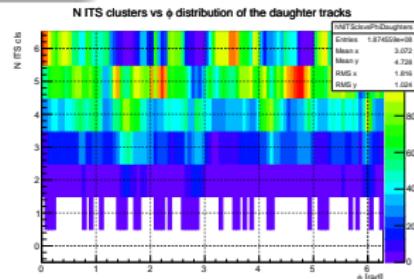
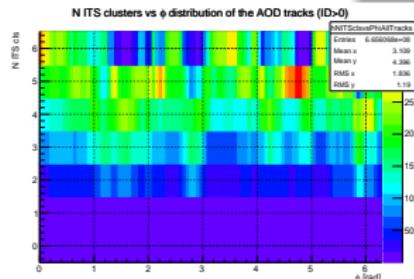


Tracks N ITS clusters- ϕ -distribution : AOD vs daughter Tracks

LHC15h pass1

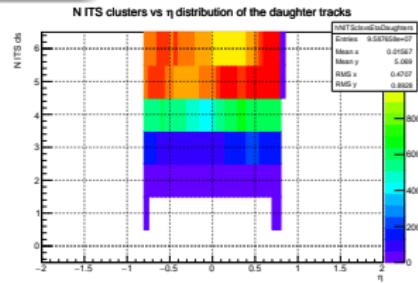
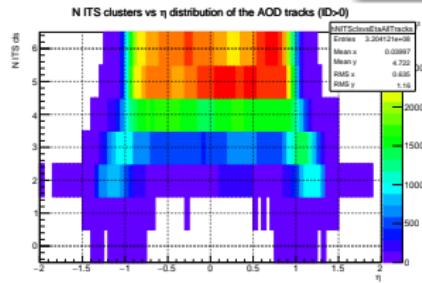


LHC15f pass2

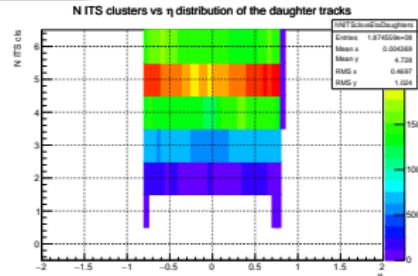
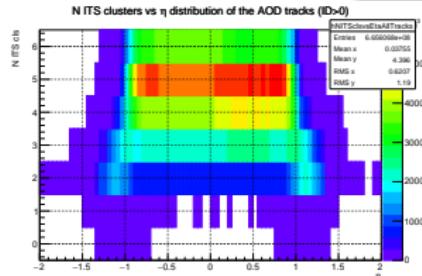


Tracks N ITS clusters- η -distribution : AOD vs daughter Tracks

LHC15h pass1

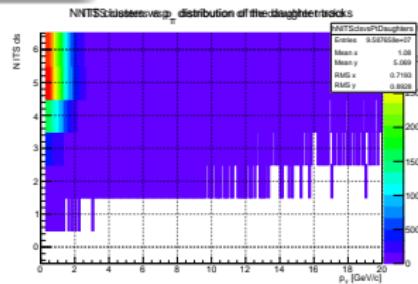
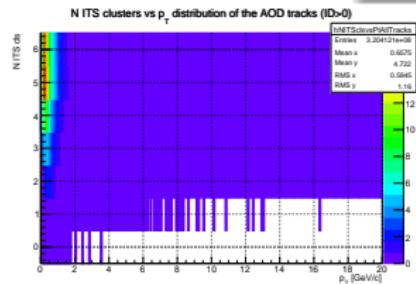


LHC15f pass2

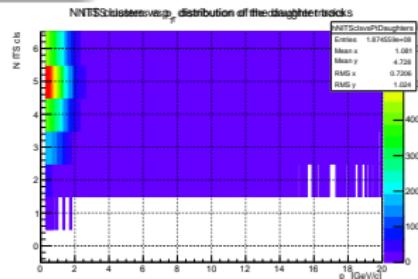
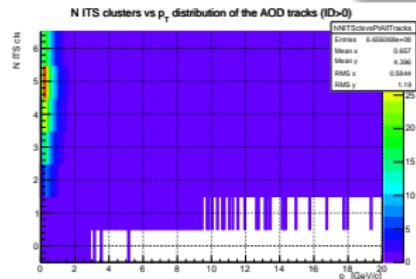


Tracks N ITS clusters vs p_t distribution : AOD vs daughter Tracks

LHC15h pass1

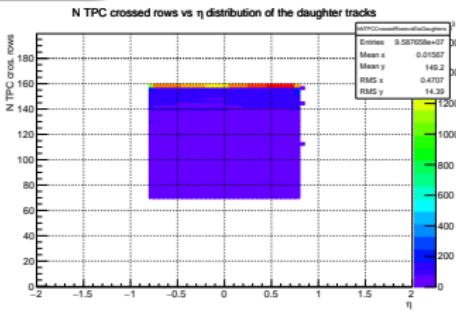
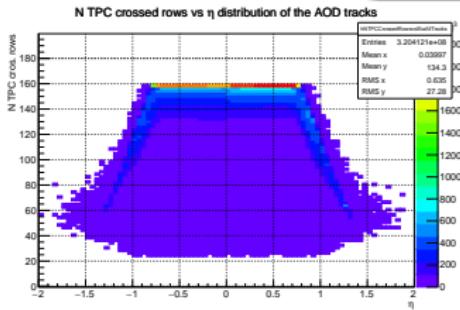


LHC15f pass2

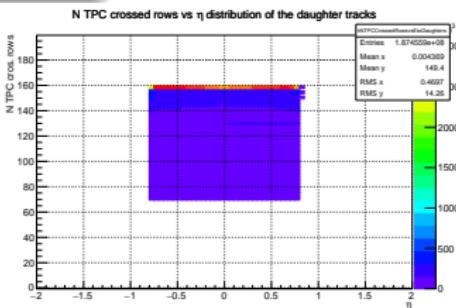
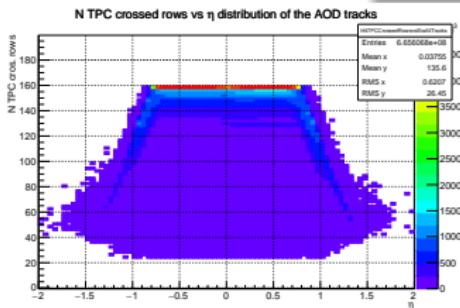


Tracks : N TPC crossed rows vs η -distribution

LHC15h pass1

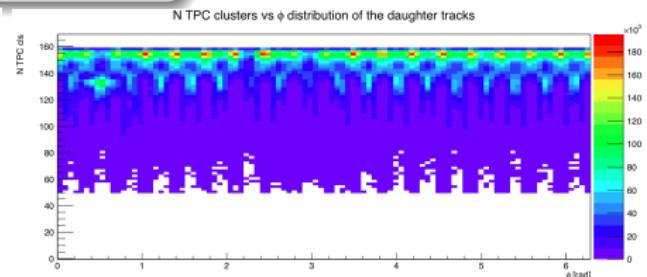
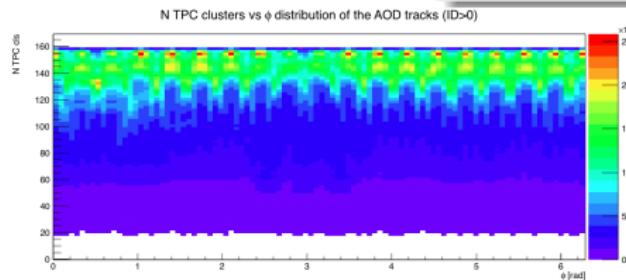


LHC15f pass2

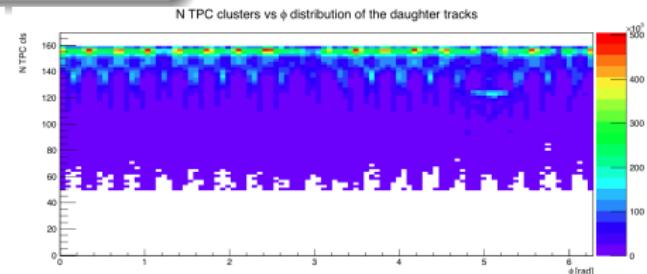
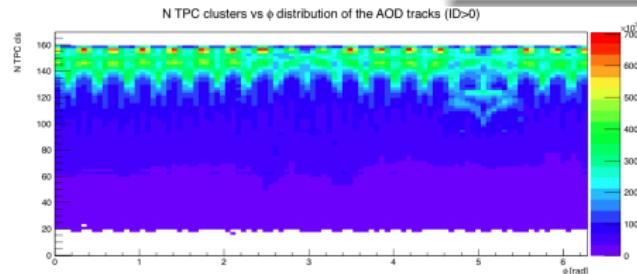


Tracks : N TPC clusters vs Φ -distribution

LHC15h pass1

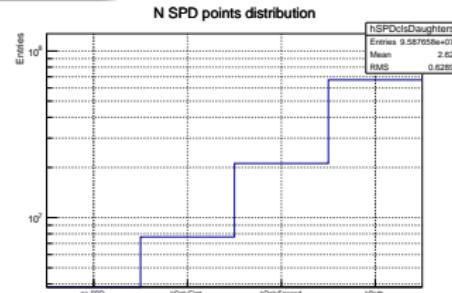
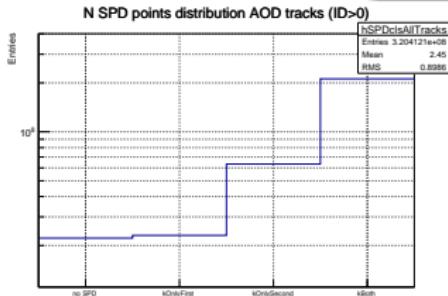


LHC15f pass2

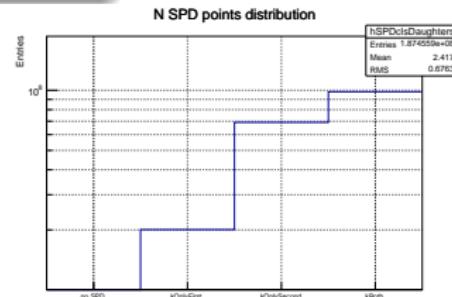
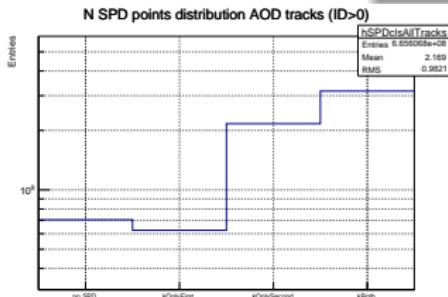


Tracks : N SPD points distribution

LHC15h pass1

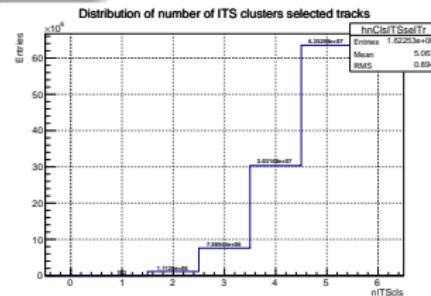
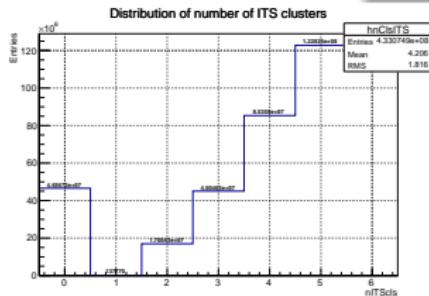


LHC15f pass2

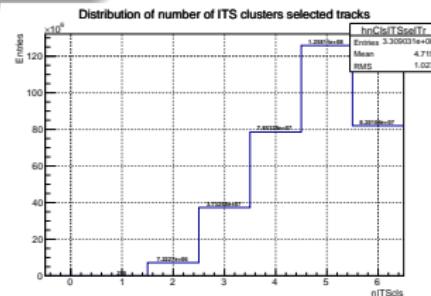
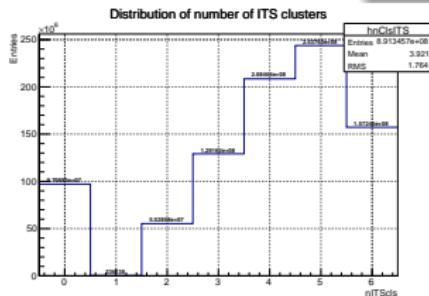


Tracks : distribution of number of ITS clusters

LHC15h pass1



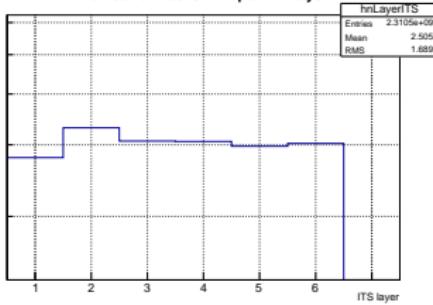
LHC15f pass2



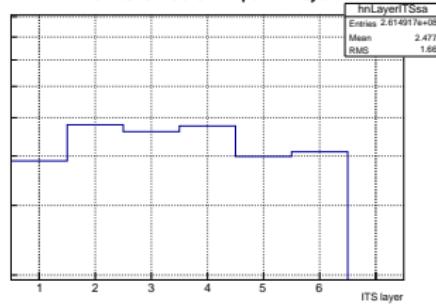
Tracks : Number of tracks with point in Layer

LHC15h pass1

Number of tracks with point in layer

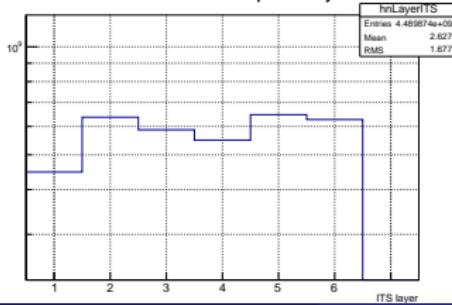


Number of tracks with point in layer

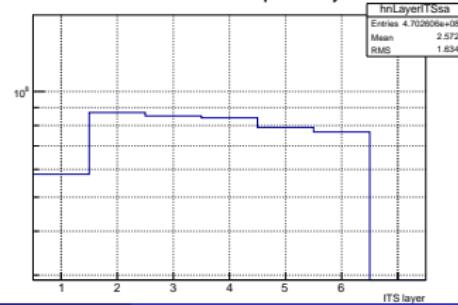


LHC15f pass2

Number of tracks with point in layer



Number of tracks with point in layer



Outline

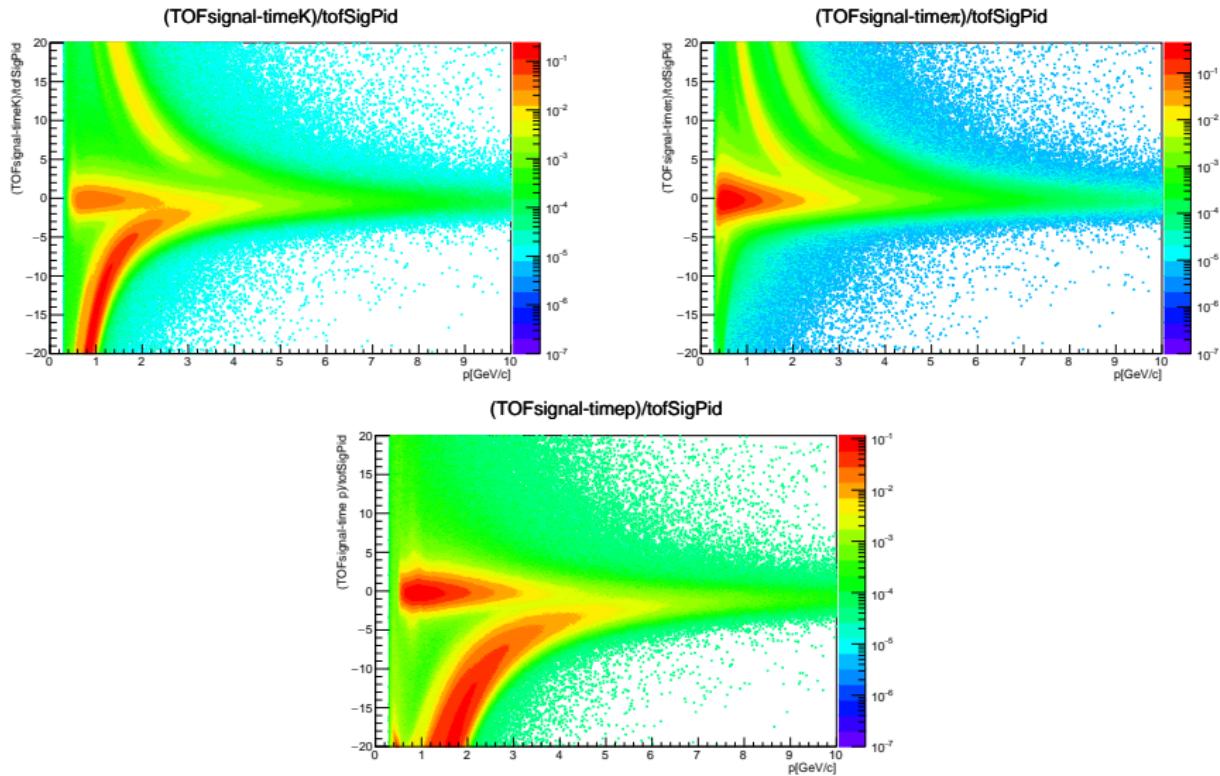
1 Data sample

2 QA plots - Event selection

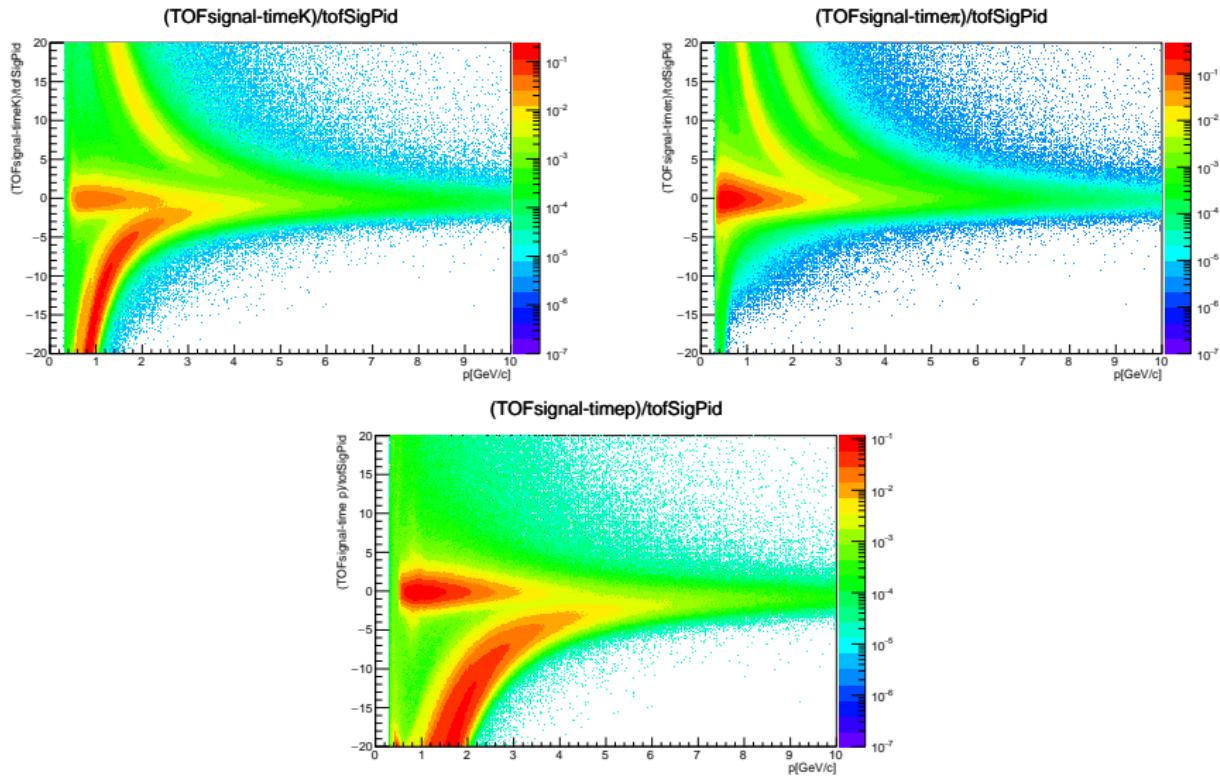
3 QA plots - Tracks

4 QA plots - PID

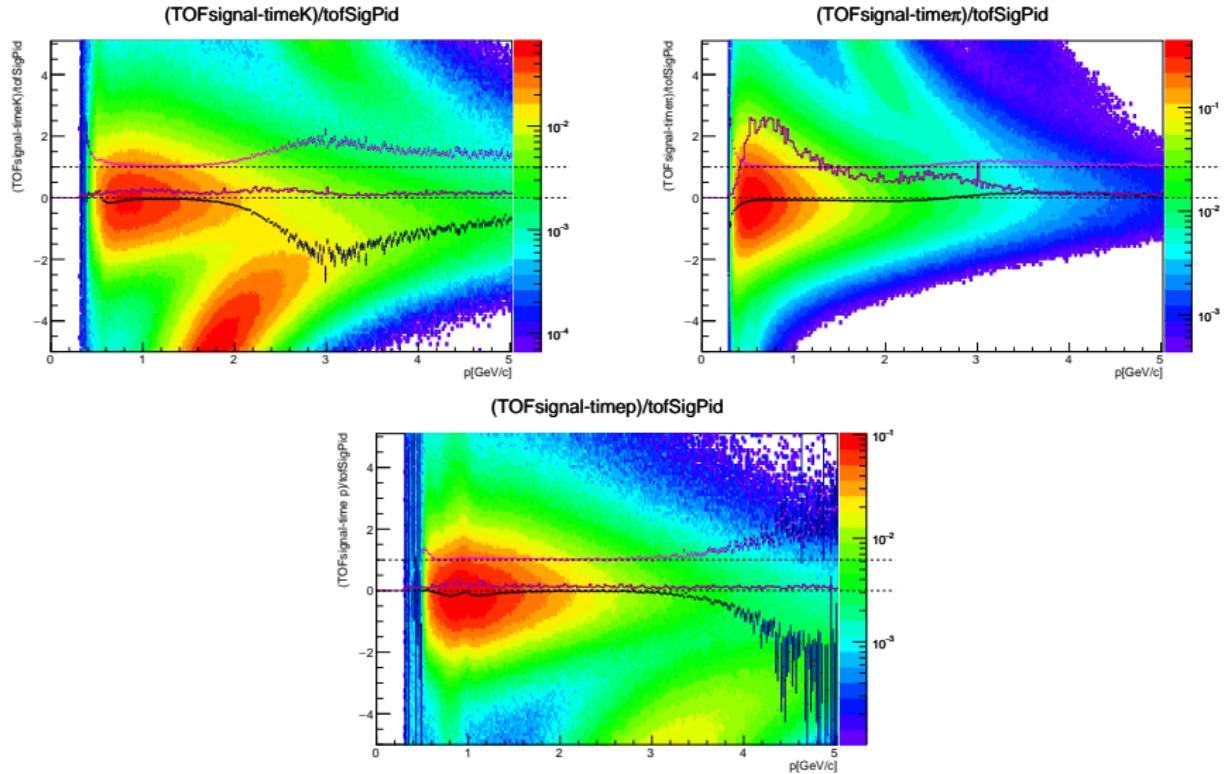
PID - TOF Kaons, pions and protons - LHC15h pass1



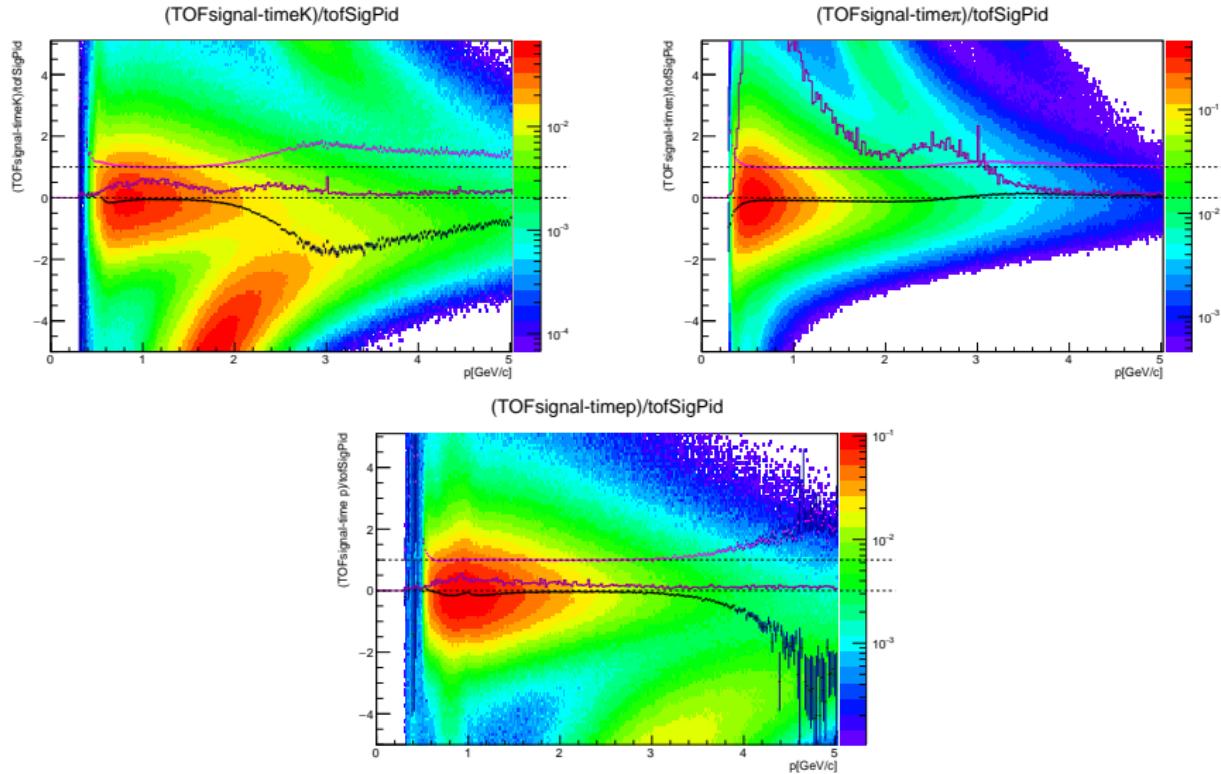
PID - TOF Kaons, pions and protons - LHC15f pass2



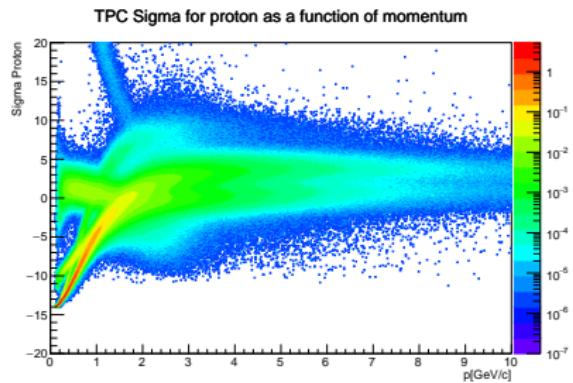
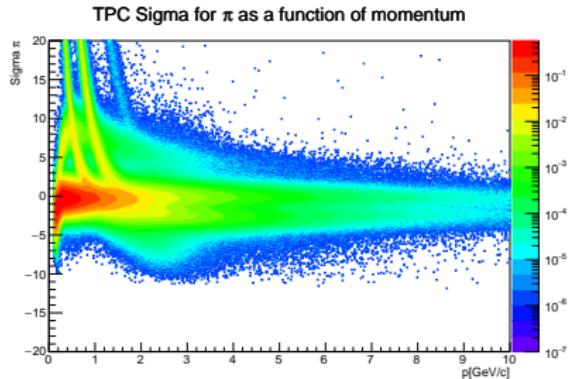
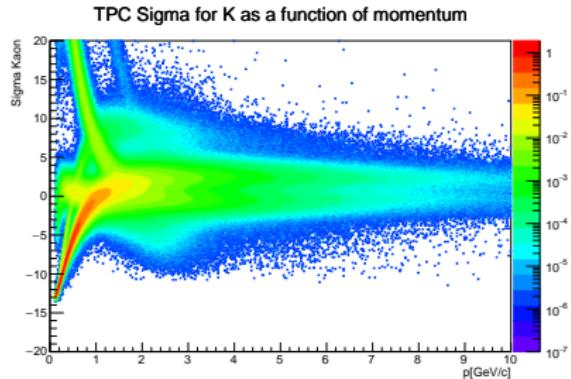
PID - TOF Kaons, pions and protons - LHC15h pass1



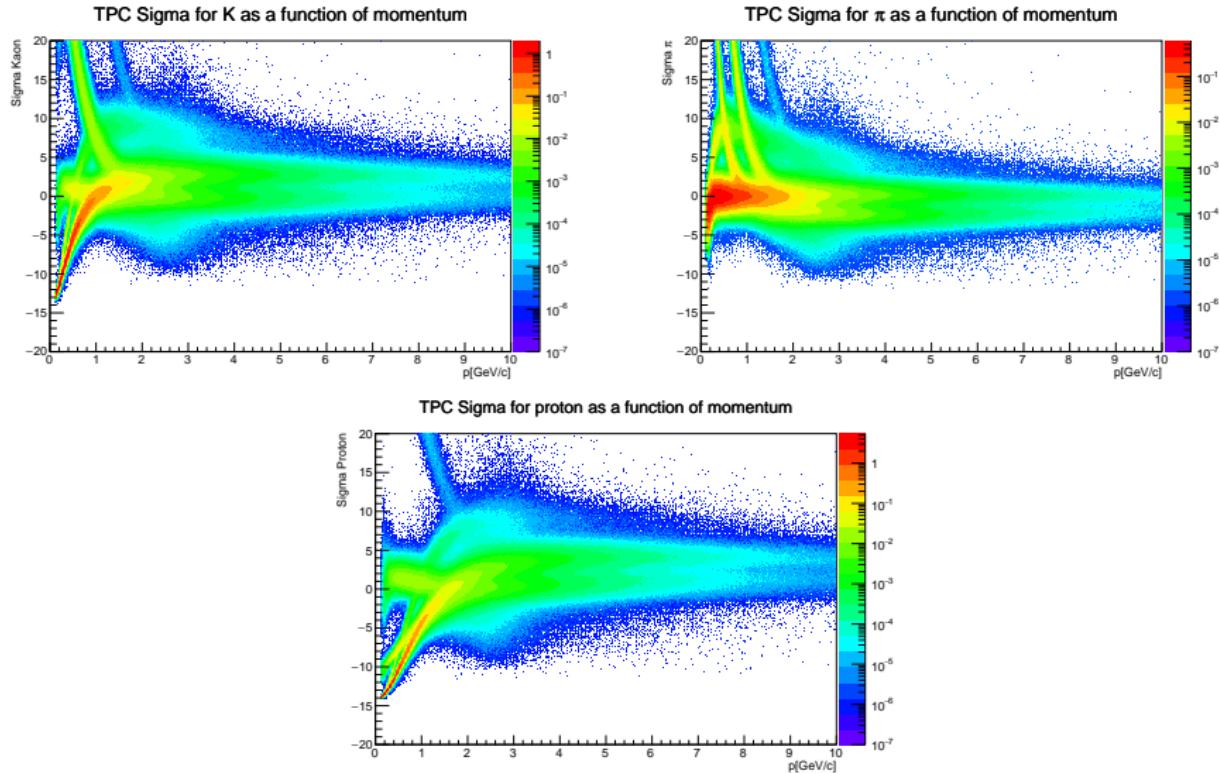
PID - TOF Kaons, pions and protons - LHC15f pass2



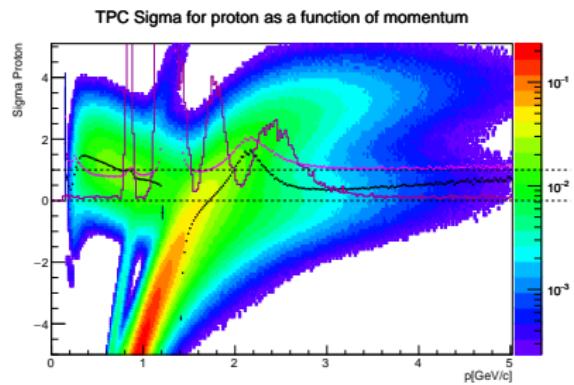
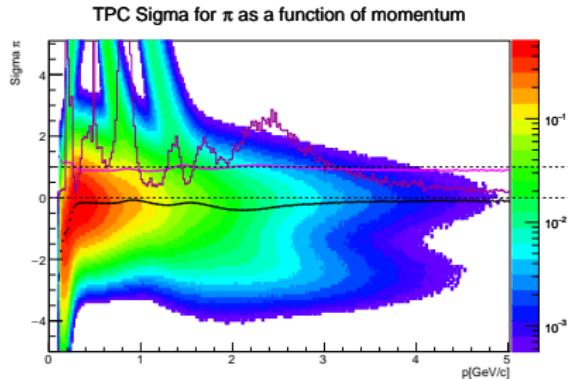
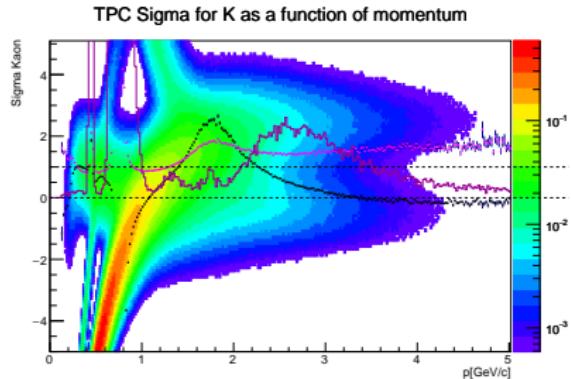
PID - TPC Kaons, pions and protons - LHC15h pass1



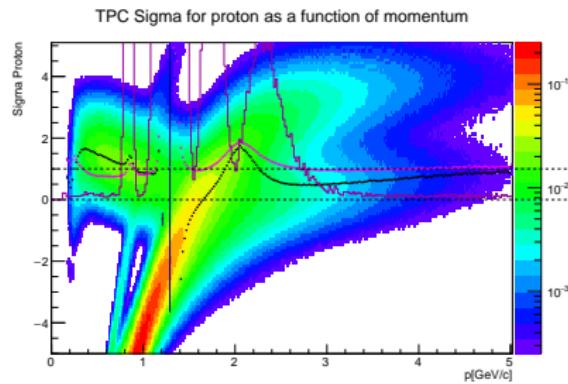
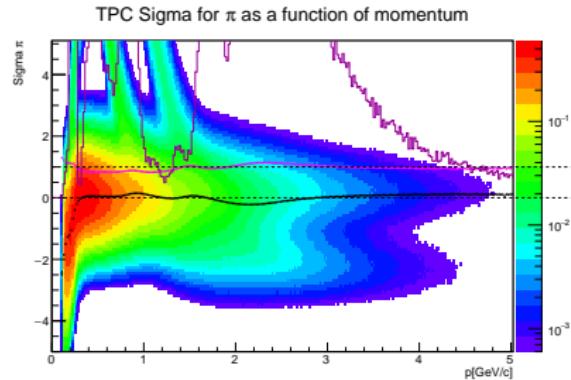
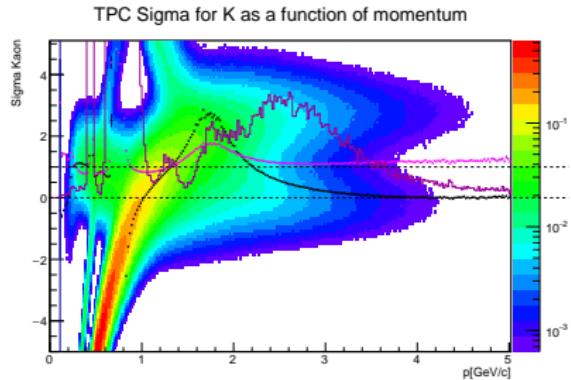
PID - TPC Kaons, pions and protons - LHC15f pass2



PID - TPC Kaons, pions and protons - LHC15h pass1



PID - TPC Kaons, pions and protons - LHC15f pass2



Conclusions

- QA LHC15h pass1 looks fine with respect to QA LHC15f pass2 at the level of statistics.
- QA PID plots look fine.
- QA Event selection and QA tracks look reasonable.

Thank you for your attention

**Questions ?
Comments !**