

Quality Control for the Muon Forward Tracker



Tomáš Herman

Czech Technical University in Prague Faculty of Nuclear Sciences and Physical Engineering

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- We need to check:
 - Dead parts of the detector
 - Fake signals
 - Errors in reconstruction
 -











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QC for the MFT





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What QC does



- Types
 - **Fast** identification of problems







What QC does



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• Long-term behaviour of the detector



What QC does



- Types
 - Fast identification of problems



- Monitoring
 - Automatic checks
 - Programmed and periodically applied on the measured data



• Long-term behaviour of the detector



- Human checks
 - Shifter in the control room looking at messages from the automatic checks
 - Identifying any other potential
 - problems

QC for the MFT



QC architecture















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ALICE

MF I



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QC for the MFT



Collisions	≈500 kHz in pp and ≈50 kHz in PbPb
ROF/STF/CTF	≈4 µs/≈20 ms/≈20 ms
Cycle	Checking and publishing of MOs ≈1 min
Permanent storage in QCDB	MOs go to the DB every cycle - later most of them are deleted Current expectation is to keep one each hour or at the end of each run
Runs	Several minutes to hours
Fills	Several runs
Periods	Several days/weeks



Pixels	512 x 1 024 x 936 = 490 733 568
Double columns	512 x 936 = 479 233
Regions	32 x 936 = 29 952
Chips	936
Ladders	280
Zones	80
Half-disk faces	20
Disks	5





QC Tasks



- Readout
- Digits (individual pixel hits)



• Clusters



• MFT Tracks

• Physics



• MFT+MUON Tracks



ບ1800 ALICE Preliminary, PbPb Vs_{NN} = 5.02 TeV ≣1600 UPC, L_{int} ≈ 216 µb⁻¹ ີ ສ1400 $p_{_{\rm T}}$ < 0.25 GeV/c -4.0 < y < -2.5 <u>ଞ</u>1200 $N_{J/\psi} = 5628 \pm 86$ $N_{y(2S)} = 105 \pm 30$ ර°1000⊧ $\chi^2/dof = 1.03$ 800 600 400 2.5 3.5 4.5 5.5 m.... (GeV/c²)

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Thank you for your attention!





Backup





Digit QC Task







nu-a1-tu-zu-12-su-tr17









