

# HLT Data Quality Monitoring

## status, plans and requirements for M7 and Data Taking



**Status of HLT DQ monitoring for trigger slices (M6, TRs)**

**Requirements for Online HLT DQ Monitoring**

**Offline Monitoring (Tier0 )**

**Checks on recent, reco. data ( e.g. express stream )**

**HU- Zeuthen Group Meeting  
29<sup>th</sup> April 2008**

**Christiane Risler, Martin zur Nedden, Humboldt- Universität zu Berlin**

# Status of HLT DQ Monitoring ( on-line )

Histograms available for nearly all slices -  
 at least some histos for each slice, completeness?  
 most histos only available for TR, not for cosmys (Mx)

automated DQMF checks implemented

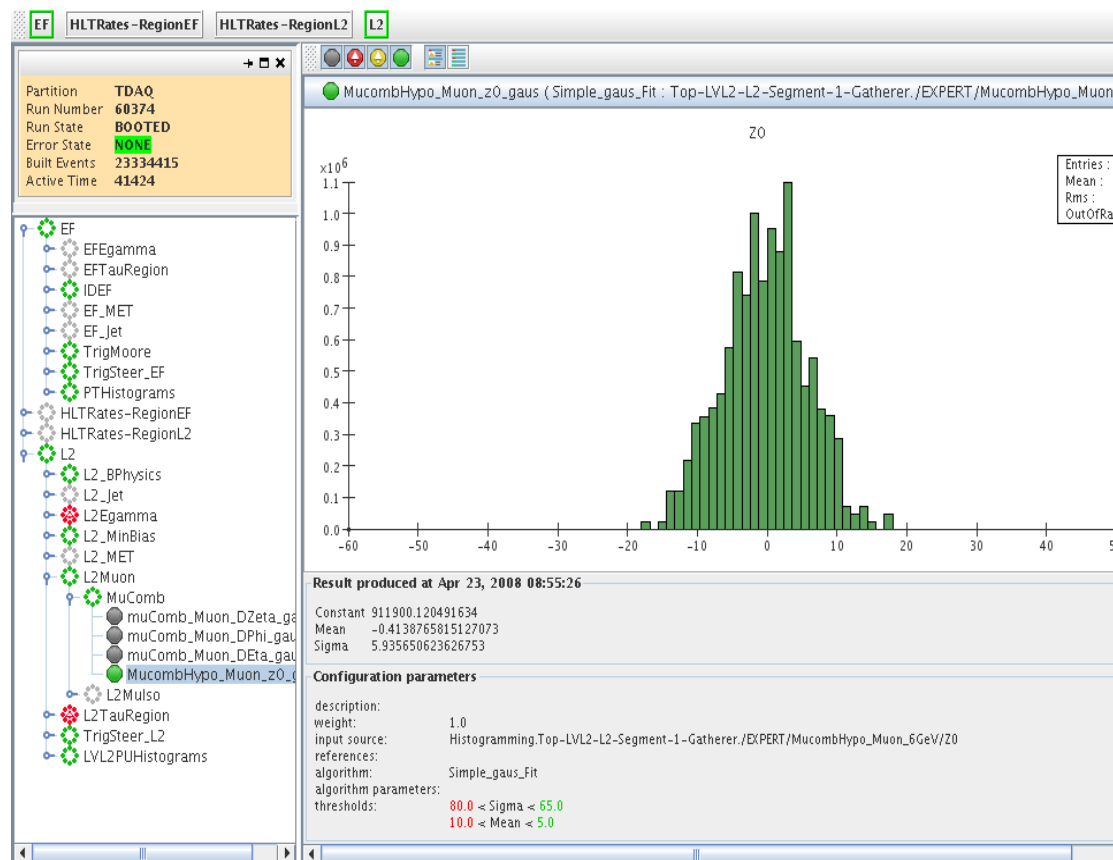
- some use comparison with references
- some use custom DQMF algorithms

**but:**

- often use **Histogram\_Not\_Empty** as place holder
- no instructions what **DQResult** not **Green** means, required actions?

some Histos are also checked  
 by shifters using OHP

hardly any instructions yet



# Next steps, what is needed for M7/ Data taking

In order to be able to evaluate performance of HLT and Data Quality, we need...

## **full set of DQ histograms for each slice**

containing all information necessary to evaluate performance of slice

+ detailed **description and instructions** for shifters

What should histogram look like ?

What do deviations from reference histo tell us?

What to do in case of problems?

Provide Twiki pages by experts (**partially already done**)

+ **reference histograms** for different conditions

for all histograms (not only if DQMF comparison is performed)

**histograms without description or reference are useless !**

+ meaningful use of **DQMF checks** for all histos

and instructions what to do if DQ result is not green

# Next steps, what is needed for M7/ Data taking

In order to be able to evaluate performance of HLT and Data Quality, we need...  
(in discussion with Nick Ellis, Chris Bee and Cristobal Padilla)

**small sub-set of histograms** - 1-2 histos / slice

to be checked interactively by shift crew (OHP)  
description, reference and instructions as above

**DQ experts for each slice** ( $> 1$  person)

implementation of missing code, descriptions, instructions  
cover on-call shifts during cosmics or data taking

**List of requests and questions send** to the slice representatives:

**feedback and input from slices DQ representatives is coming now**

# Off-line Monitoring: status and plans

**Tier0 reconstruction:** HLT code and algorithms implemented and running  
use information from deserialization of BS files  
to fill histograms for HLT Data Quality

**status:** example code for simple histogram of HLTResult,  
track parameters for ID Tracks in  
Trigger/ TrigMonitoring/ TrigHLTMonitoring

**plan:**

limited number of **histograms – general and slices**

e.g. 10 histograms per slice

**Which histograms** should be filled? Info available in **StoreGate?**

Need volunteers from slices coding these histograms !

discuss at workshop May 6

# Additional DQ checks on reco. data

Once we are taking data we will need  
constant **checks of Trigger performance** and **Data Quality**  
in addition to off-line and on-line DQ histograms  
performed on recent data files

## **start discussion:**

What kind of additional checks do we need?

How to be done?

Who?

Organized in shifts?

# Next Steps

## Requirements for HLT DQ :

improve and finalize **on-line and off-line** DQ Monitoring of HLT  
make sure histograms show **complete picture** of HLT performance  
and DQ

How to use histograms – **instructions and documentations (wiki-pages)**

Assign additional **DQ experts** – on-call shifts for data taking  
need feedback from slices

bring DQMF relevant files as a new project into the TDAQ CVS

## **Aim / Next Steps:**

discussion in a dedicated session at the

**Trigger DQ Mini Workshop on May 6 at CERN**

final histograms including descriptions, instructions and checks in  
place by the next **TDAQ week, May 19-23**

some things (e.g. for cosmics slice) needed even earlier – M7, special  
request for the relevant peoples send.