

Errors in HMPID runs

Three kinds of errors:

- 1) Data size and occupancy errors
- 2) ReadoutTime errors
- 3) DAQ errors

Data size and occupancy errors

- 1) In the HMPID-dsize-occ.xls file 986 runs
- 2) The values in the XLS-file are extracted from the DQM HMPID Quality Flag page.

Data size and occupancy errors

If you count the OK labeled runs, you may see, that there is something essentially wrong with border values setting.

This applies as for data size and also for occupancy.

For the time being the data size is set 900–2500.
For the time being the occupancy size is set 1–2.5

Data size and occupancy errors

In the case when the runs are OK and the data size or the occupancy values are above the threshold it does not mean that the thresholds need to be increased.

We can increase them only to reduce the number of call to the on-call shifter.

The HMPID runs are always OK, independently if one or more links are above the threshold.

Data size and occupancy errors

- I cannot handle the abundant cases with HV warning.
- I cannot handle the cases with QMap warning.
- There are lot of runs where all four pictures are empty and runs are labeled as ERROR. In every case there is a remark „FATAL Call OnCall”. These are runs which lasted less than 5 minutes, therefore the run is rejected.
- There are lot of runs with label „No DQM Info found”. This means the HMPID detector was not included in that runs.

ReadoutTime errors

There are considerably more OK runs with suitable ReadoutTime comparing to OK runs for size and occupancy data, which means the ReadoutTime limits are set closer to the needs (reality) than limits for the data size and occupancy .

If in the column ReadoutTime is something else than OK, it means PROBLEM.

The limits for ReadoutTime is set to 250–320 usec. There are many runs where ReadoutTime is only slightly over 320.

This means that maybe it would be better to increase the upper limit to 380 usec (Giacinto's proposal).

ReadoutTime errors

- There are many runs where the ReadoutTime starts from zero and increases to a nominal value. These runs are also marked as PROBLEM.
- There are many runs where ReaoutTime drops from nominal value to zero and then increases back to the nominal value. Similarly for oscillating between nominal value - zero - nominal value. These runs are also marked as PROBLEM.
- There are only a few runs with short extremely high ReadoutTime value. Evidently they are considered as PROBLEM.

DAQ errors

EOR by HMPID – 28 times from 1540

Reason	Times
detectorRequiringCalibration	1
sodNotReceived	5
CDH error	6
pauseAndResetError	16

CDH errors (1)

Run	Role	Messages
290643	ldc-HMPID-3	CDH mismatch in event identification for eqld=1546 current equipment: period=0, orbit=4890636, bunch crossing=0 former equipment: period=0, orbit=0, bc=1762 LDC-HMPID-3 End of run requested with error
287976	ldc-HMPID-1	CDH mismatch with the trigger patterns x 10 times for eqld=1541 current equipment: High=0x0, MiddleH=0xf, Low=0x0 former equipment: High=0x0, MiddleH=0x1f, Low=0x0 LDC-HMPID-1 End of run requested with error
287975	ldc-HMPID-1	CDH mismatch with the trigger patterns x 10 times for eqld=1541 current equipment: High=0x0, MiddleH=0x289, Low=0x0 former equipment: High=0x0, MiddleH=0x299, Low=0x0 LDC-HMPID-1 End of run requested with error

CDH errors (2)

Run	Role	Messages
286803	ldc-HMPID-3	CDH mismatch in event identification for eqld=1546 current equipment: period=0, orbit=4890636, bunch crossing=0 former equipment: period=0, orbit=4890636, bc=1762 LDC-HMPID-3 End of run requested with error
286902	ldc-HMPID-3	CDH mismatch in event identification for eqld=1546 current equipment: period=0, orbit=3423417, bunch crossing=0 former equipment: period=0, orbit=3423417, bc=1762 LDC-HMPID-3 End of run requested with error
286500	ldc-HMPID-3	CDH trigger error bit(s) x 10 times for eqld=1546 The followint status/error bits are set=0x1=CDG_TRIGGER_OVERLAP_BIT LDC-HMPID-3 End of run requested with error