



MET group



Sophie Trincaz-Duvoid (LPNHE Paris)
Patrice Verdier (LAL Orsay)

ADM
2004/03/05

MET run/LBN selection

Post-shutdown data

Post shutdown data

x We are monitoring all D0 data available in SAM :

✓ The production is done remotely at CCIN2P3

✓ We plot missingET quantities per RUN and LBN

x Our program uses :

✓ T42 in « killer » mode

✓ Reconstruct JCCA/JCCB and missingET chunk

✓ Use cal_event_quality package => event flags :

- Empty crate

- Coherent Noise

- Ring Of Fire

x Data sample : p14.06.00 data available in SAM (04/03/03) : physic runs

✓ 426 runs (few runs missing : jobs crash)

✓ 55,766 LBNs

✓ 124,706,881 events

Selection criteria

x We are using :

✓ cal_event_quality

✓ met distributions

x to identify problems in the data

x If it is found that the run mostly bad :

✓ we reject it

x Otherwise :

✓ we apply a selection at the LBN level

x dq_calor :

✓ 4 runs have been declared bad online by dq_calor :

• 187683, 188925, 189240, 189321

✓ We just reject these runs

LBNs with high number of events

× Some LBNs have more than 3600 events

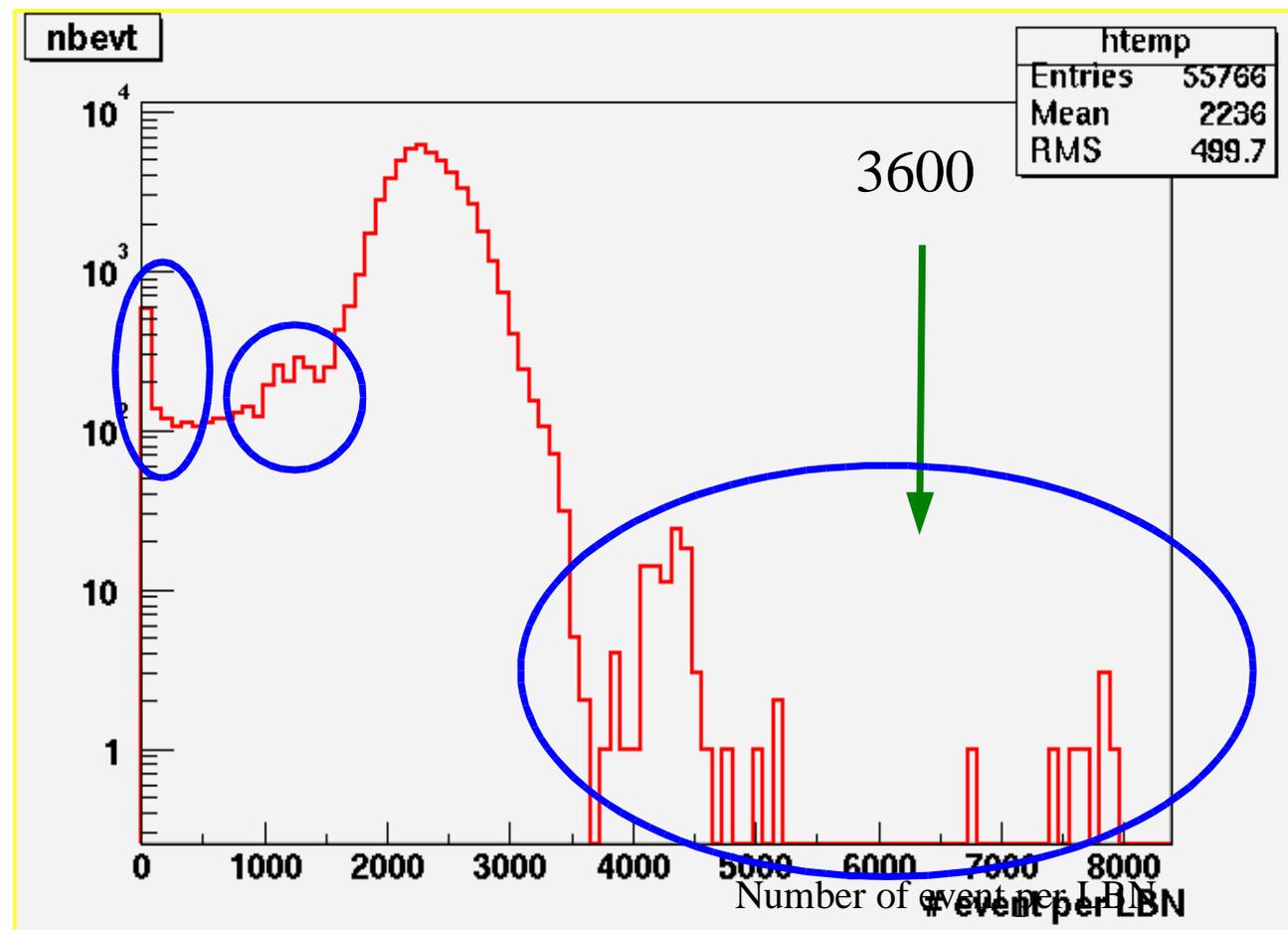
✓ Is it a calo, trigger problem ?...

✓ We reject these LBNs

× LBNs with less than 250 events are rejected (not enough statistics)

✓ In future, we will look at closest LBNs to declare these LBNs good or bad

× The peak at 1000-1500 comes from runs just after the shutdown : all LBNs of these runs have only ~1500 events



« Ring of fire » events

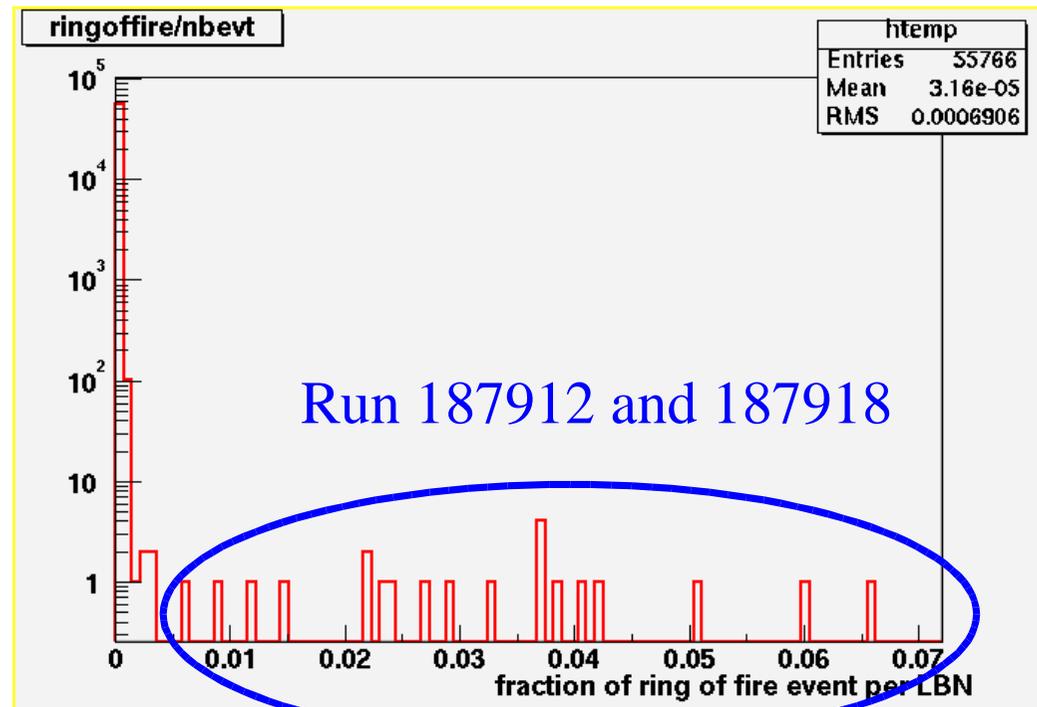
× Two runs were identified with ring of fire :

- 187912 and 187918
- Tom Diehl and Slava Shary are working on that

× This week data have ring of fire like events (not in my data sample today)

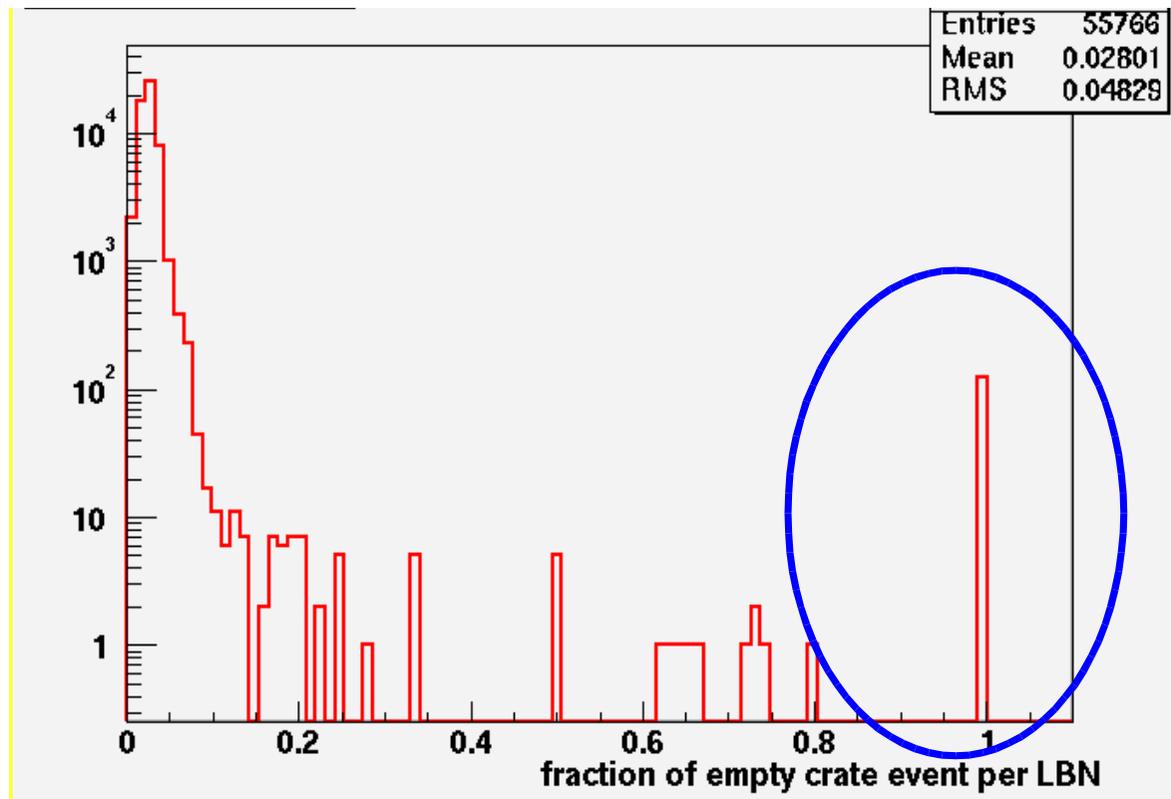
× but only ~20 LBNs over 454 LBNs in runs 187912 and 187918 have this problem :

- ✓ rejecting just LBNs instead of runs would to save 95% of these 2 runs.



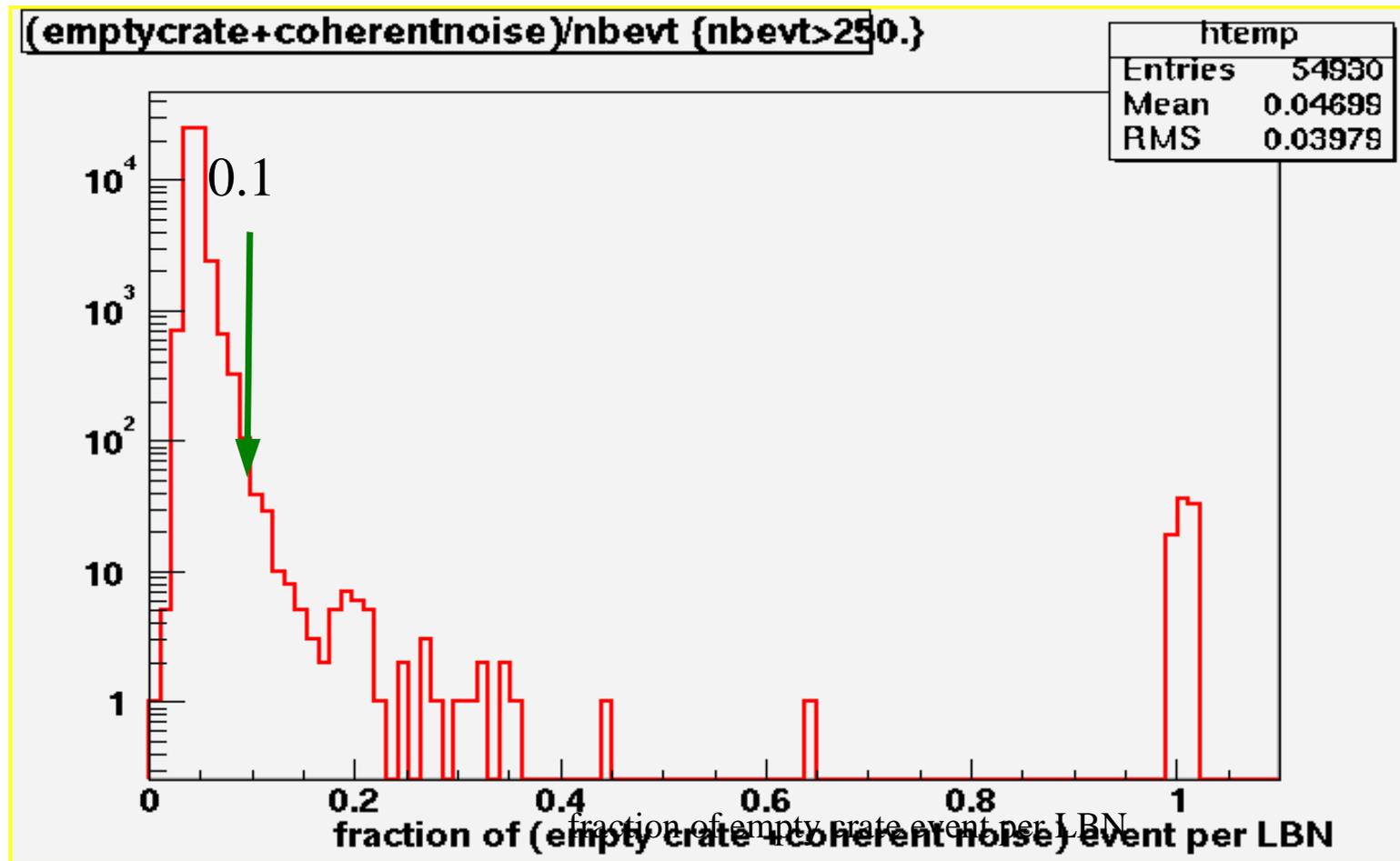
Empty crate events

- ✗ « Empty crate » events are partly due to high event rate
- ✗ run 189240 has been declared as « physics » run while all BLS have no signal (perhaps a calibration run)



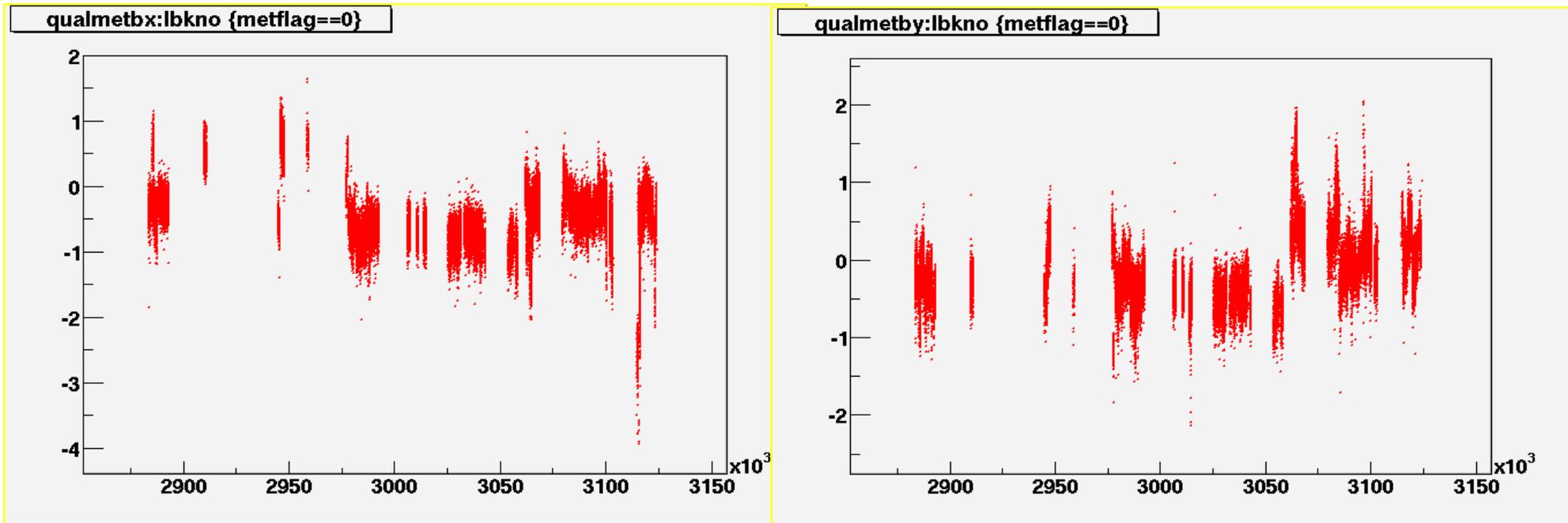
« coherent noise + empty crate » events

- × We reject LBNs which have (emptycrate+coherent noise) fraction of event per LBN greater than 10%



METB x and y stability

x average value per LBN of METB x and y as a function of the LBN number :

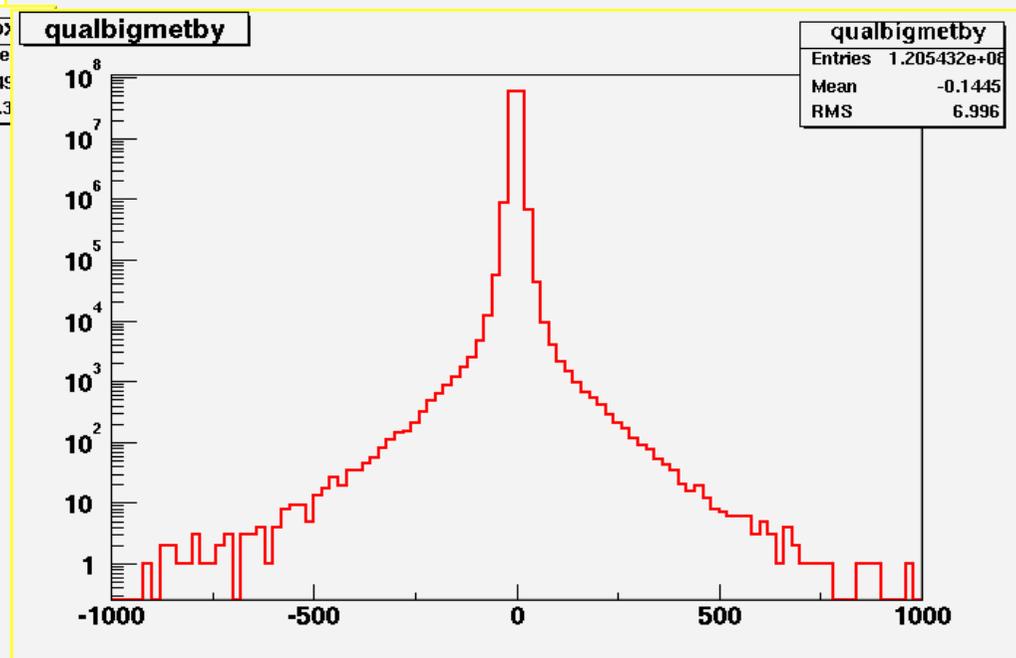
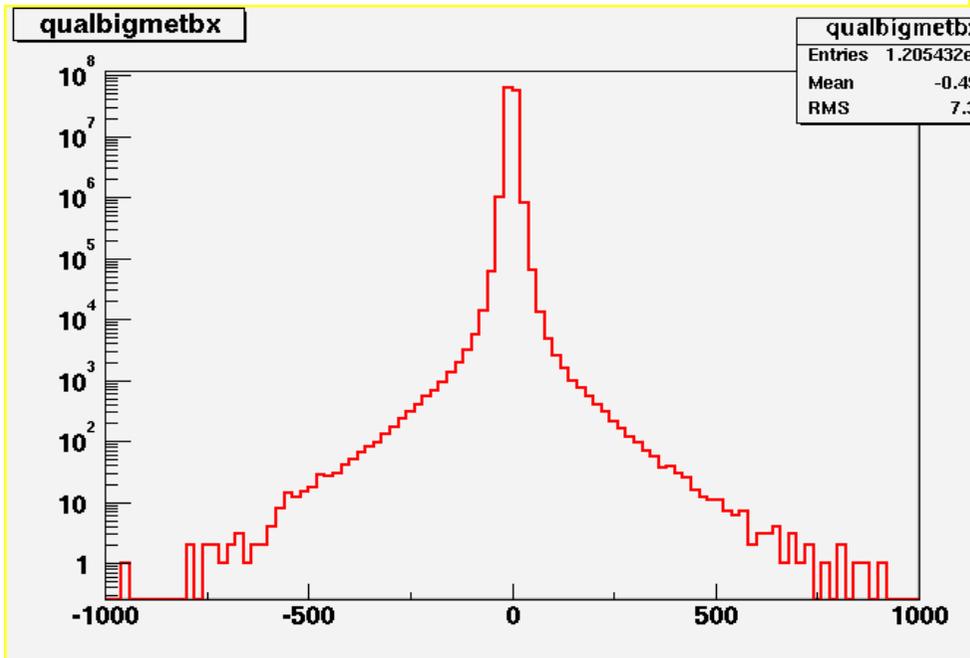
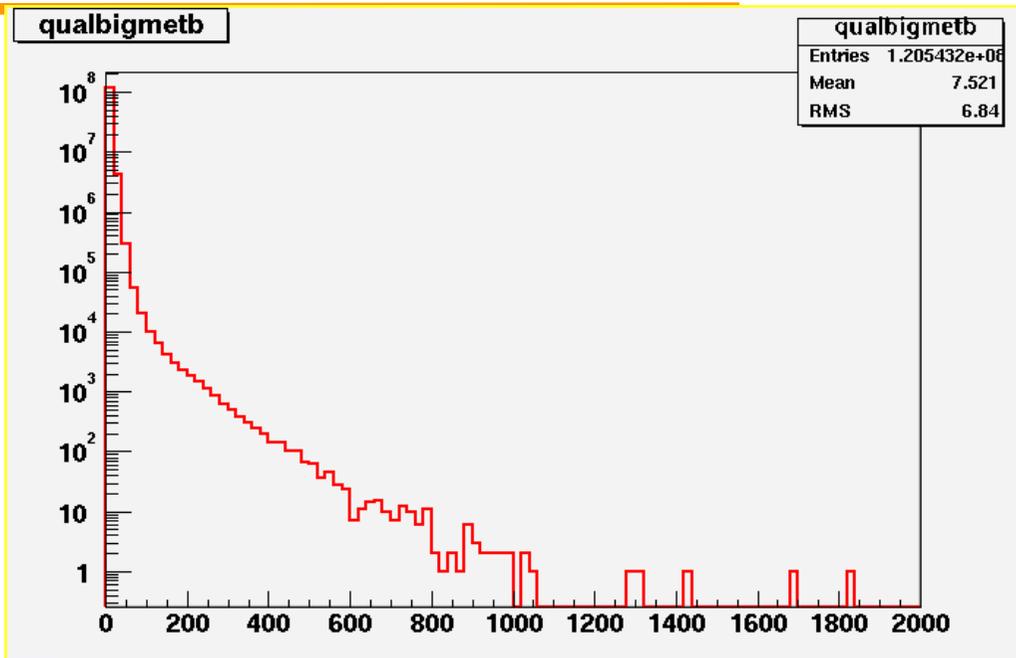


x We still have fluctuations of the order of 1 GeV

MET distribution after selection

× Event MET distribution after :

- ✓ run/LBN selection
- ✓ for event passing cal_event_quality
- ✓ 120,543,200 events (96.6%)



Conclusion

x We found several bad runs declared good online :

**✓ 187912, 187918, 188155, 188955, 185782, 186074, 186075, 187683,
189240, 189241, 188909, 188902, 189501, 189502, 189503, 189504**

x With our run+LBN selection + dq_calor + cal_event_quality per event :

✓ we keep 96.6 % of the data

x MET web page will be updated with bad runs and bad LBN list for post-shutdown data.