



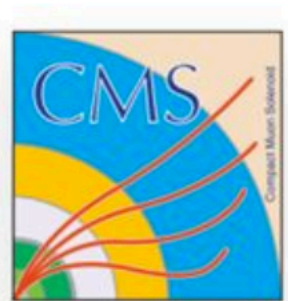
DOC/DGL Weekly Report

30th April '18 - 6th May '18

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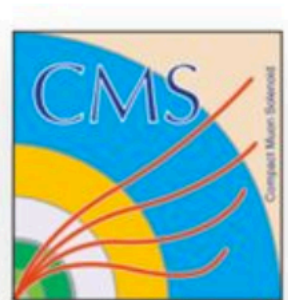
[1] Northeastern University

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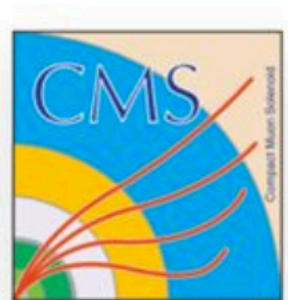
Monday, April 30th 2018

- ECAL pedestals taken during the interfill (following Run 315420).
 - There were problems with running in the fast mode (first tried with CCS modification). Pedestals were then taken in slow mode (Run 315434).
 - These pedestals were reprocessed with full statistics and are available on private ECAL DQM and DB.
- ES pedestals in high (Run 315438) gain/low gain (Run 315439) were also taken.
- While in local, "Unknown Single 134" error was seen in ES. This was solved by 2 red recycles.
- Test pulses were also taken in slow mode (Run 315485)
 - Were reprocessed with full statistics and are available on ECAL private DQM and DB.



Tuesday, May 1st 2018

- Two tests performed in coordination with the Level 1 team.
- Test 1 :
 - During the interfill (b/w fill 6628 and 6629), ECAL laser corrections and intercalibrations were deployed.
 - Accompanied by deployment of new calo (L1 + L2) calibrations by the Level-1 team.
 - This new key (2018 ECAL conditions + L1 calibration) was then tested at the beginning of fill 6629 during stable beams to check the L1 and HLT rates.
 - The HLT DOC could not conclusively say if trigger rates looked reasonable to them (any fine-tuning, if required, was to be done by L1-HLT). We were **not** asked to roll back from the 2018 conditions.



Tuesday, May 1st 2018 (2)

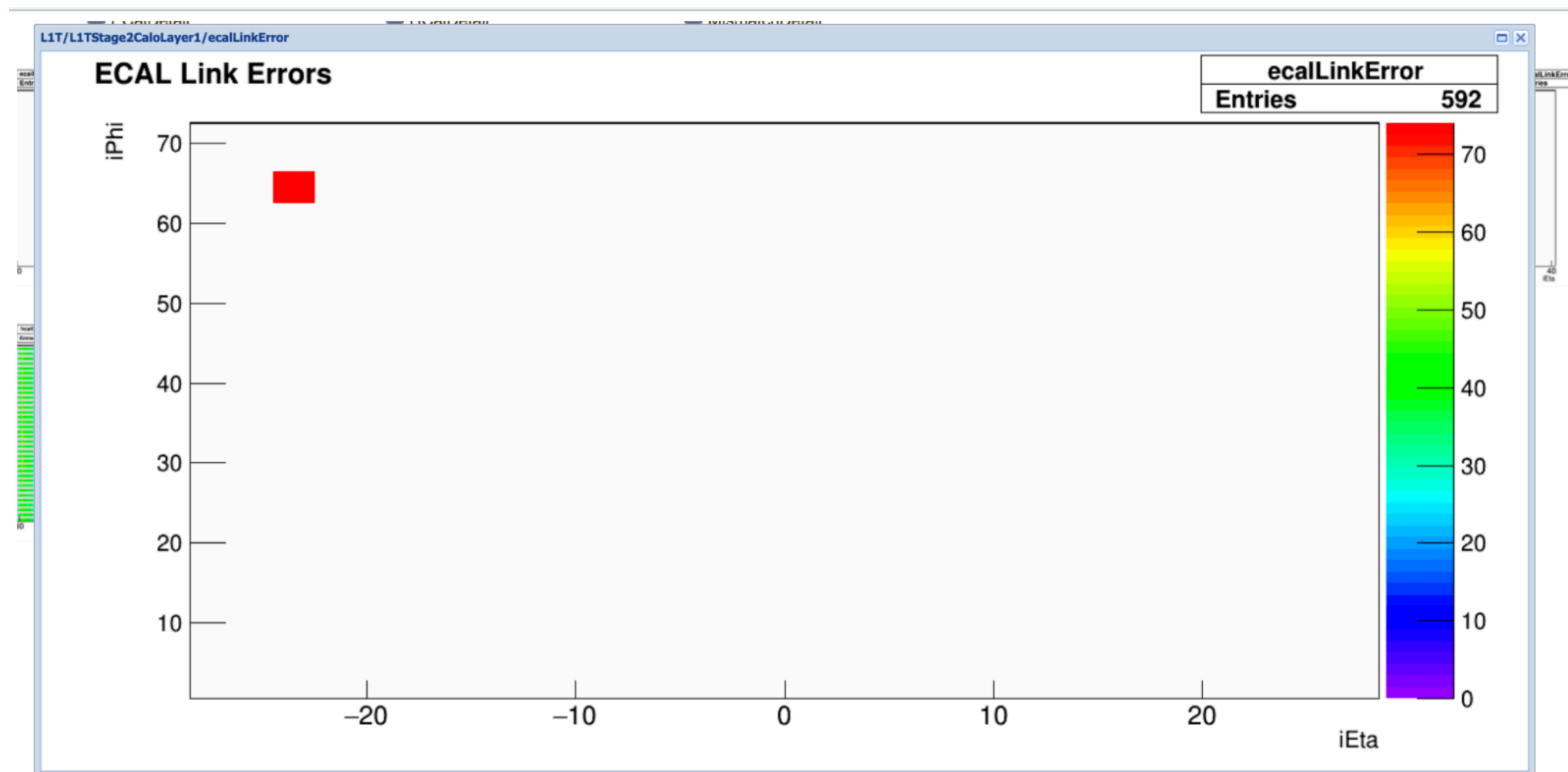
- **Test 2** :

- In order to study the impact of ECAL timing on Jet and Met triggers, ECAL DAQ was asked to revert back to the old FE timing delays (Fill 6629 ; run 315509).
- We then took data for around 20 minutes with this configuration and on receiving a green light from L1 team about the collection of enough data, Giacomo was asked to restore the current timing settings (run 315510; first run with the restored settings after test 2).

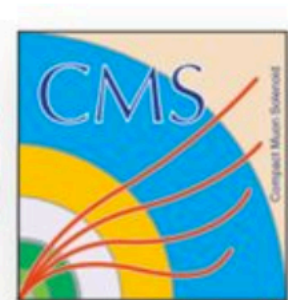
- Both tests were successful!

Tuesday, May 1st 2018 (3)

- Run 315512 : L1 Doc reported a L1-ECAL link error.

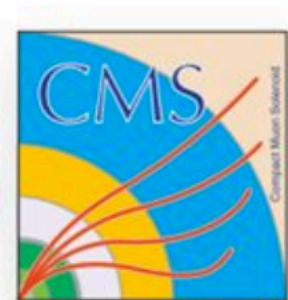


- The oSLB's monitors looked good from the ECAL DAQ side and the number of entries did not increase over time. Hence, no action was taken.



Wednesday, May 2nd 2018

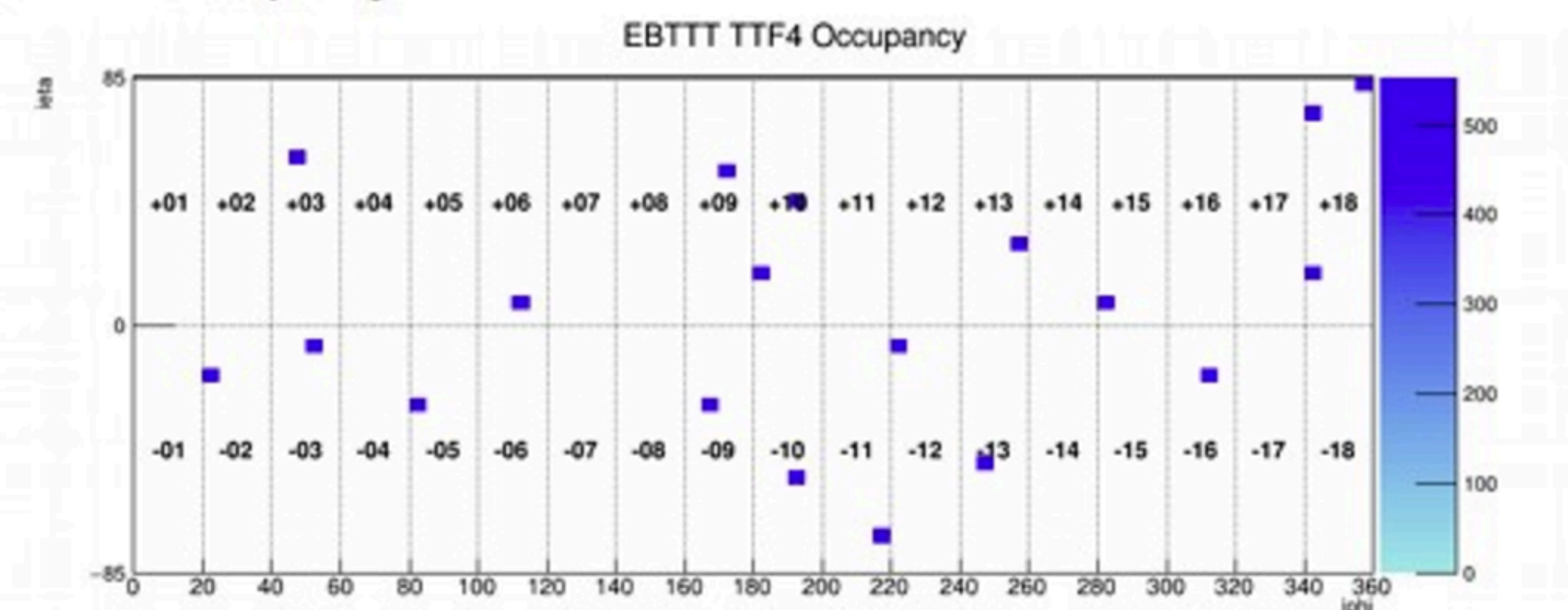
- Temporary communication loss to EBP15/16 HV (CAEN OPC communication problem) was reported by the ECAL DCS shifter.
 - Communication was restored by clearing the alarm buffer on that crate.
- There was an unplanned beam dump around 1430 h and ECAL was put in local during which some tests were performed.
 - The behavior of LSD masking at SEU was tested. The clear and reset of LSD masking of TCC supervisor was tested (with a frequency of 2, 5 minutes). As opposed to this, the clear of masking based on global b-go resync was always only a clearing of the masking status, not a link reset. The test for SEU recovery with a link reset from TCC was deemed conclusive. However, before putting ECAL in global, the previous version of the code was rolled back (tests for the frequency of this reset were still to be performed).
 - The resync and hard reset counters of DCC and SRP boards were tested in miniDAQ. Detailed description of the test was put by Giacomo in an elog: <http://cmsonline.cern.ch/cms-elog/1039646>



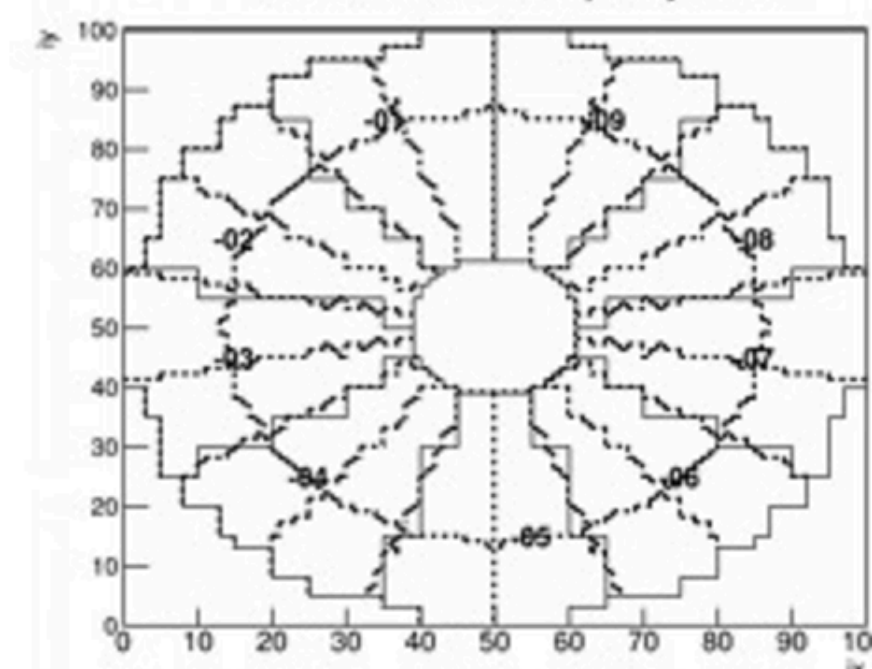
Wednesday, May 2nd 2018 (2)

- Inner ring COKE thresholds were raised to 128 (the idea behind this was to see only justified masking)
- Run 315634 : DQM picked up an alarm on TTF4 occupancy
 - Amina tried to diagnose this problem.
 - Clear on the TCC gui did not work.
 - The TTC-resync as well as a red-recycle failed to solve this problem.
- It was decided to revert to old values (threshold of 96) and everything went back to normal for TCC98.
- First suspected to be due to a corrupt file....
more investigations to follow this week.

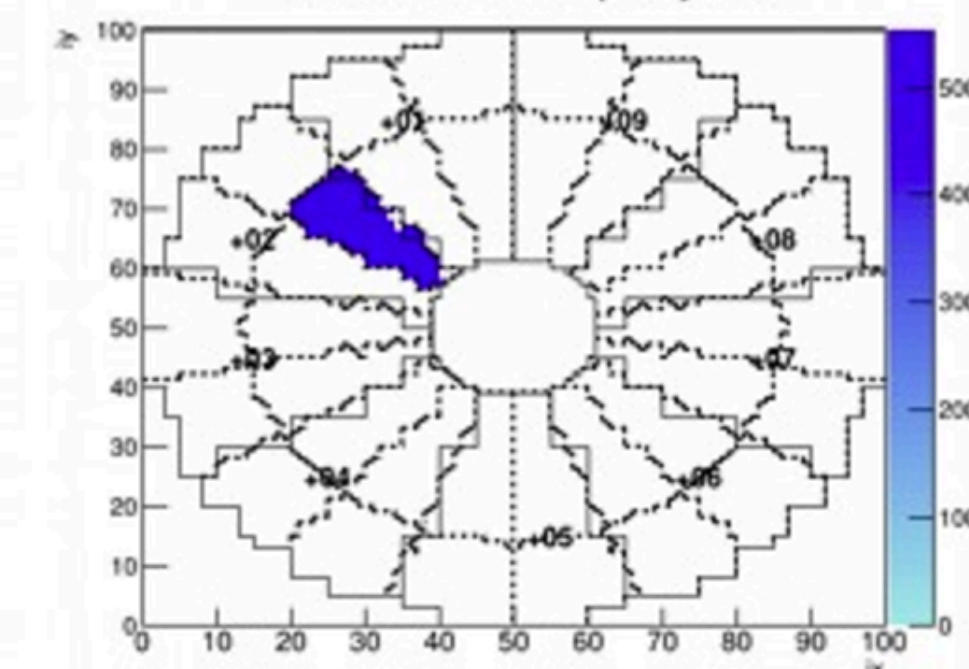
10 TTF4 Occupancy

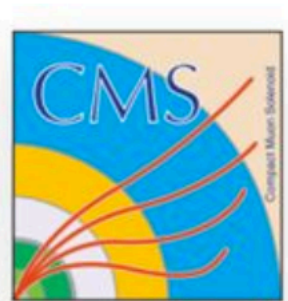


EETTT TTF4 Occupancy EE -



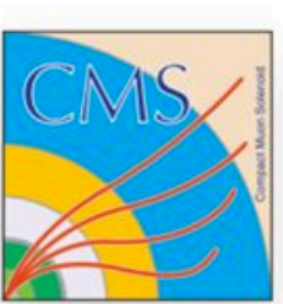
EETTT TTF4 Occupancy EE +





Thursday, May 3rd 2018

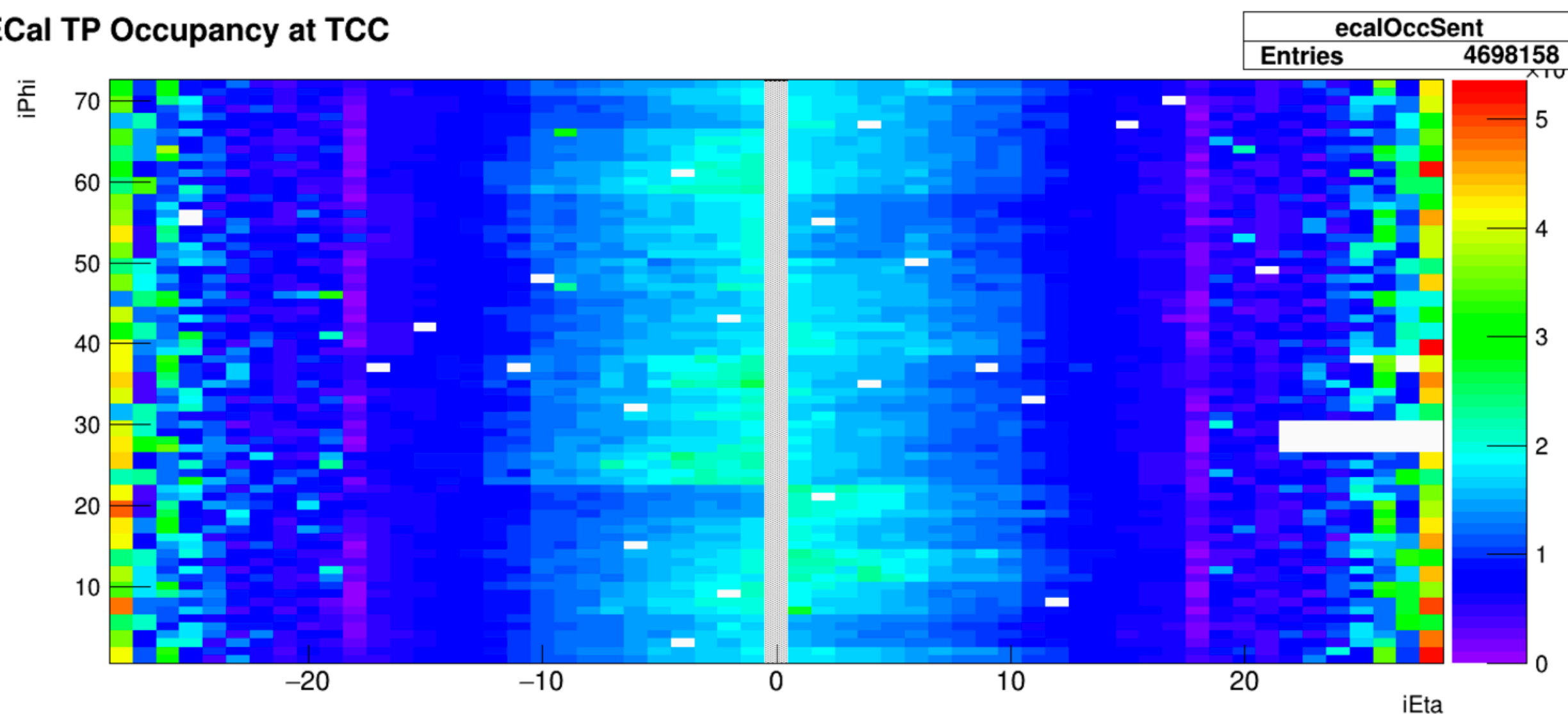
- Following the beam dump at 1352 h , ECAL was put in local for DAQ/trigger experts to continue with their tests.
 - During a run, in miniDAQ, CCU 25 in FED 604 was reset using Evgueni's script.
 - After this reset, the system reacted to SEU and at the end of the SEU, TCC masked the affected channels with LSD.
 - In case of SEU not being launched after the reset, TCC was masking the affected channels with COKE.
 - A resetting of the links was added in the TCC supervisor and was launched every minute.
 - This was tested in global (before stable beams), but due to a desynchronization problem with SRP, this reset had to be removed.



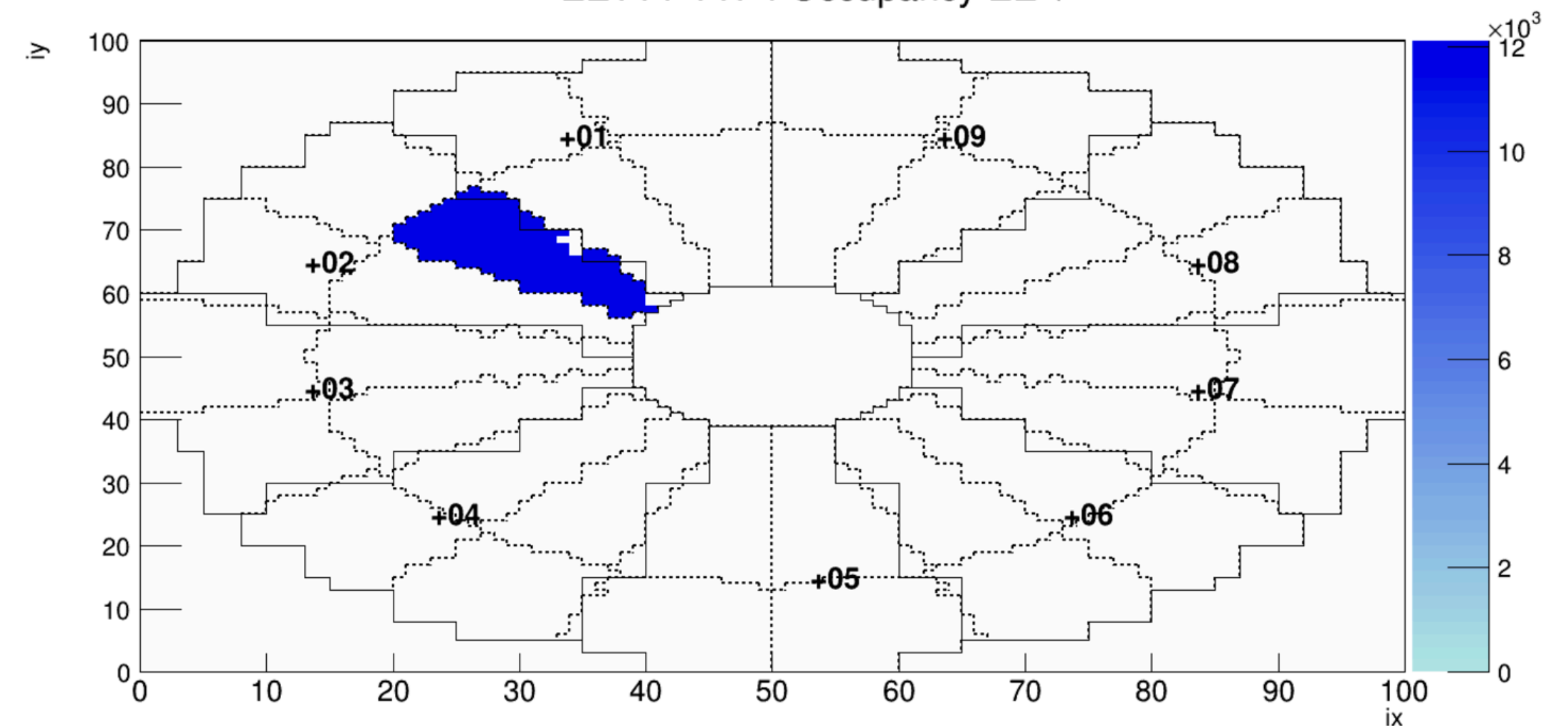
Friday, May 4th 2018

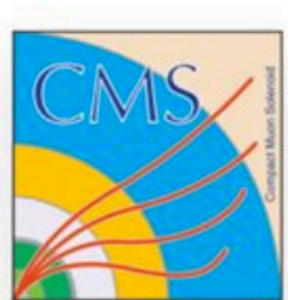
- ECAL DCS shifter reported the same error about loss of communication with the crate.
 - Clearing the alarm buffer solved this error.
- New linearization parameters for L1 and laser calibration parameters for HLT were uploaded by Amina. This was followed by a red-recycle to pick up these new conditions.
 - The COKE masking threshold were raised and the new file was deployed with a parasitic red-recycle of ECAL.
 - Unfortunately, this caused TCC98 to be masked again. This was also spotted by the DQM shifter. In order to solve this problem we had to roll back the COKE threshold to the old values and red-recycle ECAL which led to some down-time.

ECal TP Occupancy at TCC



EETTT TTF4 Occupancy EE +





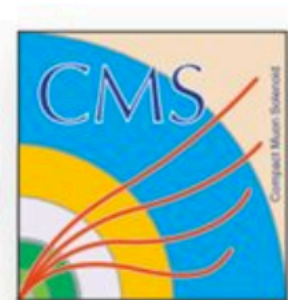
Friday, May 4th 2018 (2)

- It was noticed by Dima that there was downtime due to ECAL in run 315703.
 - Due to EE+ going in error TTS state in the middle of the run.
 - The DAQ shifter followed the standard instructions and issued a TTCHardReset
 - This seemed to have fixed the problem and the run continued as usual.

Downtime

ECAL_DAQ downtime

Run	Downtime	Uptime	Duration	Details	Fill name	Lumilost (approx.), pb ⁻¹
315704	04-MAY-2018 12:39:21	04-MAY-2018 12:42:44	0:03:23.877309	ECAL red-recycle	LHCFILL006640	1.8530625
315703	04-MAY-2018 09:26:03	04-MAY-2018 09:26:42	0:00:38.768934	EE+ blocked the trigger	LHCFILL006640	0.32041796875
315509	01-MAY-2018 11:07:03	01-MAY-2018 11:10:27	0:03:23.861339	ECAL trigger test	LHCFILL006629	2.47848828125



Saturday, May 5th 2018 and Sunday, May 6th 2018

- Very quiet weekend for ECAL. No tests were done. We continued to run in global and take data over the weekend.