News and Status - CGEM

2025/06/17

Status @ last meeting

- L1 and (bottom) half of L2 are working normally
- Frequent communication errors when operate L3 or L2s with normal voltages
- Idea was to test during the day and keep a stable operation during the night.

Some tests

- We inverted HV connection of L1 and L3 at the crate to test the channels
  - No effect on the detectors stability
  - Monitoring/database has inverted information for L1 and L3

- We switched back
  - Runs from 85856 to 85888 have inverted L1 and L3 monitoring
  - From Run 85889 back to “normal” situation

- Installed an oscilloscope to monitor signals from FEB 2 of GEMROC 3 to investigate communication errors

Status - L3

- During the weekend, tested HV configuration of L3, to find a possible optimal working point

- By looking at the currents' monitor saw a possible source of instability, that may cause errors
  - Removed 2G2 and 2G1 connectors from patch panel in floor 2
  - No impact on acceptance since 2G3 was already disconnected due to electrical instability

- From that moment, L3 more stable. Increasing L3 HV from run 85909 to 85914

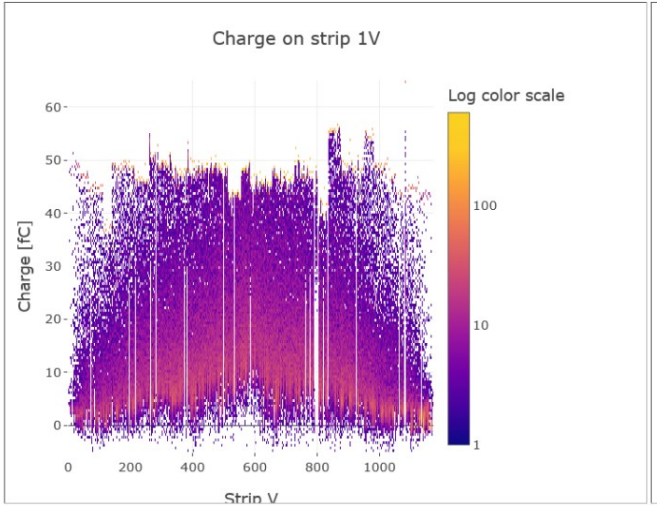
- From run 85915 at "normal" HV values for L1, L2 (bottom), and L3; L2s (top) still with GEM at 200, no multiplication expected

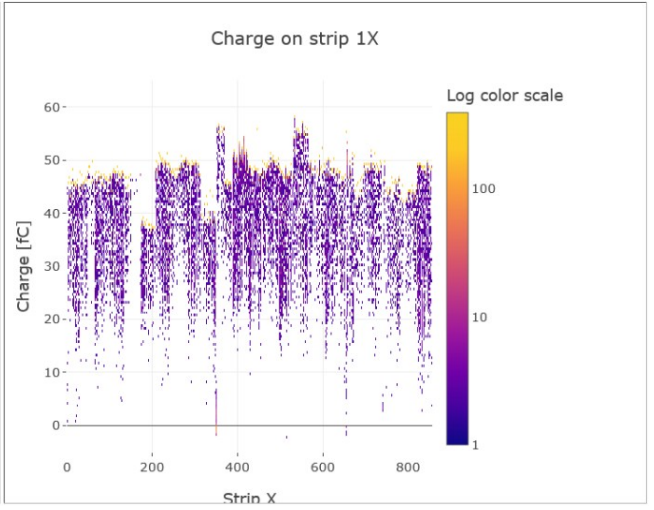
Status - L2s

- On Monday, test to find an optimal working point for L2s
  - Or find the highest working value

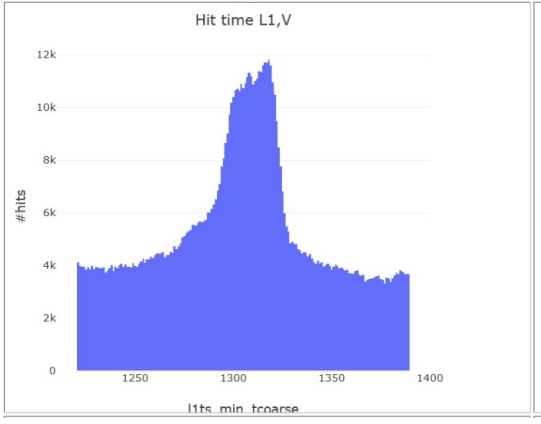
- Found a limit when GEM sum reaches 800 V
  - Expected low amplification
  - Other detectors are stabily around at 855 V
  - Still not very stable, but better than before

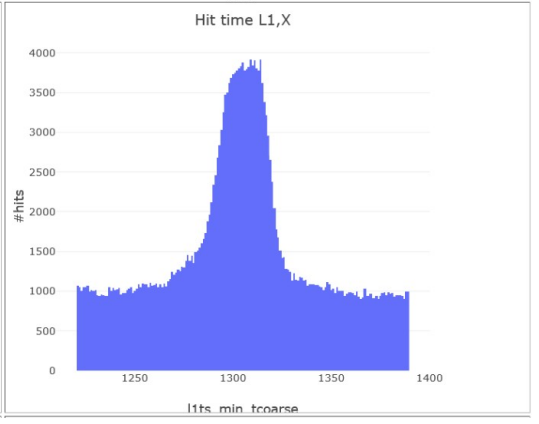
Online data from Run 85940



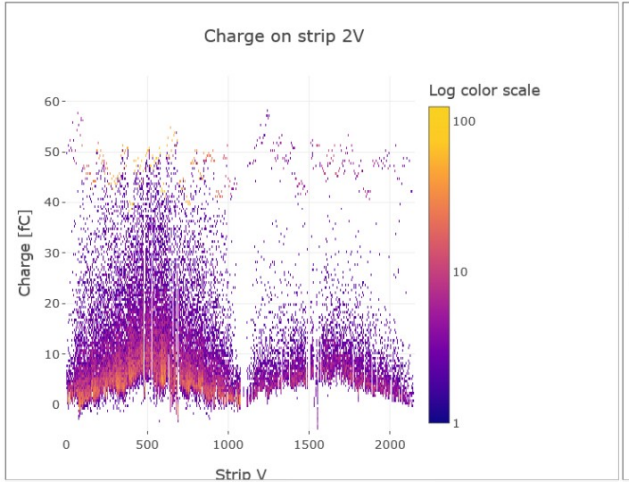


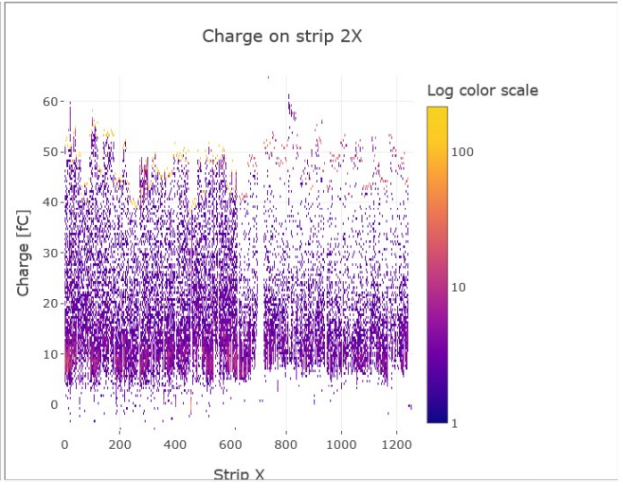
Data from L1



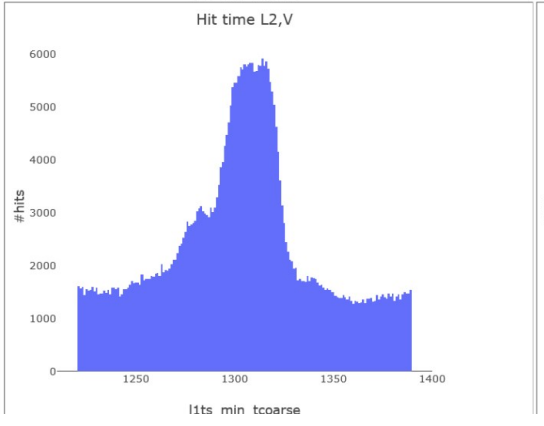


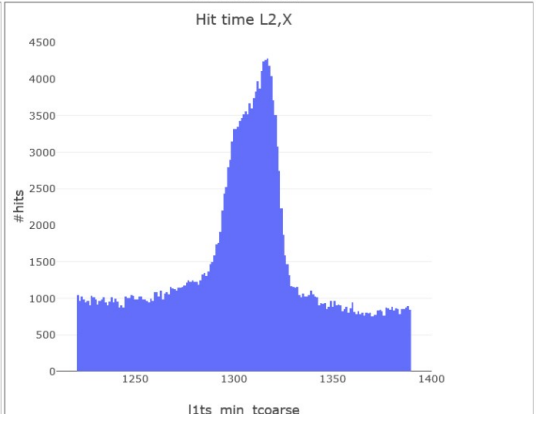
Online data from Run 85940



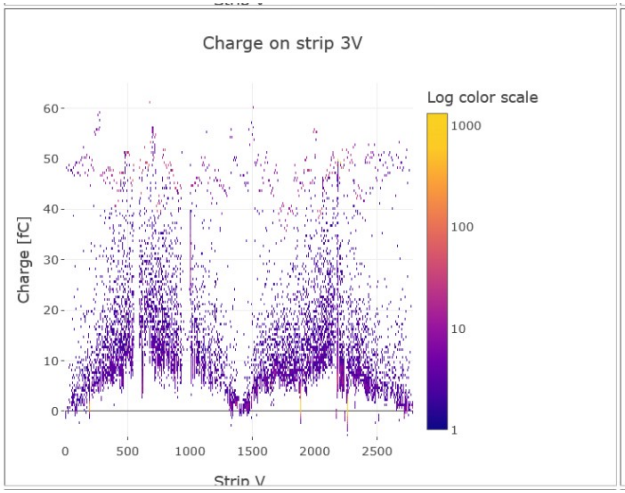


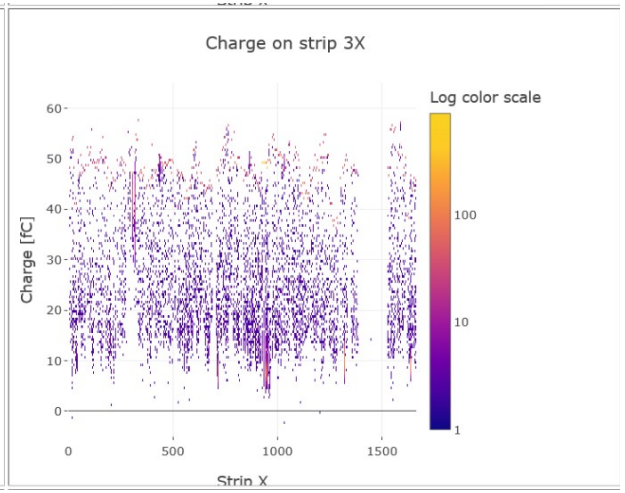
Data from L2



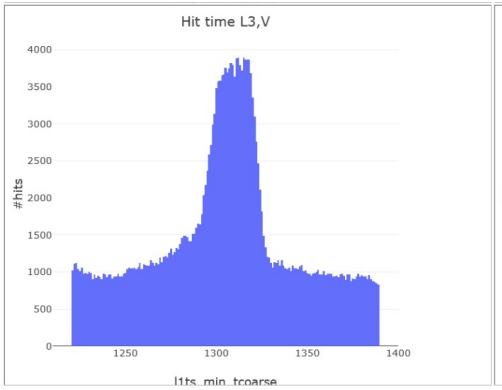


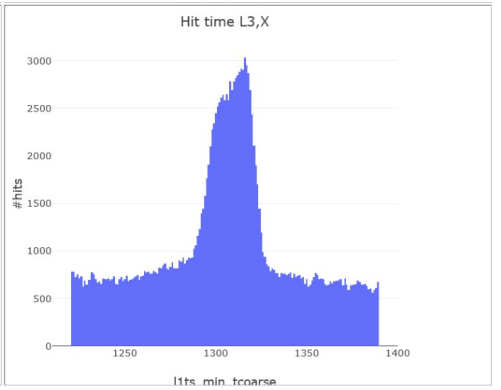
Online data from Run 85940



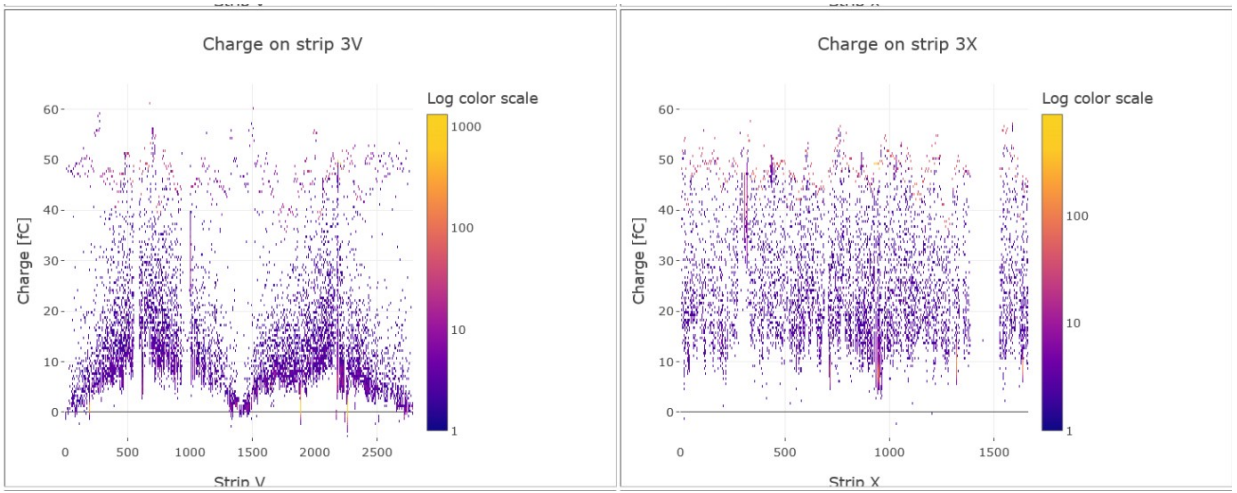


Data from L3





Online data from Run 85940



Data from L3

While review threshold plots found some issues with few channels.

Took new threshold during the technical stop on Tuesday morning