

# L1 RPC trigger DQM

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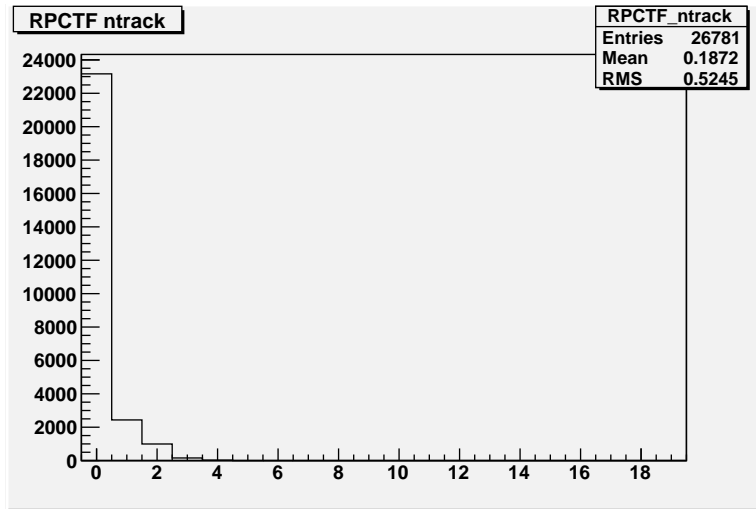
# L1T RPC DQM Status

Contents of "/ROOT Files/DQM\_L1T\_RP

- RPCDigi\_box;1
- RPCDigi\_box\_all;1
- RPCDigi\_box\_last;1
- RPCTF\_box;1
- RPCTF\_charge\_value;1
- RPCTF\_charge\_value\_+1;1
- RPCTF\_charge\_value\_-1;1
- RPCTF\_eta\_value;1
- RPCTF\_eta\_value\_+1;1
- RPCTF\_eta\_value\_-1;1
- RPCTF\_muons\_tower\_phipacked;1
- RPCTF\_muons\_tower\_phipacked\_norm;1
- RPCTF\_ntrack;1
- RPCTF\_phi\_value;1
- RPCTF\_phi\_value\_+1;1
- RPCTF\_phi\_value\_-1;1
- RPCTF\_phi\_valuepacked;1
- RPCTF\_phi\_valuepacked\_norm;1
- RPCTF\_pt\_value;1
- RPCTF\_pt\_value\_+1;1
- RPCTF\_pt\_value\_-1;1
- RPCTF\_quality;1
- RPCTF\_quality\_+1;1

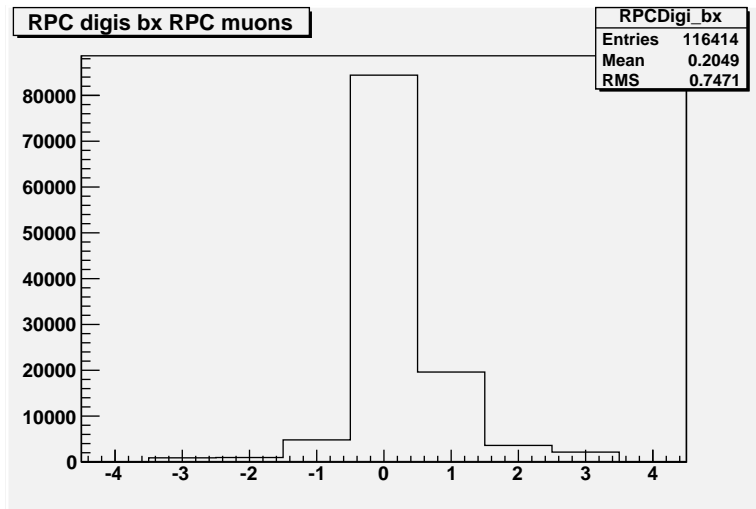
- L1TMonitor part implemented, contains  $\sim 30$  histograms. Some minor changes required
- Most of histograms documented at <https://twiki.cern.ch/twiki/bin/view/CMS/DQMShiftTrigger> with example plots
- Client part (especially quality tests) needs more work. Small number of qtests defined, not very useful from shifter pov

# Example DQM plots



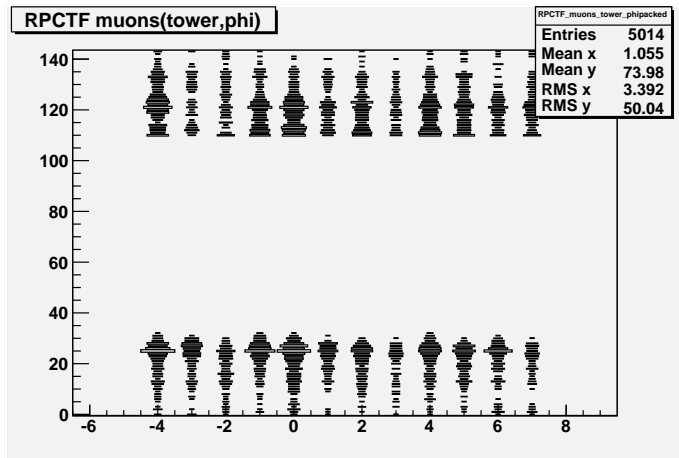
Number of RPC muon candidates per event

# Example DQM plots

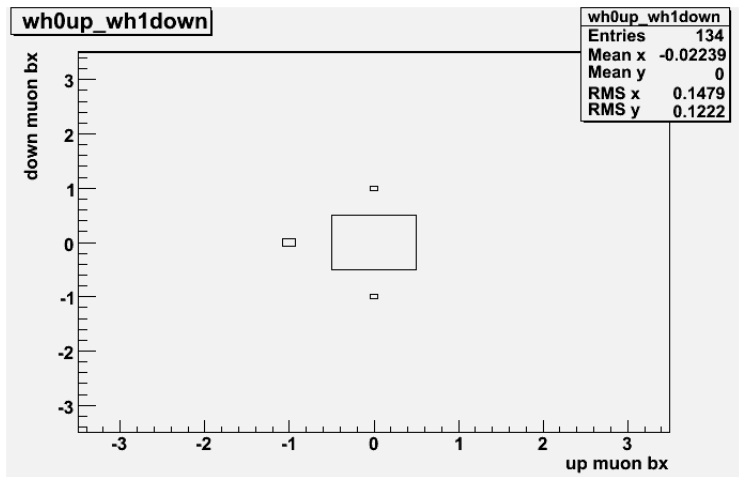


BX distribution of RPC digis. Readout recently extended to  $bx=-3,+3$ , should ease synchronisation

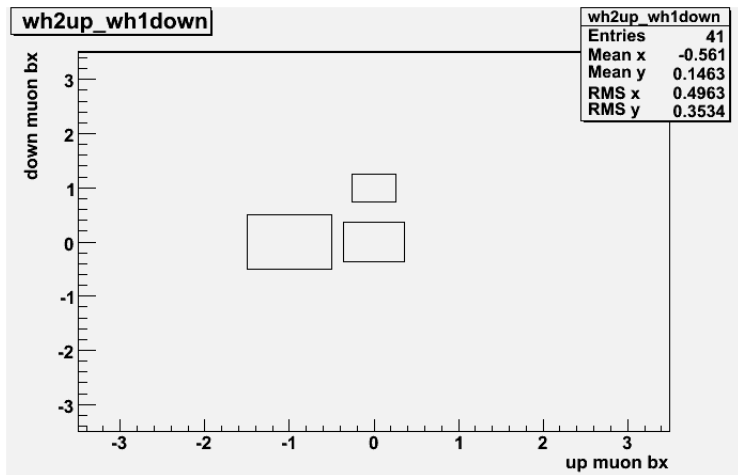
# Example DQM plots



Occupancy in (tower,phi). Muons visible only in near side due to missing far side Trigger Crates power supplies (in reparation). Before CRUZET4 power supplies will be moved from near to far side TC



Relative synchronization between wheels. Each axis shows bx of muon candidate found in up/down region of two different wheels (near side only). Proper synchronization between Wh0 and Wh1 visible (MiniDaq run, RPC trig emulator used as muon cand. source)



Example of not synchronized W-2 (as of 5 Aug, proper synchronization done recently)