BCM1F status

21 October 2009

Scalers

Provide counts/sec in:

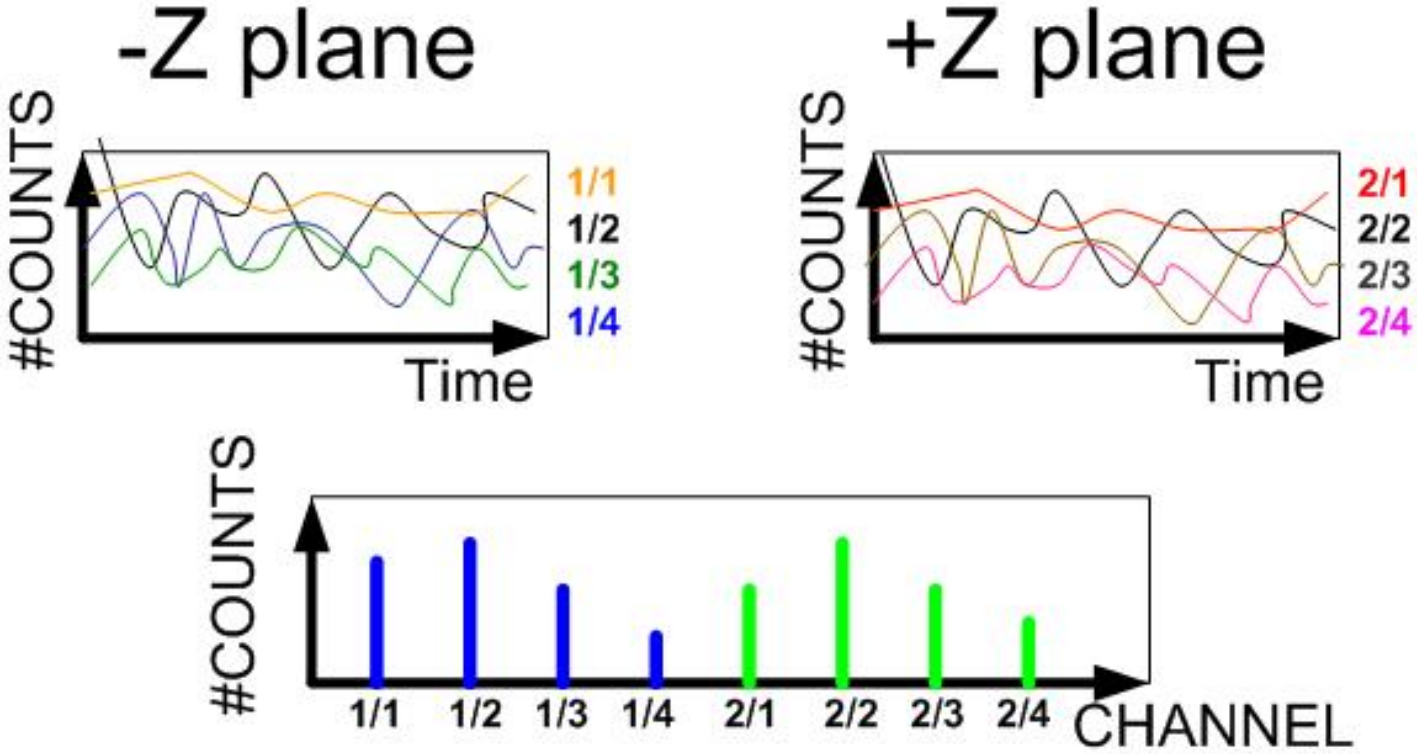
8 diamonds, Orbit trigger, +Z/-Z OR

- DIP
  - Common acquisition/DIP publishing code still located in:
    /nfshome0/brmdev/DIPTest-Alan/proto_rhw
  - DIP publisher: dip/CMS/BRM/BCM1F/SCALER/sc_rates

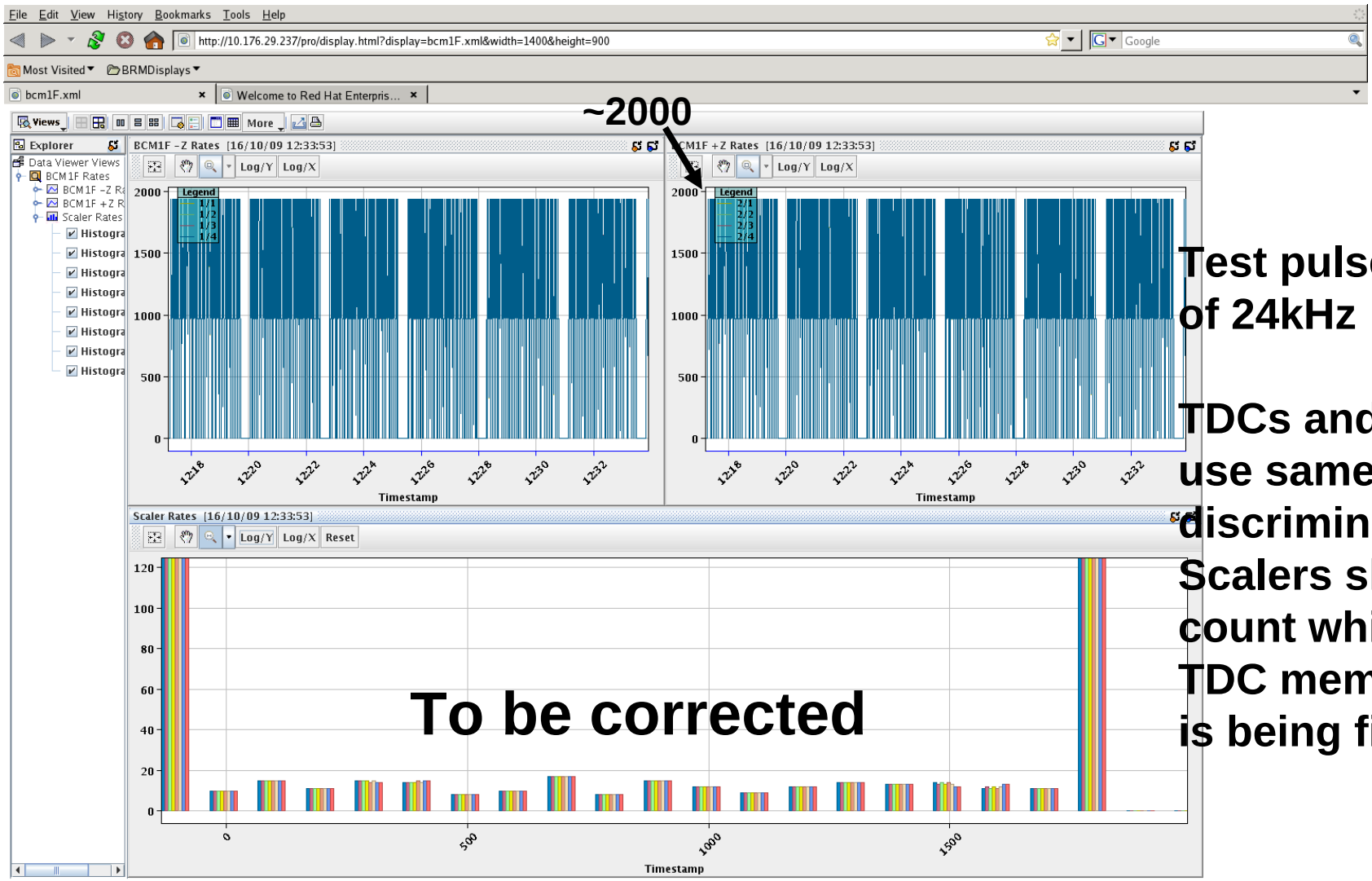
- Data stored in brmbcmctrl3:
  /data/bcm1f/scaler/scaler.dat
  From there it has to be transferred to CASTOR

- Start/Stop/Restart scripts in:
  /nfshome0/brmpro/bin

Monitor in control room (I)



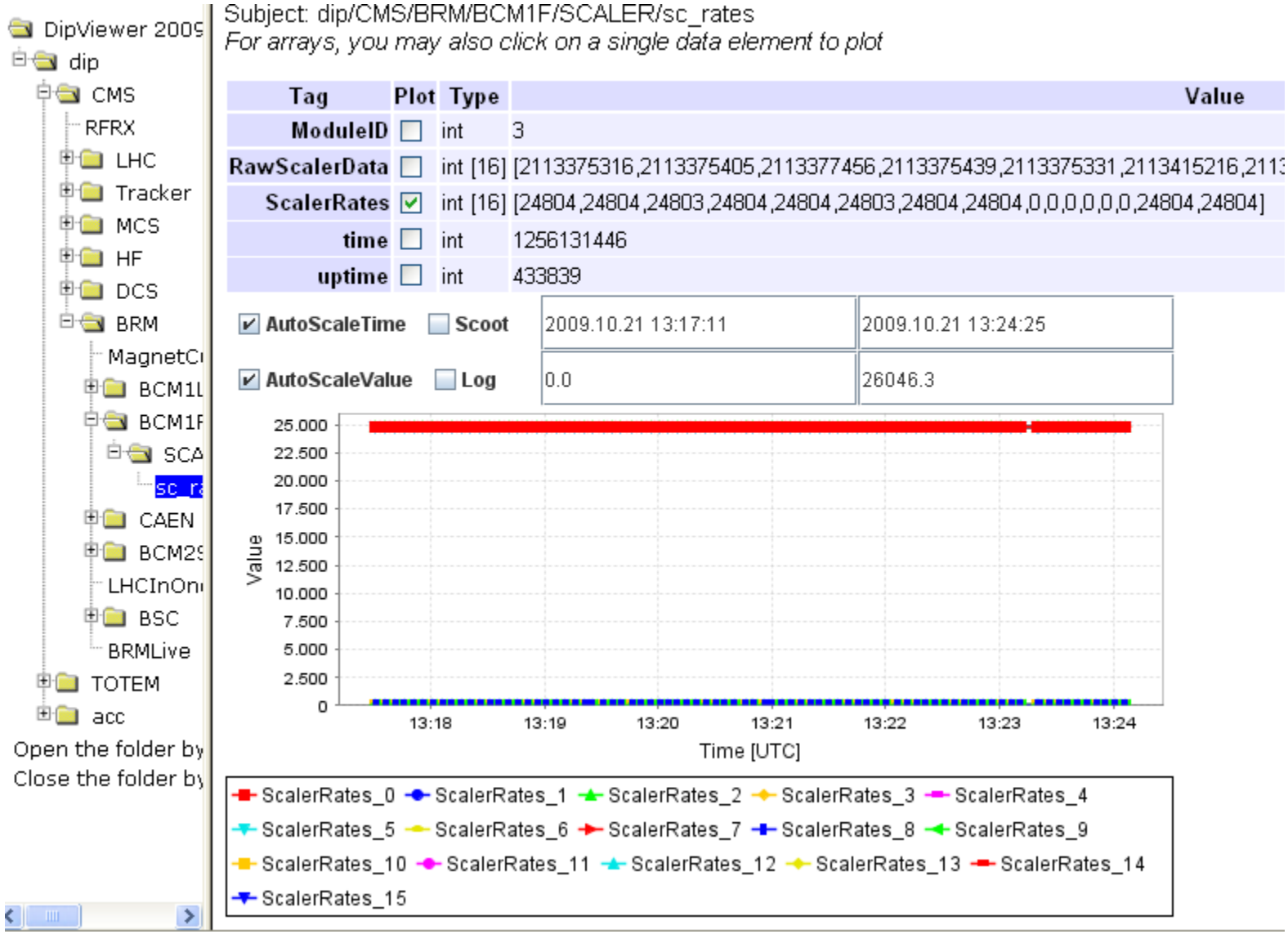
Monitor in control room (II)



Test pulses of 24kHz

TDCs and scalers use same discriminator➔ Scalers should count while TDC memory is being filled

DIP web browser



TDCs

Provide 2 histograms:

Number of hits per orbit in +Z/-Z, distribution of hits in orbit for a whole Block Transfer (BLT).

- DIP
  - Acquisition/DIP publishing code located in:

    /nfshome0/brmdev/DIPTest-Roberval/BLT_arrays
  - DIP publisher: dip/CMS/BRM/BCM1F/TDC/tdc_histos

- Data stored in brmbcmctrl3:

  /data/bcm1f/TDC/txt_file/

  From there it has to be transferred to CASTOR

- Start/Stop/Restart scripts in:

  /nfshome0/brmpro/bin

  Name of script: *bcm1fTdcs*

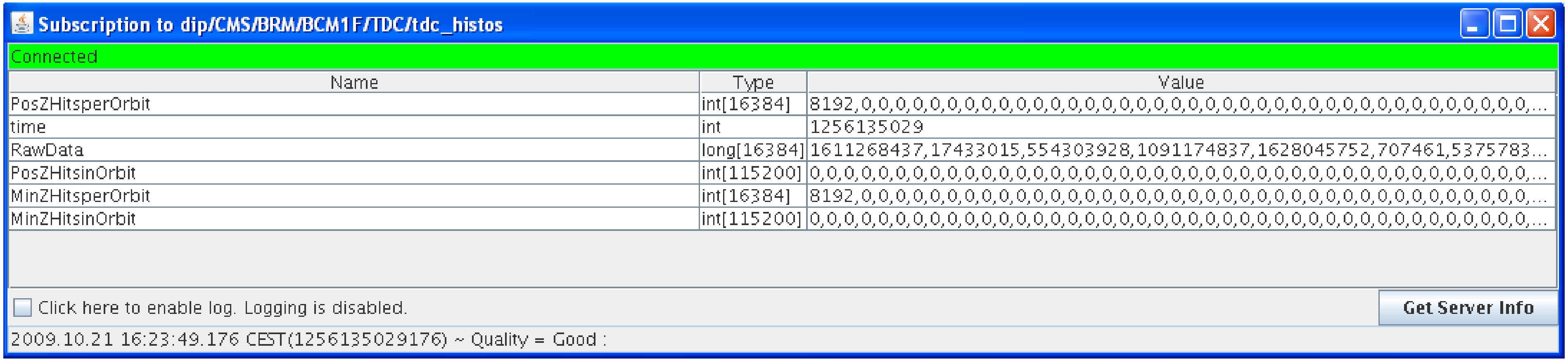
TDCs

Available also the publication of the 8 channels independently

- DIP
  - Acquisition/DIP publishing code located in:

    /nfshome0/brmdev/DIPTest-Roberval/BLT_arrays_v1

DIP javaws browser



Name	Type	Value
PosZHitsperOrbit	int[16384]	8192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...
time	int	1256135029
RawData	long[16384]	1611268437,17433015,554303928,1091174837,1628045752,707461,5375783...
PosZHitsinOrbit	int[115200]	0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...
MinZHitsperOrbit	int[16384]	8192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...
MinZHitsinOrbit	int[115200]	0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...

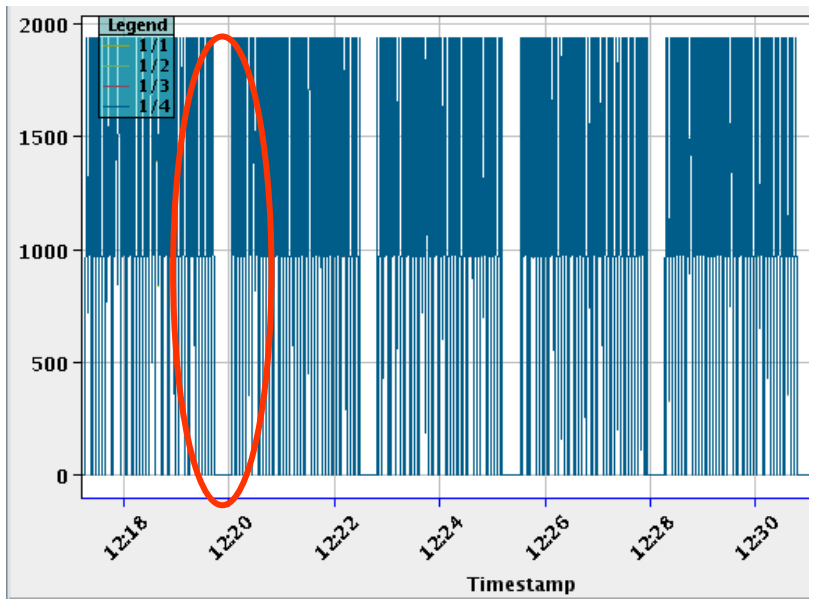
PosZHitsperOrbit (name to be changed to +ZHitsperOrbit)→Hits/orbit in 4 detectors of +Z side.
Array of 16k entries (max of BLT) of 32 bits. Each entry is a orbit and indicates the Hits in this orbit.

PosZHitsinOrbit (name to be changed to +ZHitsinOrbit)→Distribution of Hits in orbit, averaged over all orbits in the BLT.
Array of 115200 entries (89us in TDC counts (0.8ns/bin)), each entry is time relative to orbit and its position in array has to be multiplied by 0.8ns.

Same for –Z side

TDCs: still to do

- Decoupling TDCs‘ input from scalers input: currently using same discriminator
- TDCs:
  - Observed strange pattern in scalers that might be due to current BLT transfer scheme with DRDY signal for vetoing inputs of TDCs.



TDCs: still to do

- It seems the continuous running crashes after some hours→study the reason
- Provide info for including the monitor of TDCs in DIP web browser and in control room
- Provide another histogram:

  Multiplicity plot for each of 8 channels