

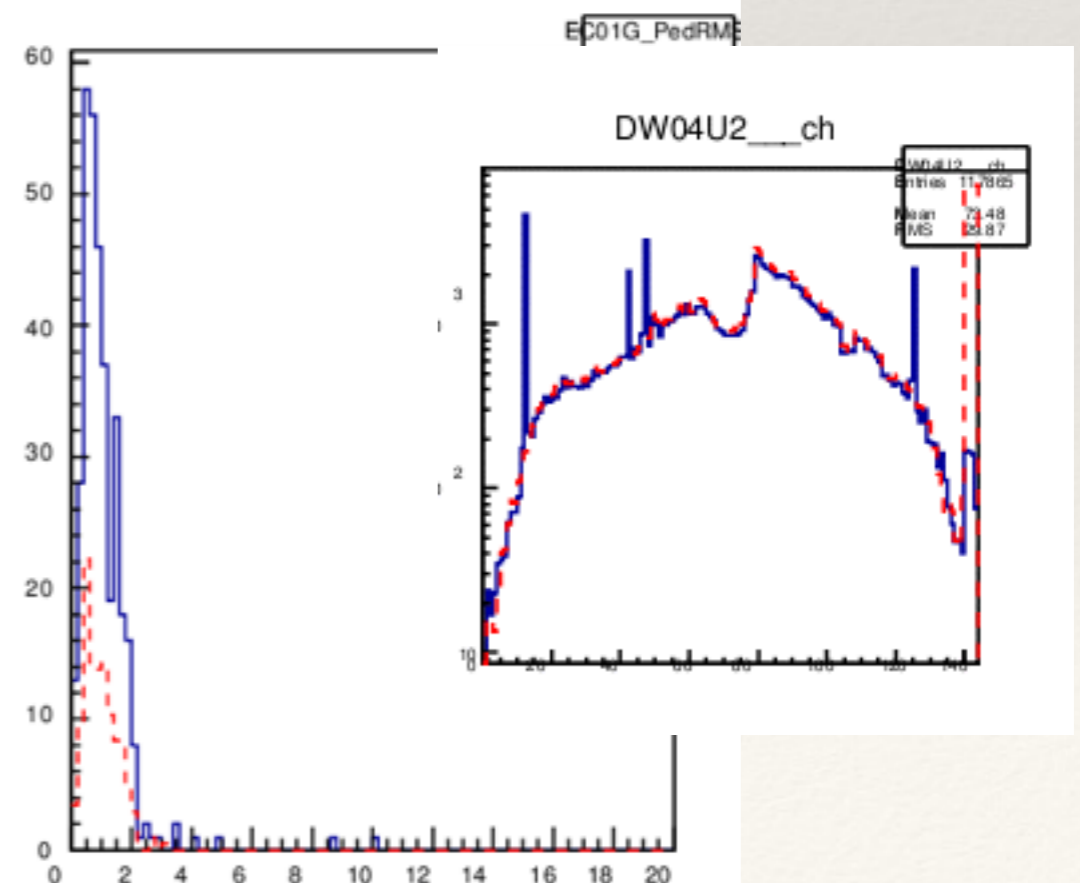
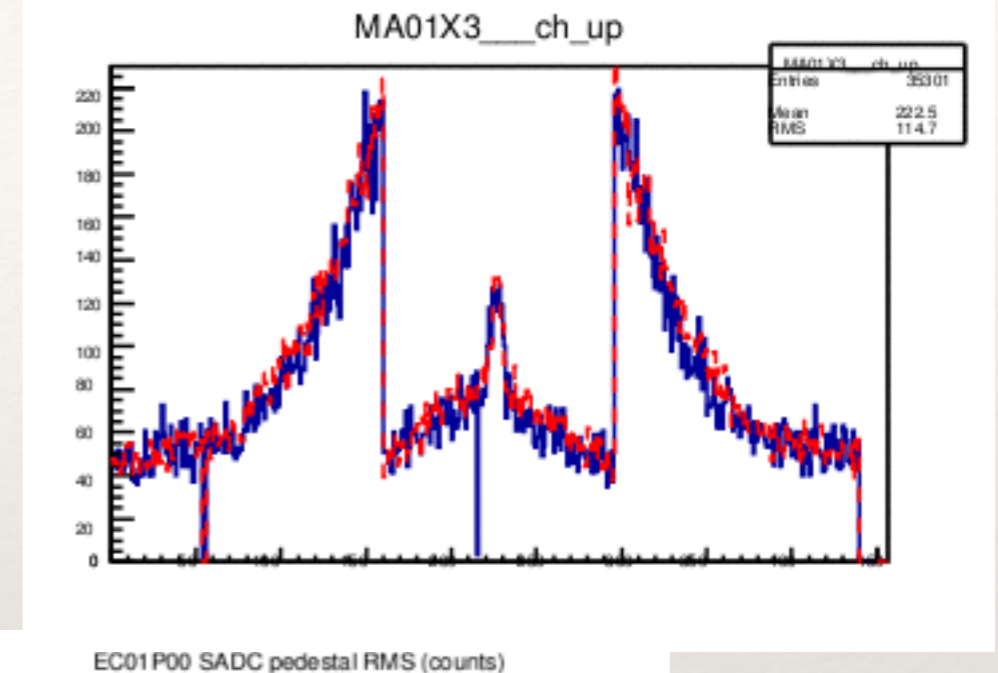
Friday 21.09 - Friday 28.09

Weekly report

Nikolay Anfimov,
Week coordinator,
JINR.

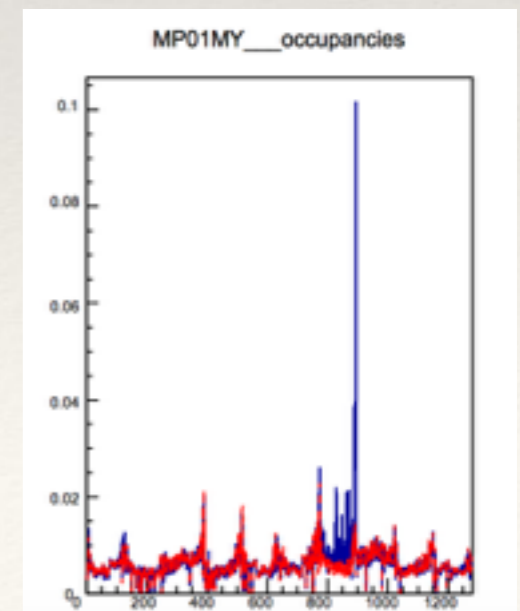
Friday 21.09.Day

- ❖ W45: DW04U2 and DW05V2 increase noise in few channels. Expert is aware
- ❖ MW1: MA01X3 one channel down and MA01Y4 some noise channels. Expert is aware
- ❖ ECAL1: EC01P00, EC01P01, EC01P02 pedestals look different. Expert is aware
- ❖ Bend9 was OFF for 40min. It was recovered by Michael.
- ❖ Beam lack: PS Pole Face Windings problem



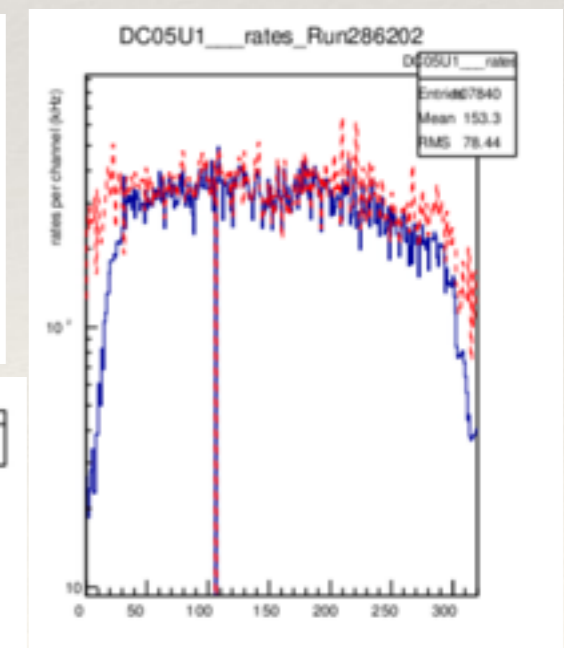
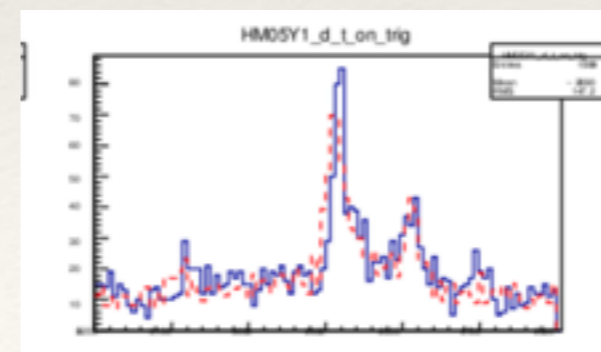
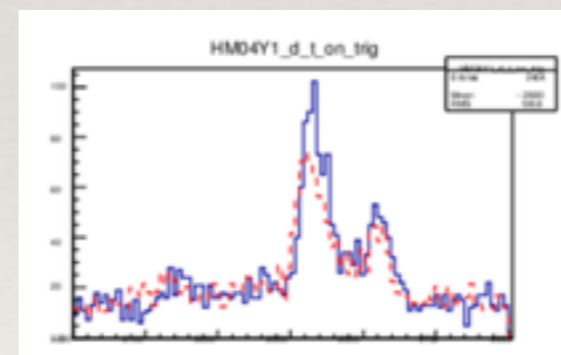
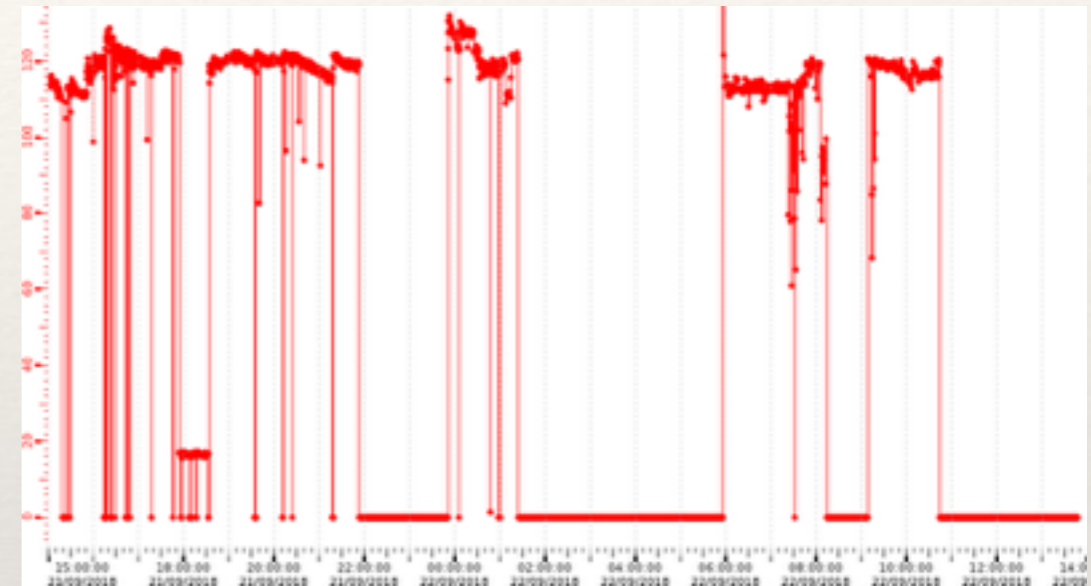
Friday 21.09.Evening

- ❖ DAQ: broke run twice: “The current run was stopped due to error on SWITCH in 3 consecutive spills”
- ❖ COOOL froze the PCCORC35 while saving ordinary shift plots. Restart of PCCORC35 helped.
- ❖ BeamMon on PCCORC30 was gone. Run via ssh -X on PCCORC31 (because of FFTW library lack on PCCORC30)?
- ❖ 100% error were observed on RICH, with SrcID 504. "LOAD -A 504" back it to normal.
- ❖ The HV of straw tripped due to high beam intensity when the beam came back. Had the HV reset.
- ❖ Beam had gone around 10 pm and back at midnight
- ❖ Spikes in occupancies for Pixel MM (MP01MY)



Friday-Saturday 22.09.Night

- ❖ Unstable short beam burst during the night. Most of time the beam absence. MBE not restarted 1 spill per SC
- ❖ Hodoscopes: HM04Y1 and HM05Y1 - noisy channels?
- ❖ Drift Chambers: DC05U1 and DC05U2 - at a side of planes - looks like less count rate?
- ❖ W45: DW03V2 and DW04Y1, Y2 increase noise in few channels.
- ❖ Around 2 pm PMM 03 (SID 382) lost link between GeSiCa and multiplexer. Damien was called. LOAD -A and power cycle in DCS didn't help, rebooting of PCCOFE15 didn't help either. DAQ expert Antonin was called. We made intervention to the beam area (no beam) and power cycled twice the crate with PCCOFE15.
- ❖ After setting up the DAQ was left in artificial spill structure. Shifters switched to SPS spill structure around 7:30 am (Unstable beam).

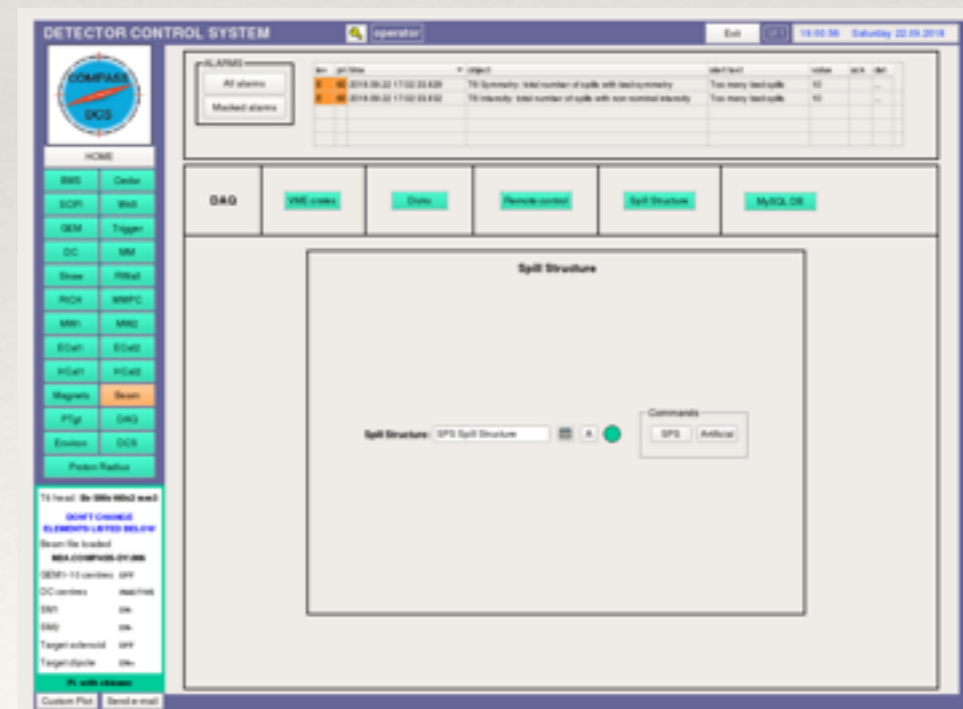
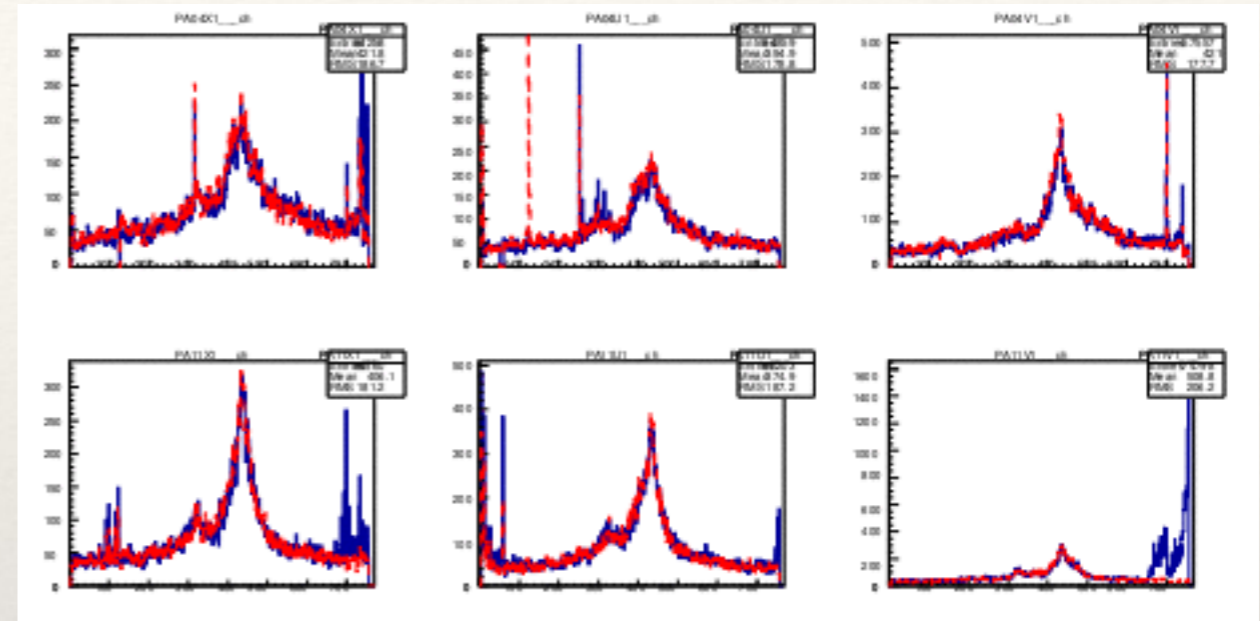


Saturday 22.09.Day

- ❖ Unstable beam. Most of beam lack. RF issue, PS access.
- ❖ CEDARs started to show 100% bad events in MurphyTV. Also, the Link MUX status window in DAQ GUI reported timeout on port 250.
CEDAR expert recovered the detector at around 11:00,
- ❖ 14:25 - Beam back, Supercycle is 32.4s 2 spills. SPS will be performing ZS alignment for the next ~30 minutes.
- ❖ DCS reported 602 bad blocks on ECAL2. The problem disappeared after a while without intervention (Experts are aware?)
- ❖ High error rate on DC SrcID 259. Recovered after powercycling LV and LOAD.
- ❖ Loaded PMM SrcID 380
- ❖ Beam come back at 15:30
- ❖ **Number of Good Spills > 1590 (2940 recorded) (some with artificial Spill structure?)**

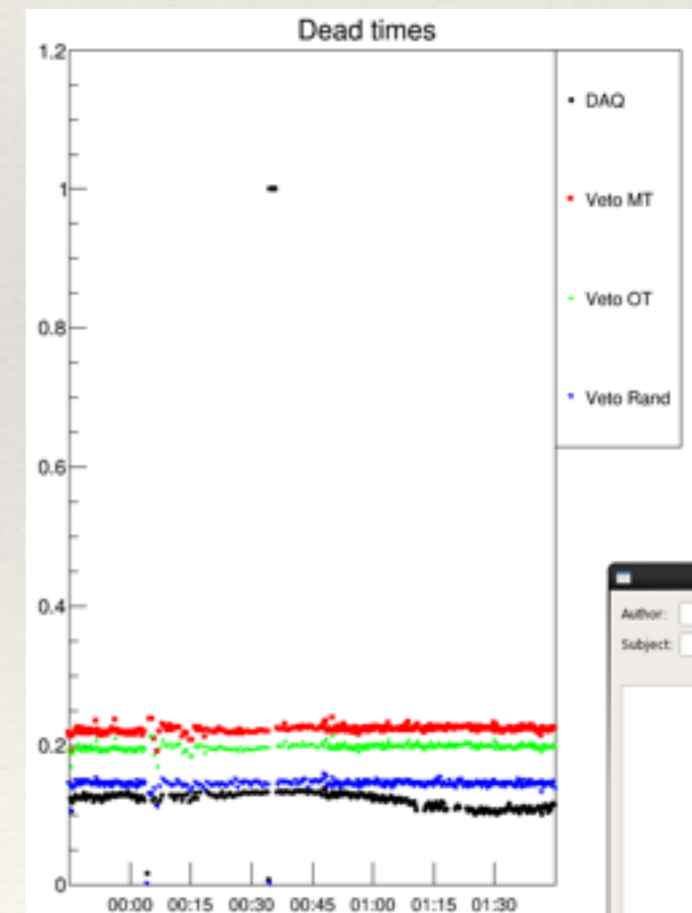
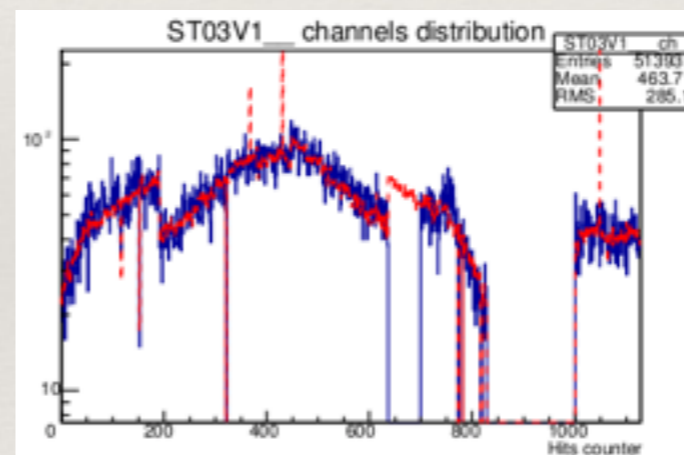
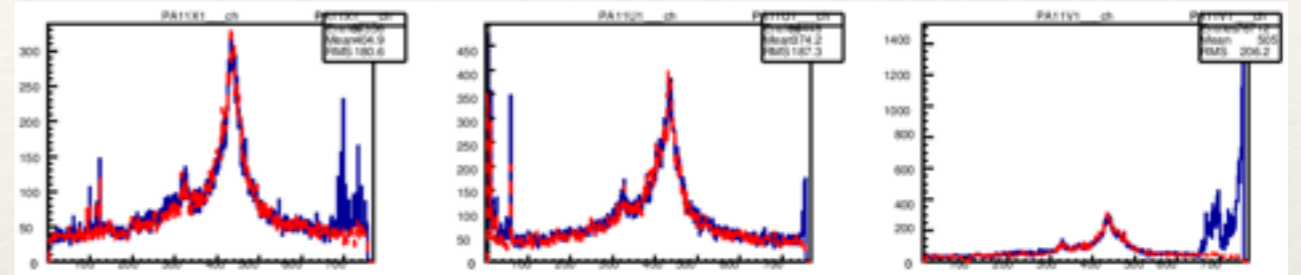
Saturday 22.09.Evening

- ❖ No beam since 5 pm till 7:30 pm
- ❖ A few noisy channels on MWPC. I ask the expert to prepare instructions (scripts etc).
- ❖ Christof added DCS Spill structure alarm. If no access, an alarm will be triggered after 5 minutes in artificial spill structure.
- ❖ ECAL2 too many bad blocks. Issue immediately had gone.



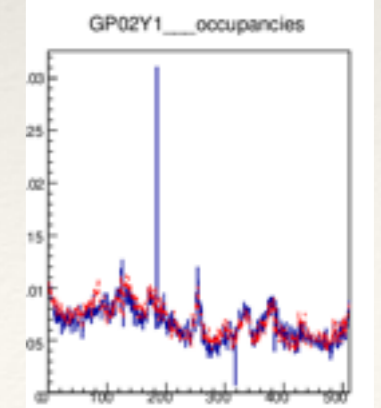
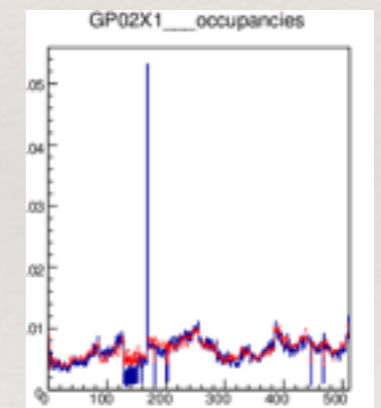
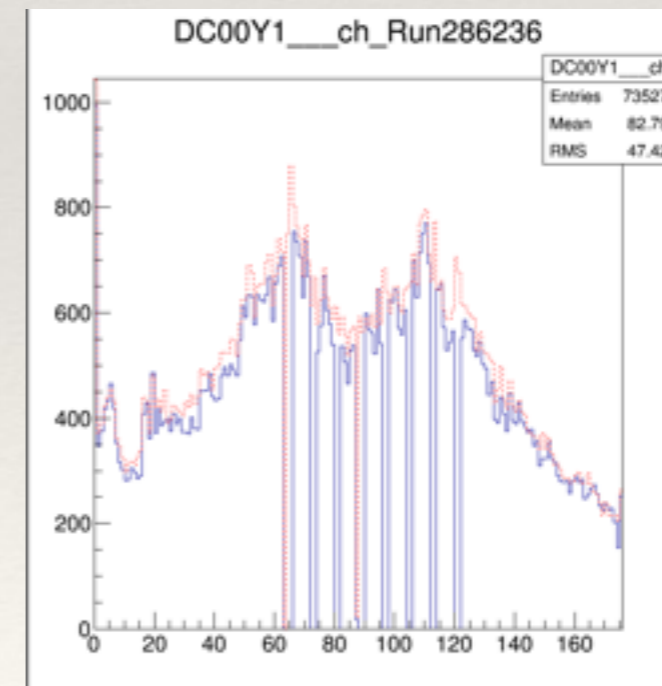
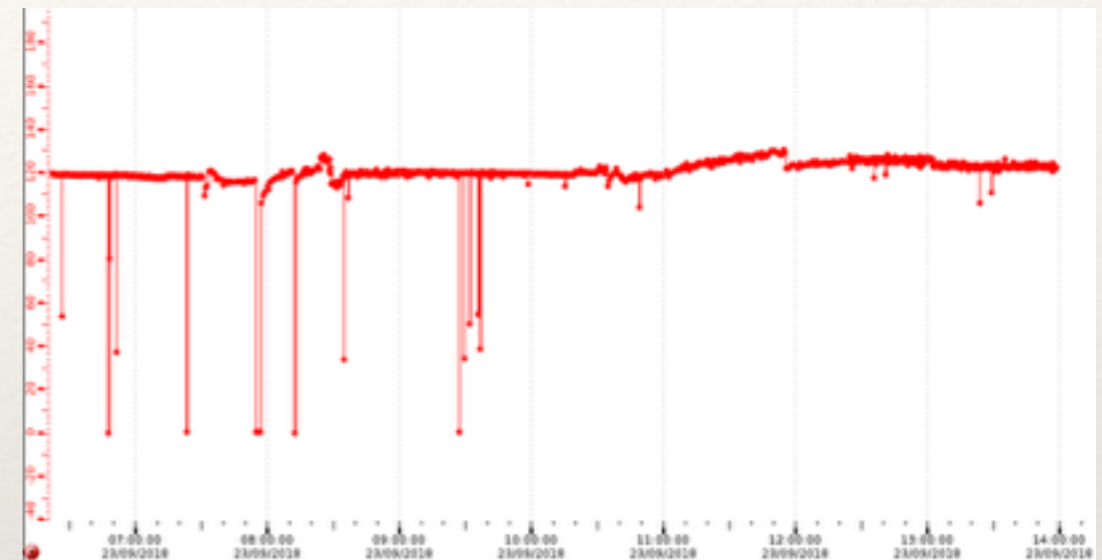
Saturday-Sunday 23.09.Night

- ❖ Minor beam instabilities.
- ❖ Noisy channels on MWPC.
- ❖ Straw03V1 card missing. It was resolved.
- ❖ DAQ dead time was going down. Why? Sent message to Vladimir.



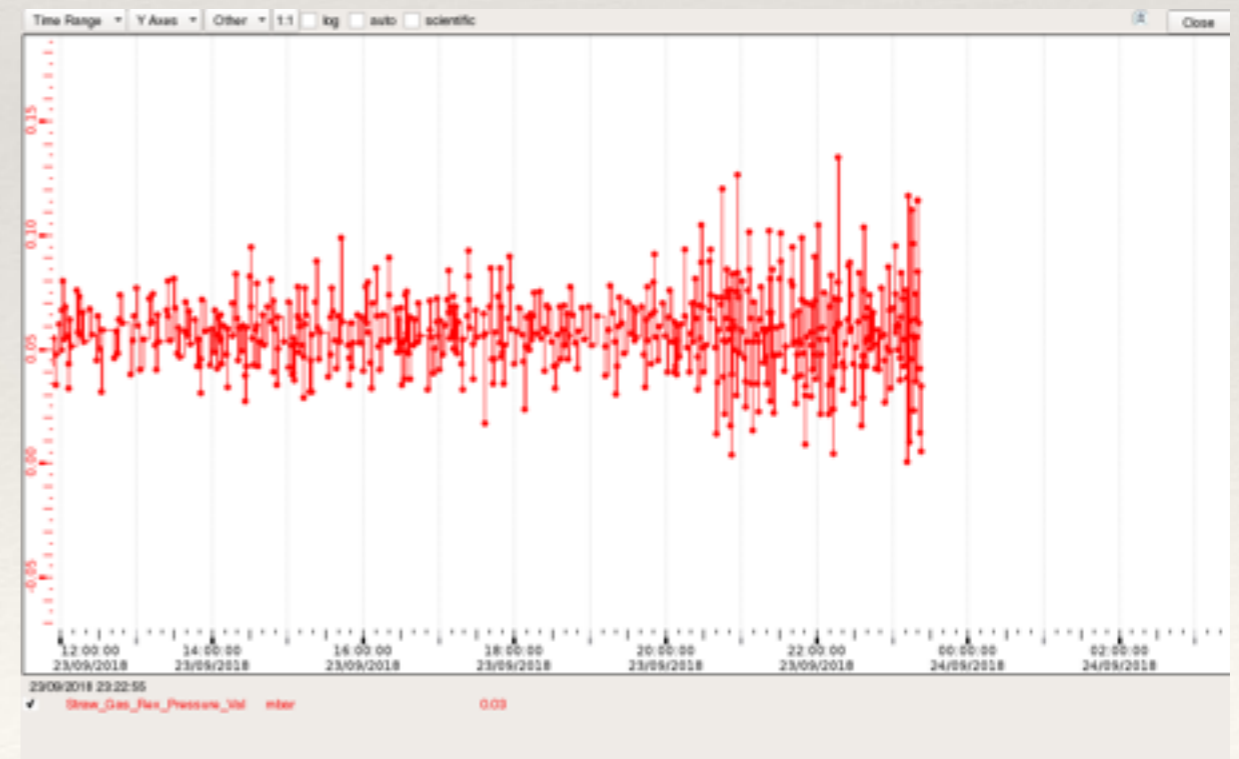
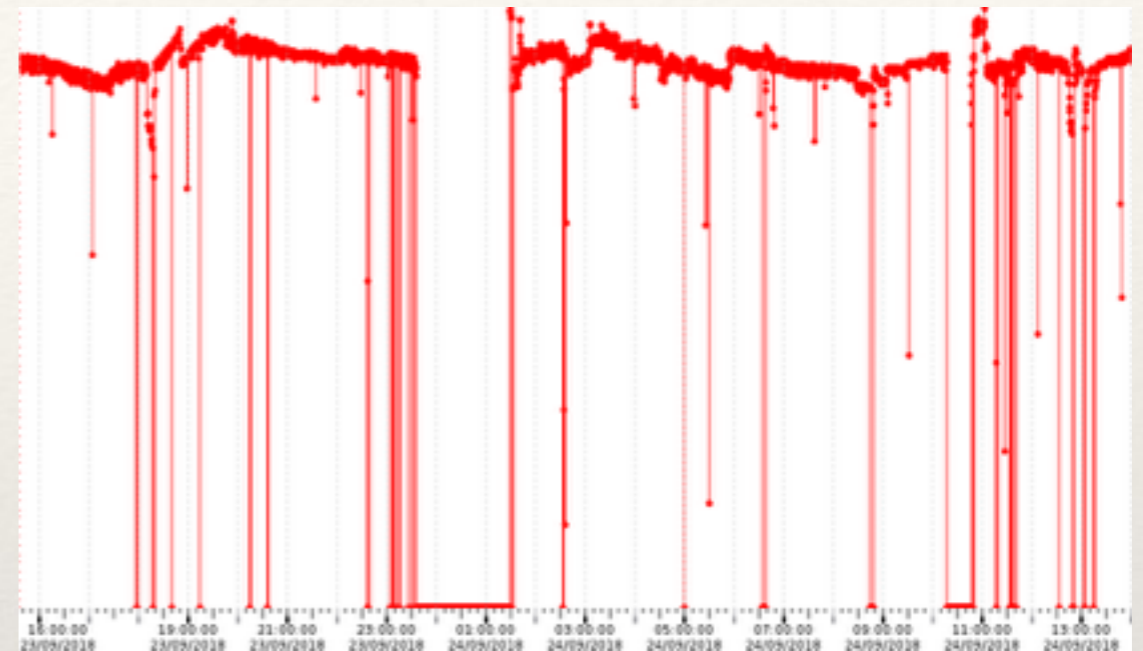
Sunday 23.09. Day

- ❖ Minor beam instabilities. Shifters thoroughly the care of intensity.
- ❖ Noisy channels on MWPC. Expert will act after daily meeting.
- ❖ SID 247 generate errors. LOAD -A didn't help. Expert resolved.
- ❖ Straw 324 port11 errors in card ST03U1. Expert suggested to restart PCCOFE13
- ❖ DC00Y1 with missing channels, partially recovered with help of Vincent.
- ❖ Spikes in GEM occupancies (GP02X1 and GP02Y1). Expert is aware. She reloaded the equipment.
- ❖ DC04 HV issue. Reload didn't help. Vincent did crate power cycle in the area.
- ❖ **Number of Good Spills > 3849 (3933)**



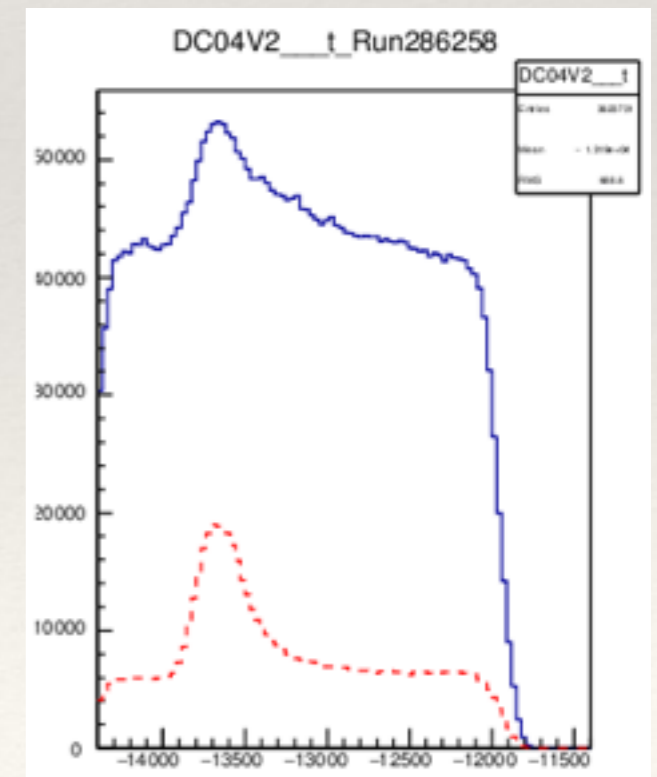
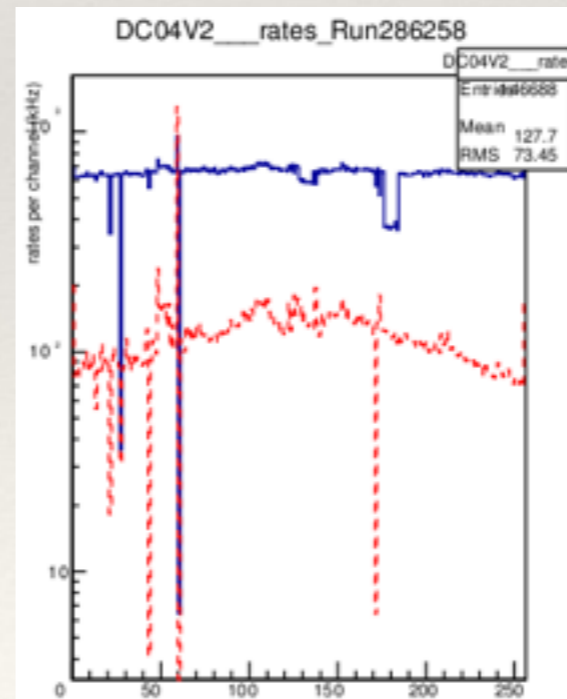
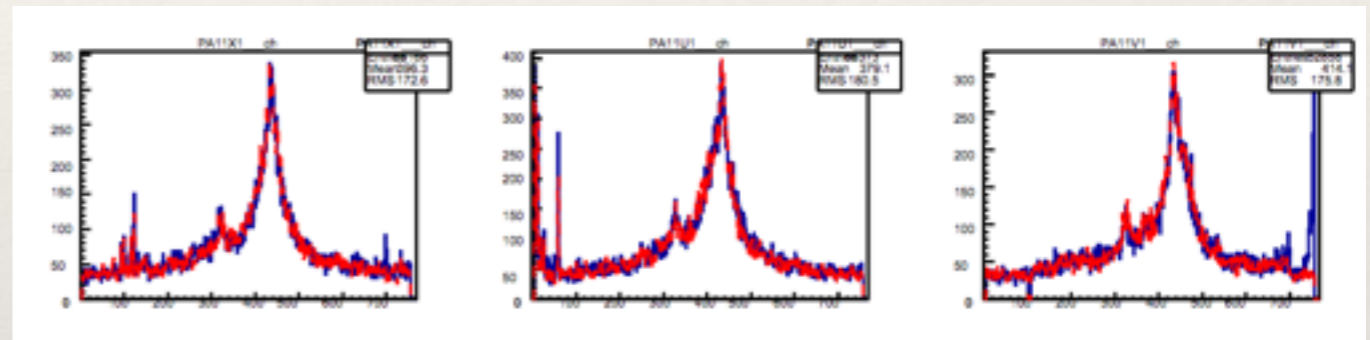
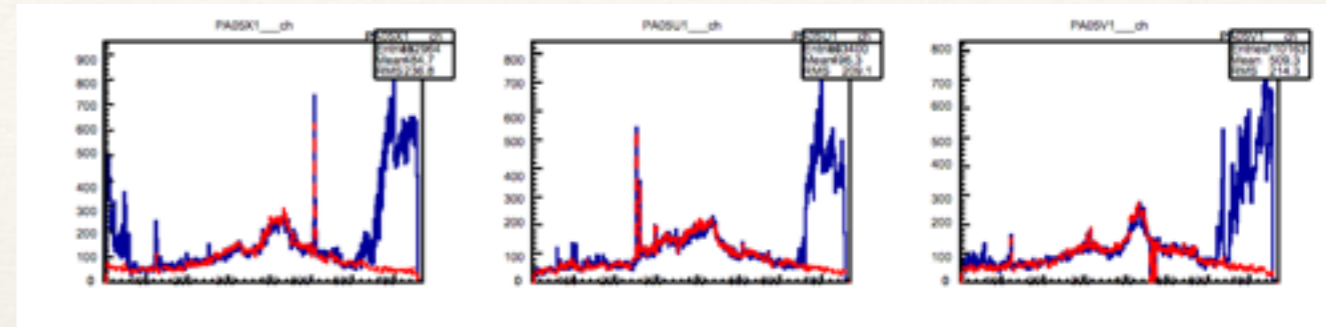
Sunday 23.09. Evening

- ❖ Beam was absent for 1,5 hours after 11 pm
- ❖ DC 04: Access to power-cycle the crate solved the problem. Vincent
- ❖ MWPC: Power-cycling PA03, PA05, PA11. Trying to recover the noise, we got lost port 4 of SrcID 452. Vincent could manage to fix it during short access by touching hotlink connector from CATCH side. It didn't help from noise
- ❖ STRAW: Straw pressure from REX valve alarm. Got an alarm from the REX valve reading indicating that it's too low. The trending plot was checked and it can be observed that pressure has shown larger variation in the last few hours. The alarm is gone now and we don't think it is really critical



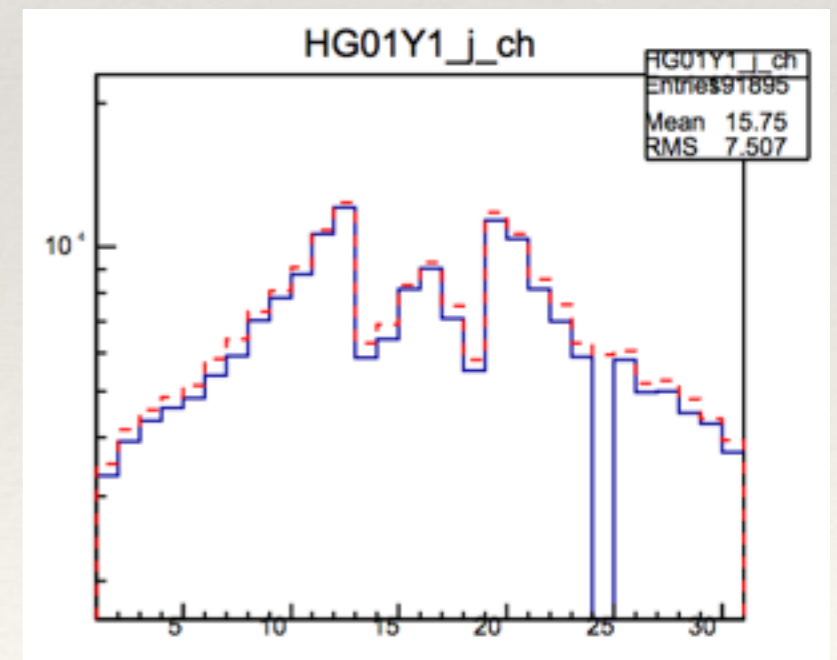
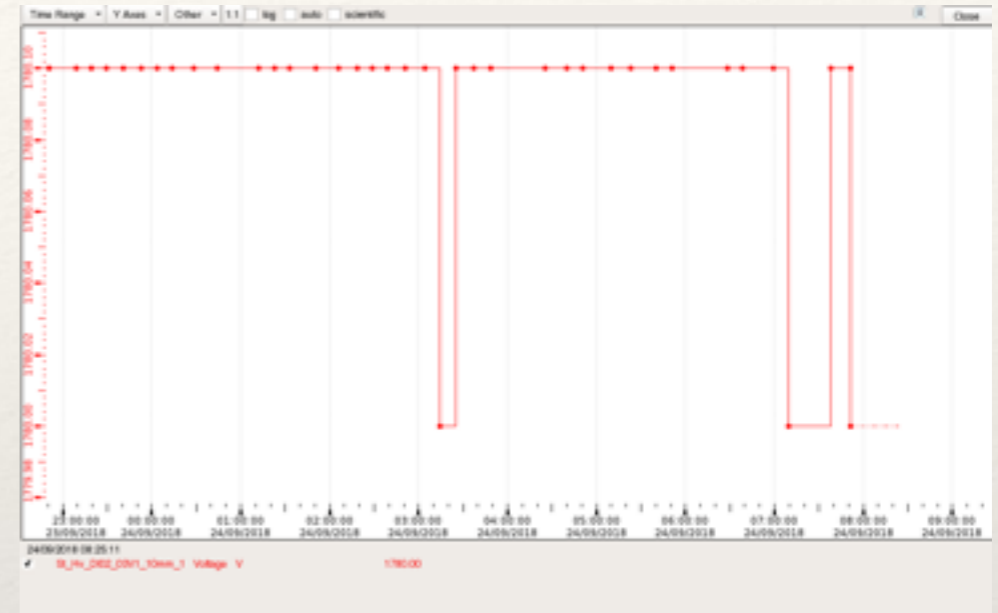
Sunday-Monday 24.09.Night

- ❖ MWPC is noisy.
- ❖ DC: threshold catd of DC00-01 lost communication with DCS. Since no consequences can be seen in cool plots, Inxpool25 will be restarted in the next period without beam.
- ❖ DC: Inxpool25 was rebooted
- ❖ DC04V2 lost thresholds?



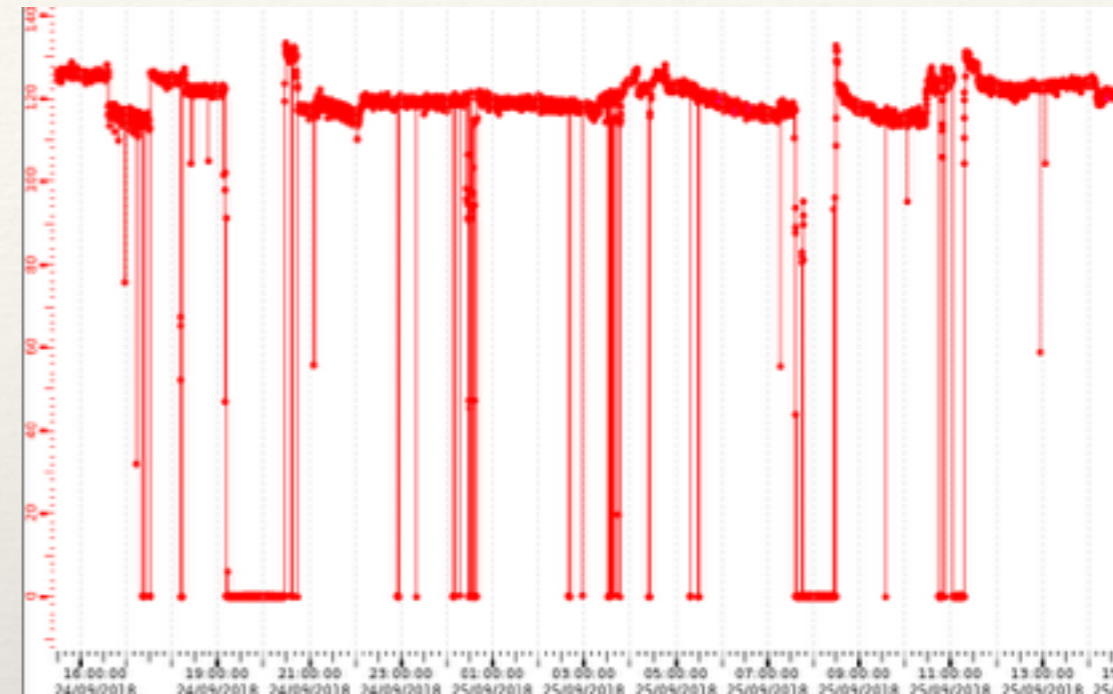
Monday 24.09. Day

- ❖ STRAW: HV channel
St_HV_DI02_03V1_10mm_1 is tripping often.
- ❖ DAQ: PCCORC35 got stuck (very often!)
- ❖ Hodoscopes: HG01Y1 channels missing
- ❖ MM: Shifter informed that there were errors on all PMMs, including SrcID 380, 381, and 382, and tried to reload it, but it didn't work. I did a powercycle on the corresponding LVs, needed to do twice on SrcID 381, and things are back to work again.
- ❖ RW: SID 432 have to be reloaded.



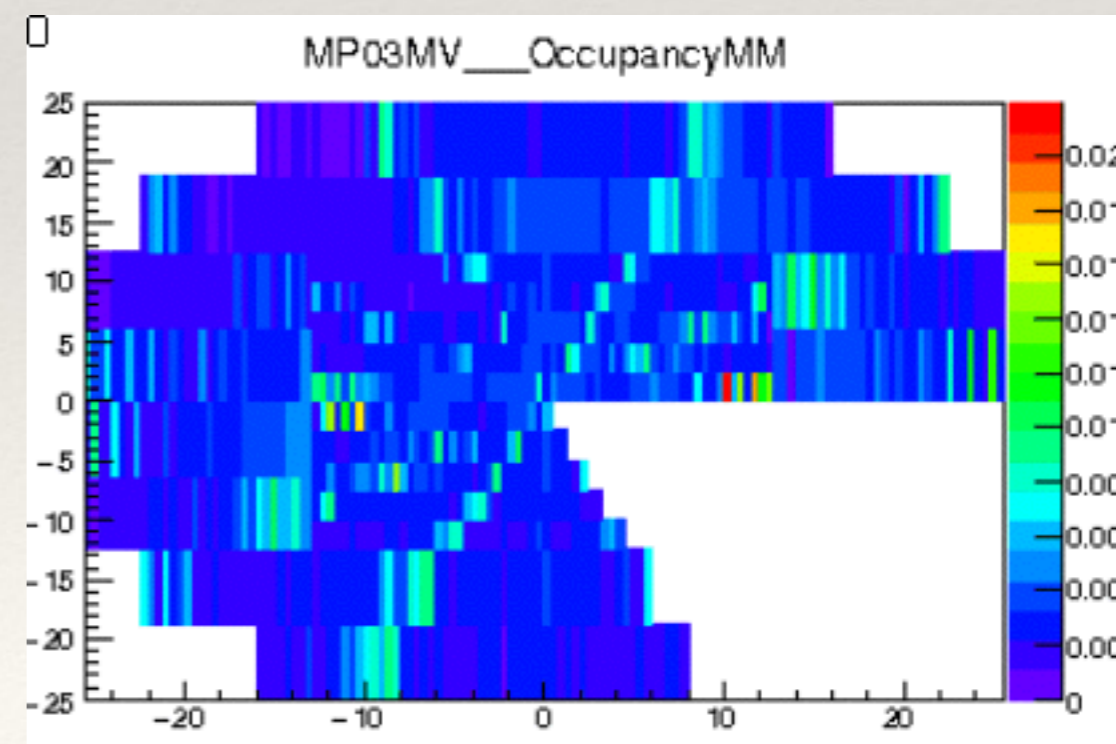
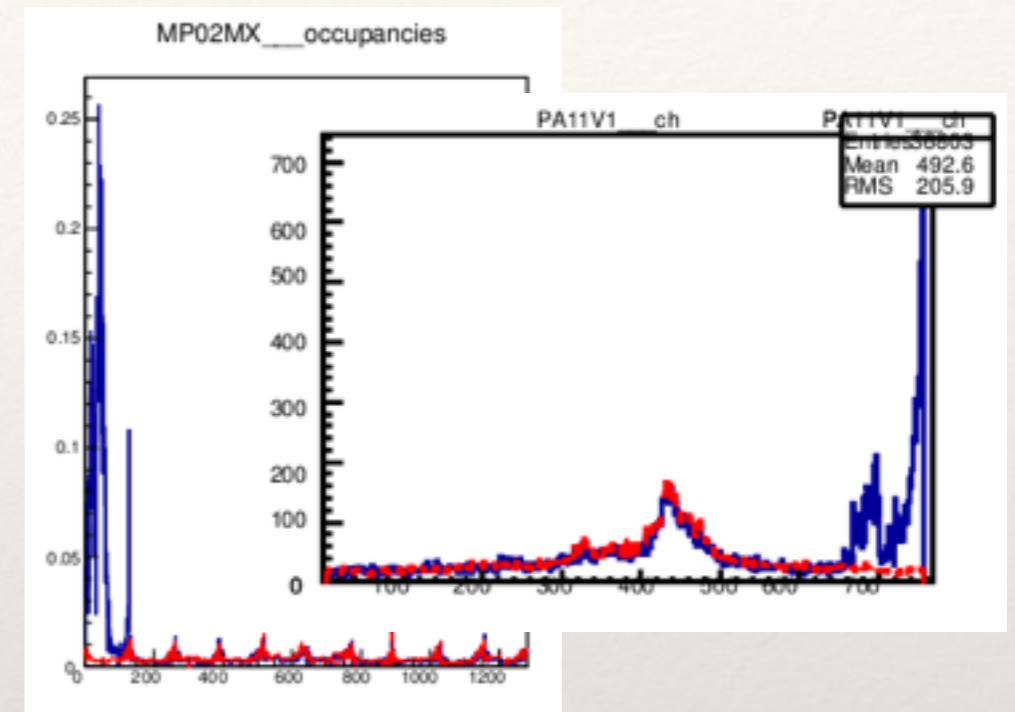
Monday 24.09. Evening

- ❖ Beam was absent for 1,5 hour
- ❖ MM: MP02MX Noise. PowerCycle and reload SIDs.
- ❖ DC00(01): Alain. I tried DC00(01) LV power cycle, then LOAD - A 256/257/258 a few times. I also reapplied the thresholds on DC00Y1. Unfortunately, NO effect.
Vincent is strictly against to make insufficient things during beam time!
- ❖ At ~21h04min, SM1 network switch got stuck. It was stopped and restarted from the DCS
- ❖ At ~21h18min, the HV channels of DC0, DC4 and DC5 went off. They were switched back on via the DCS.
Alain link it to SM1 network switch issue.
Vincent: The HV for DC01 was not lost, only the communication was affected due to the network switch. Reason why there is no HV ramp-up. In principle data taking could have continued. HV for DC00/04/05 is not correlated with the network switch.



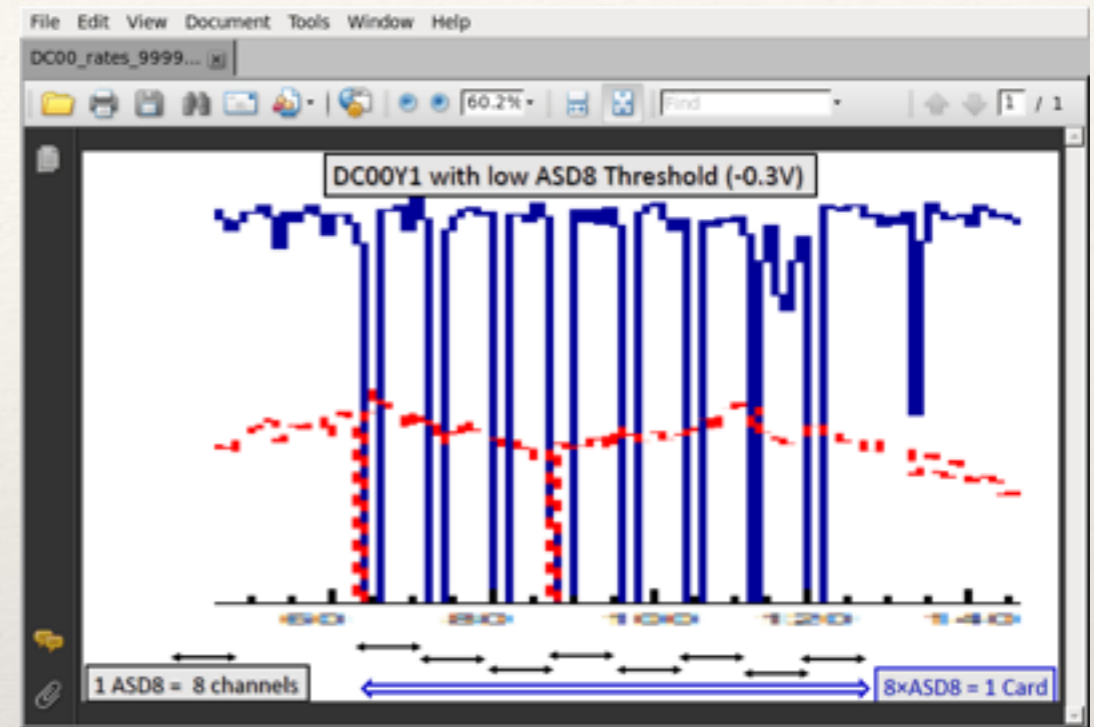
Monday-Tuesday 25.09.Night

- ❖ Beam lack for 1 hour at the end of shift
- ❖ MM: the same plane MP02MX. Reload helped.
- ❖ MWPC: PA11V1 plane. Reload didn't help
- ❖ Hodoscopes: HG01Y1_j lost one channel
- ❖ ECAL2: LED monitoring of ECAL2: too many bad blocks
- ❖ Pixel MM: Loss of one part of MP03MV towards end of run #286284. Reload SID 382 helped.
- ❖ DIP 7 alarm: CEDAR1 and 2 do not send heart beat to DIP Manager. Christophe and then CCC were called. CCC rebooted DIP gateway NORTH. But communication is still absent. Christophe made the ticket and masked the alarm. Was solved and unmasked.
- ❖ RW: 100% errors in MurphyTV on RW 432 port 0 GeoID 5
A reload after the run fixed the problems on the Y-plane of RW

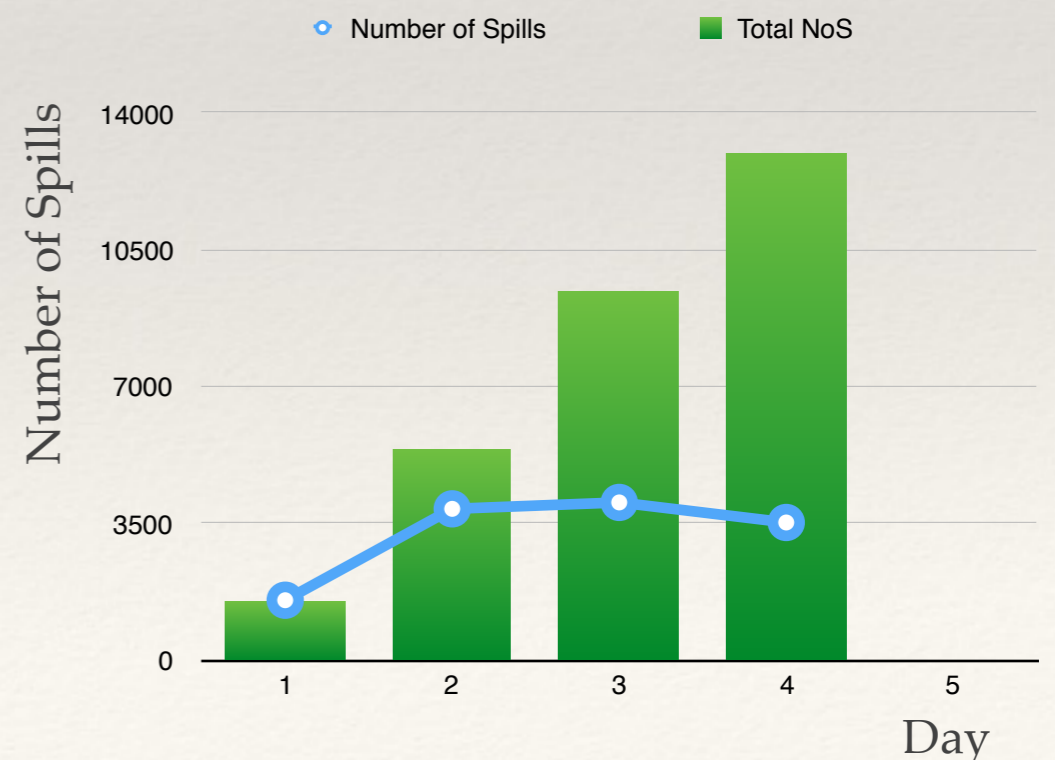


Tuesday 25.09.Day

- ❖ Beam back at 8:30
- ❖ DAQ: A lot of errors on DC05 (about 88%), on ST03 (about 30%), Gandalf (33%) and 1007-Straw-multiplexer (about 17%) and pccotg03 was not reachable.
Surprisingly, LaCamera was also giving about 20% of errors on MurphyTV (**.... from clean area**)!
Suspicion: problem on MUX12 or tiger. Access to the area and Power-cycle of VXS and unplugging/replugging pccofe52 solved all the problems.
- ❖ DC00Y1 missing channels. Alain tried (**during access**) to setup different thresholds. It is independent on it. May be broken discriminator channels (contacts)?

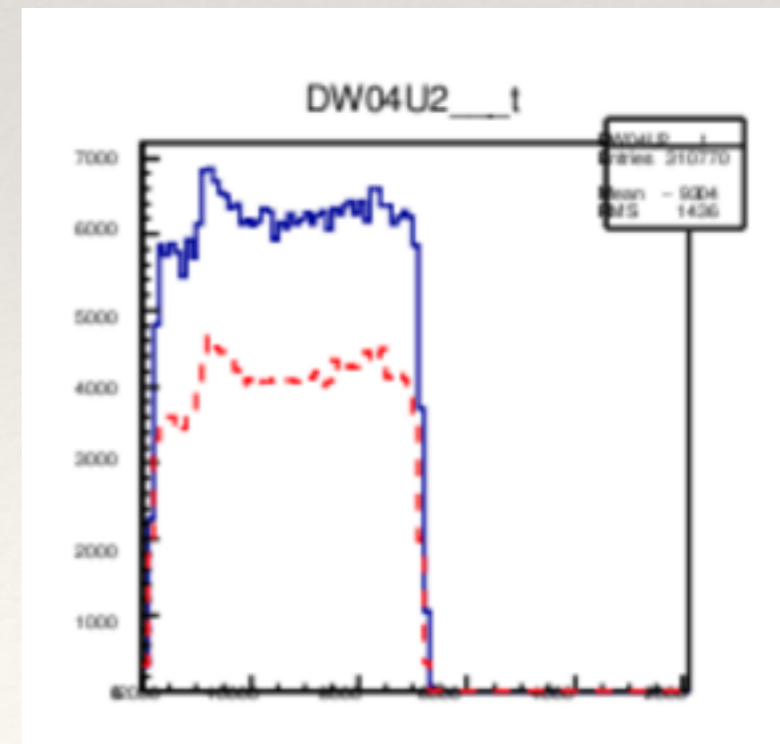
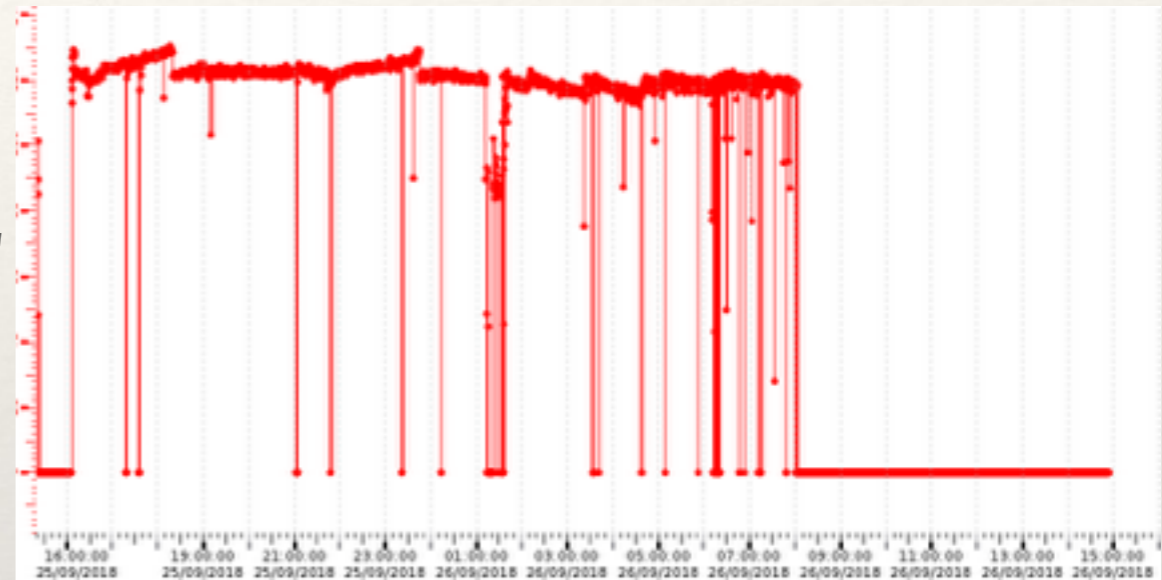


- ❖
- ❖ **Total Number of Good Spills > 13000**



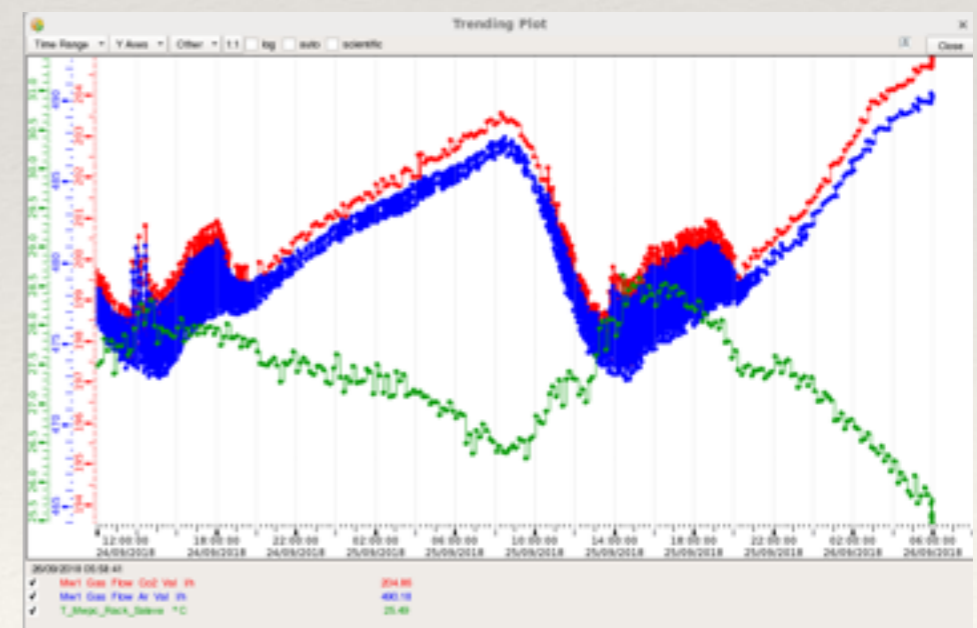
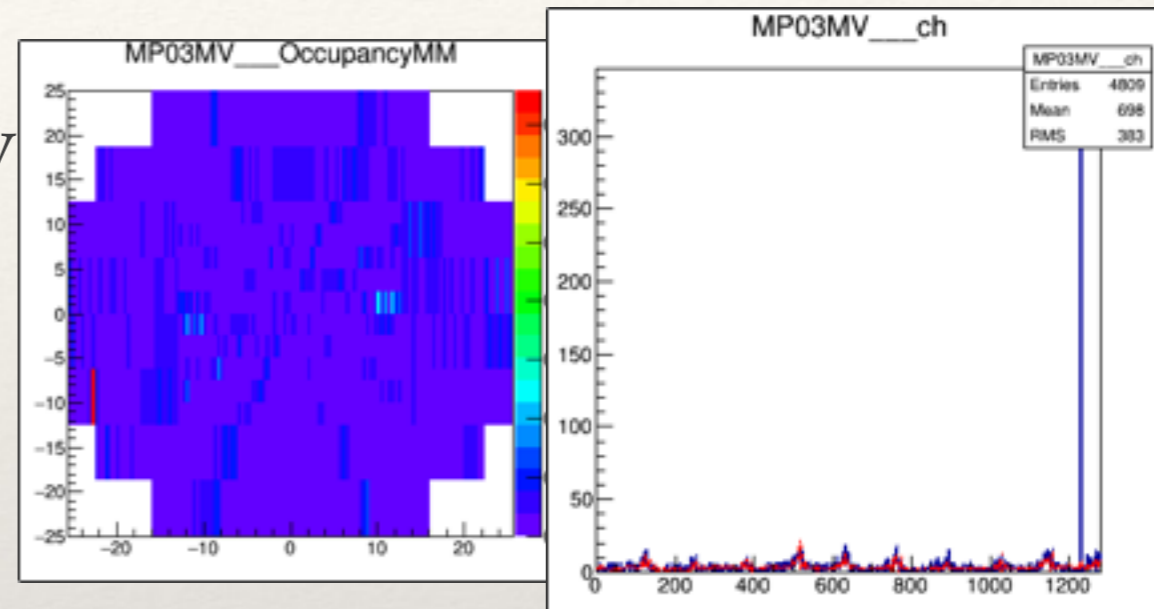
Tuesday 25.09. Evening

- ❖ DCS-RW: There was an error notification in DCS about CAEN1 OPC Manager (RED) where the RICH WALL VME with IP (172.22.24.31) lost communication. The same crate triggered an error in DAQ for DAQ_VME_RWALL (Orange). Power-cycle the crate (MD)
- ❖ W45: Some noisy plane in bookies
- ❖ DAQ: stopped due to desynchronization of DAQ mismatch between layers



Tuesday-Wednesday 26.09. Night

- ❖ Pixel MM: Noise on PMM (MP03MV). Noise on MP03MV can not be cured by reloading
- ❖ DAQ: PCI/DMA error occurred after a sequence of DAQ crashes (safe stops)
- ❖ RW: Argon gas flow alarm. The temperature drop during the night led to an increased gas flow. However, the gas mixture remains constant, therefore no action is required. Annika was informed.

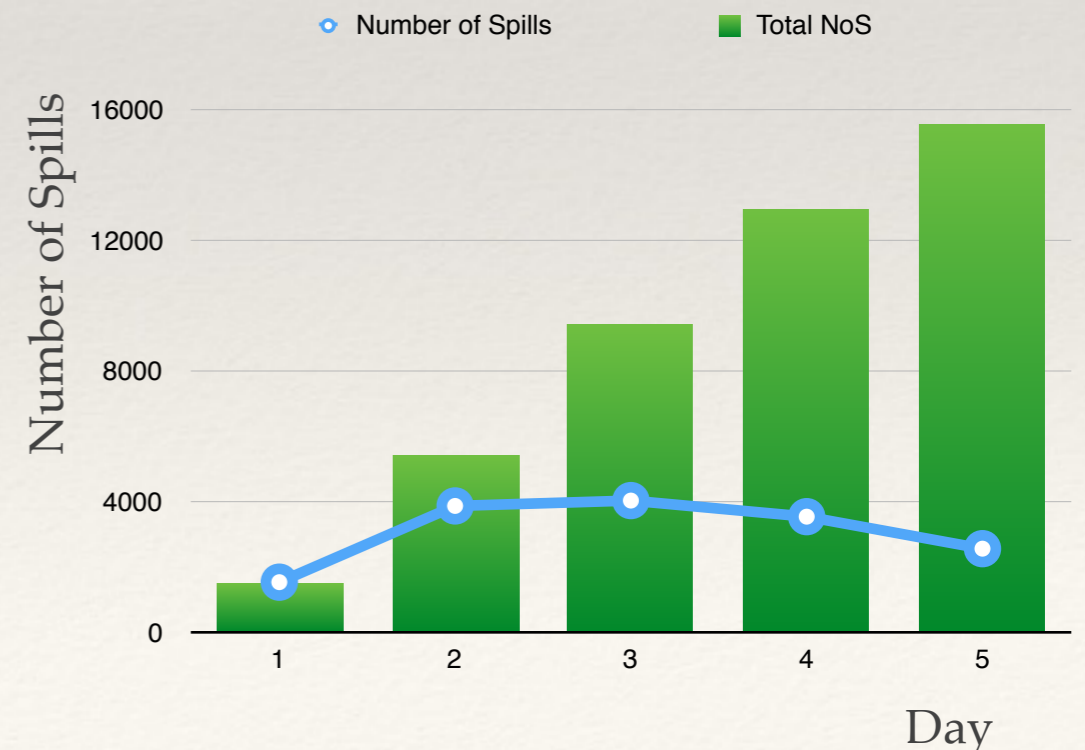
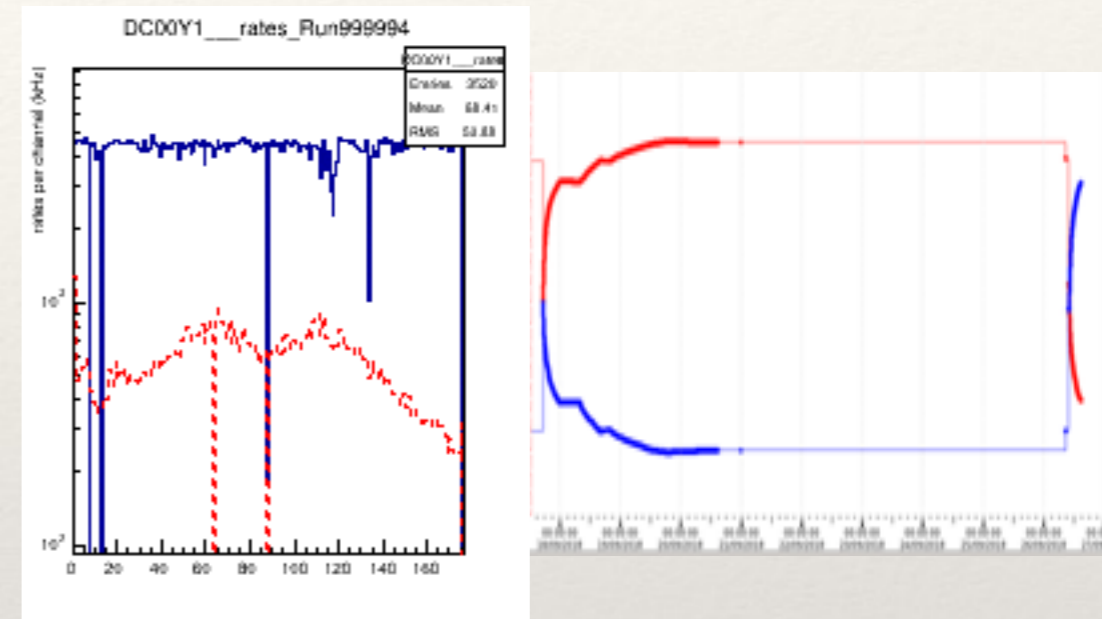


Wednesday 26.09.Day

❖ NO Beam - MD.

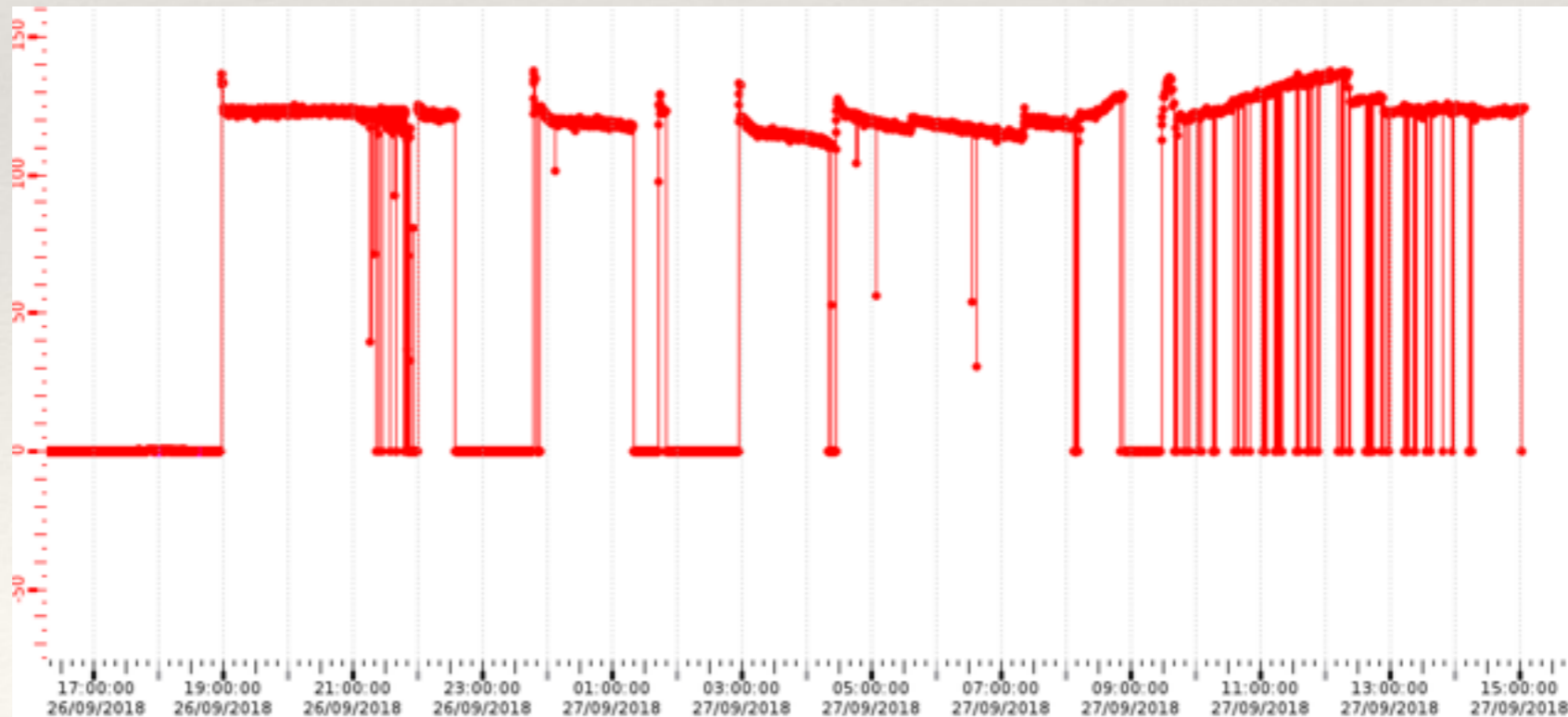
- ❖ DC: Recovery of DC00Y1. Damien suggested the problem could be related either to a corrupted firmware (need to exchange the card) or to a bad connection catch <-> F1 Vincent. The loading would be partially done and some channels on the F1 would be left disable -> therefore no MurphyTV errors. We cleaned the hotlink on the catch side and recovered the missing channels.
- ❖ Christophe power-cycle RW create. Unmask in DCS. Reload SID432
- ❖ Target repolarization. Refilling material dewars and check water level of NMR cooling.
- ❖ ECAL2: Change HV bases in Ecal2
- ❖ DAQ: Matous. Cable labeling ~ 30 min
- ❖ CEDARs: Thresholds settings. Disabled from DAQ
- ❖ Annika. Excursion to the area.

❖ **Total Number of Good Spills > 15000**



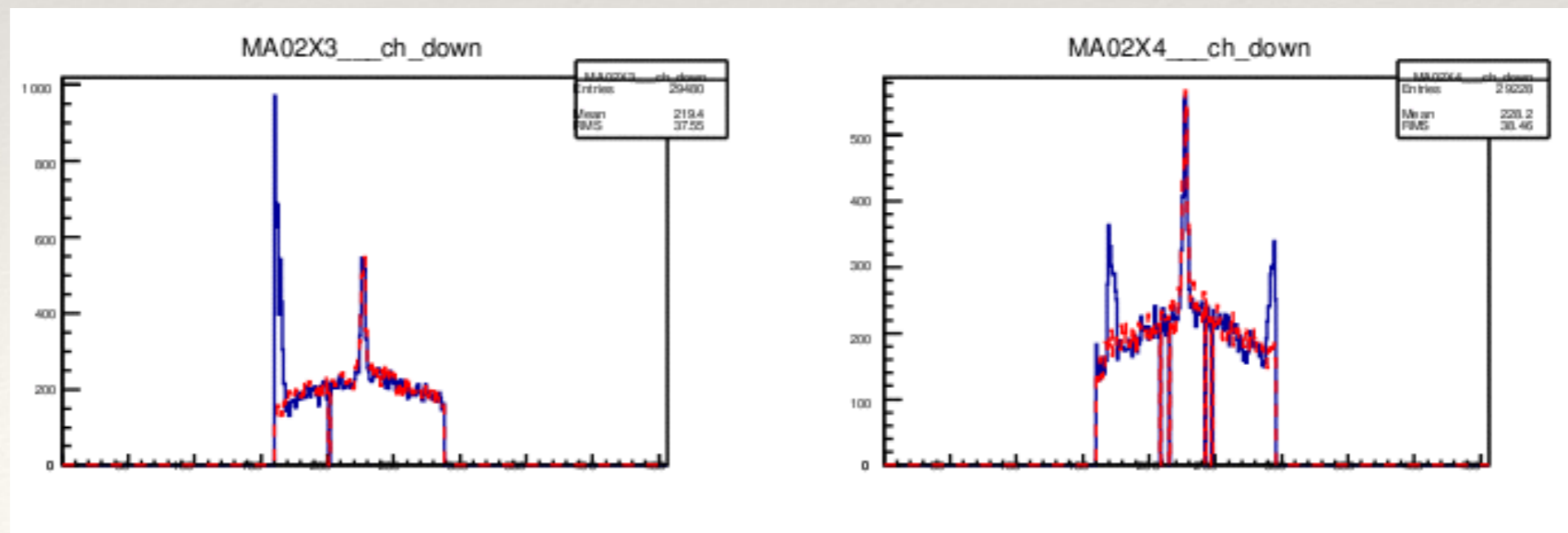
Wednesday 26.09. Evening

- ❖ Beam came back around 7 pm
- ❖ Data Recording: Vladimir. 18W16 has started since 286325. All 55418 data files were copied to castor successfully!
- ❖ CEDARs: DIP 7 alarm. Vincent contacted to CCC operator and they reset the VME.
- ❖ DC: Alain. DC00Y1 also DC00Y2 thresholds were set to low value to check readout. They are ok!
- ❖ Target: Michael. Stop DNP. Still to 6V. Polarization -56% upstream and +68.8% downstream. Go to dipole field.



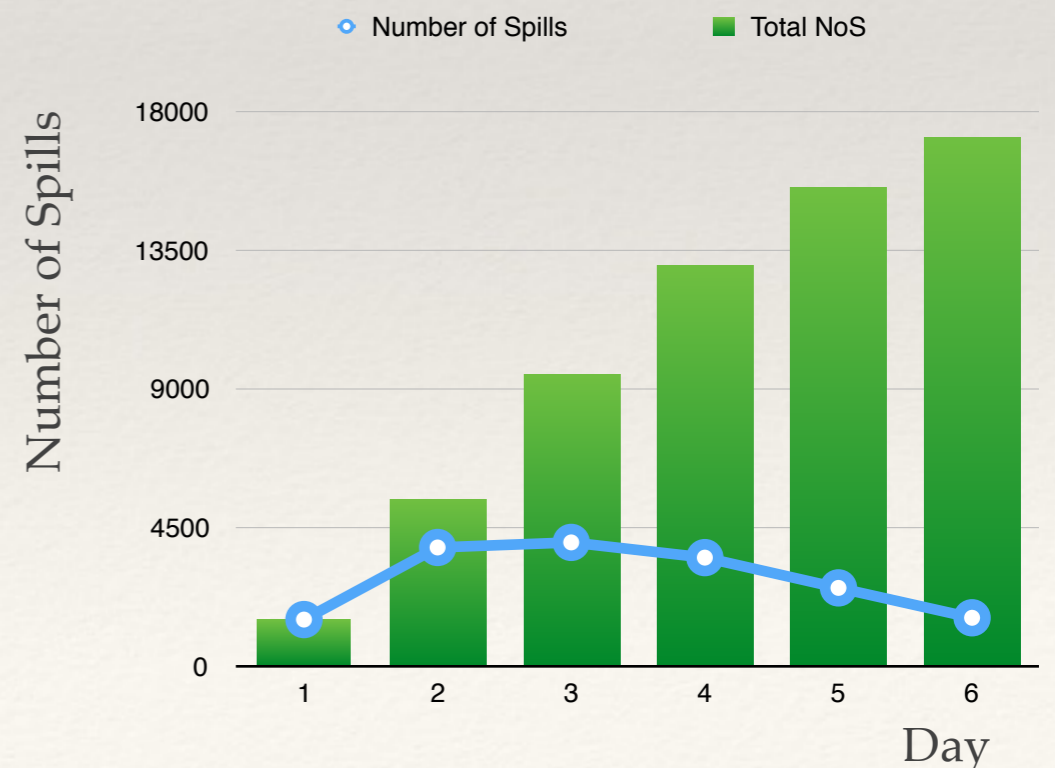
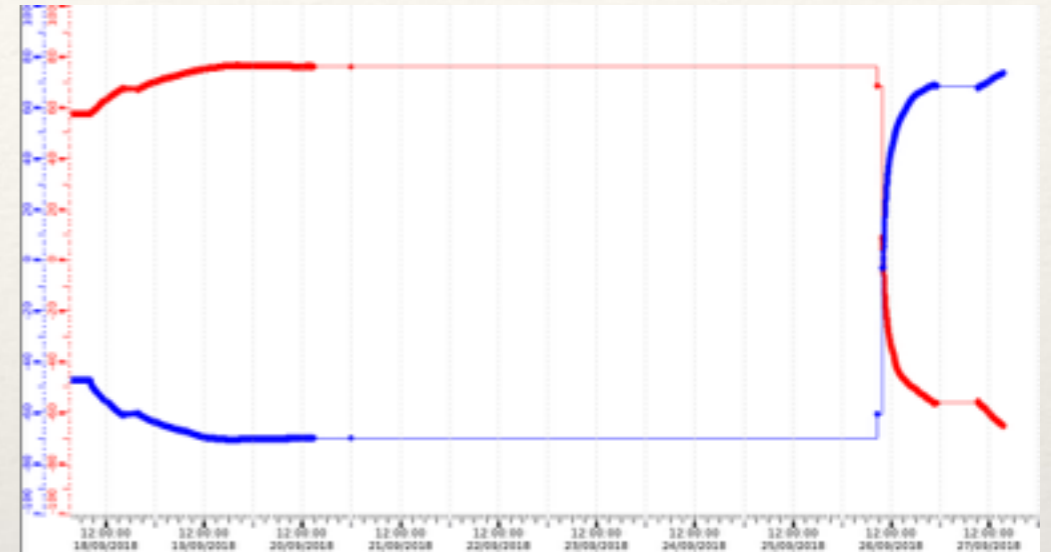
Wednesday-Thursday 27.09. Night

- ❖ STRAW: Trip St_Hv_Dl07_03Y1_10mm_1
- ❖ MW1: Noisy channels MA02X3__ch_down and MA02X4__ch_down. Expert is aware and issue had gone.
- ❖ DAQ: Run number was not incremented! for run 286334 the run number was not incremented after the end of run. Therefore a 200-spill run is missing in the run database. However, the data are in the /cdr directory. But it might be that these data have duplicate spill and event numbers. This should be checked by the experts!!! Antonin is investigating this incident. 400 spills were stored into 1 file. Vladimir is also aware.



Thursday 27.09.Day

- ❖ Continue target polarization
- ❖ Performed alignment for SM1, SM2 magnets off and on
- ❖ Switched to 40 mm target pion- beam for trigger testing.
- ❖ **Total Number of Good Spills > 17000 (200 spills weren't added)**

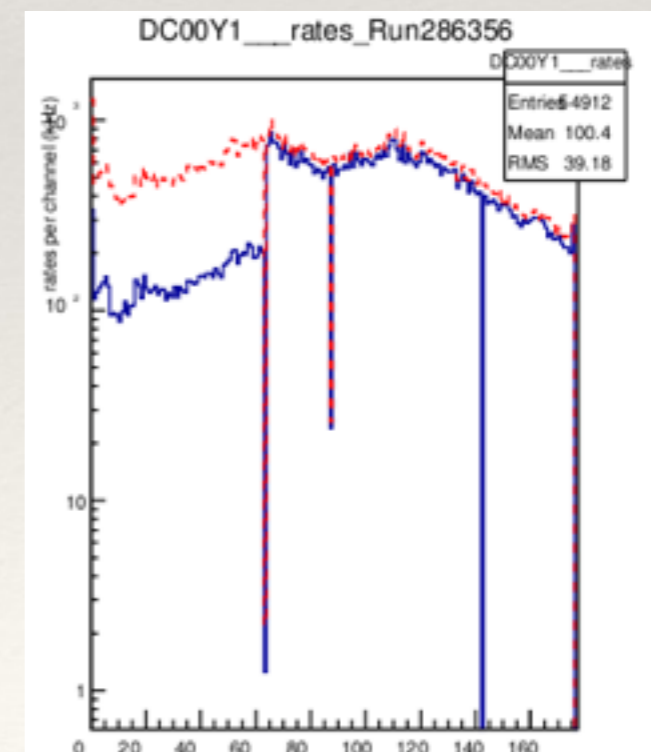
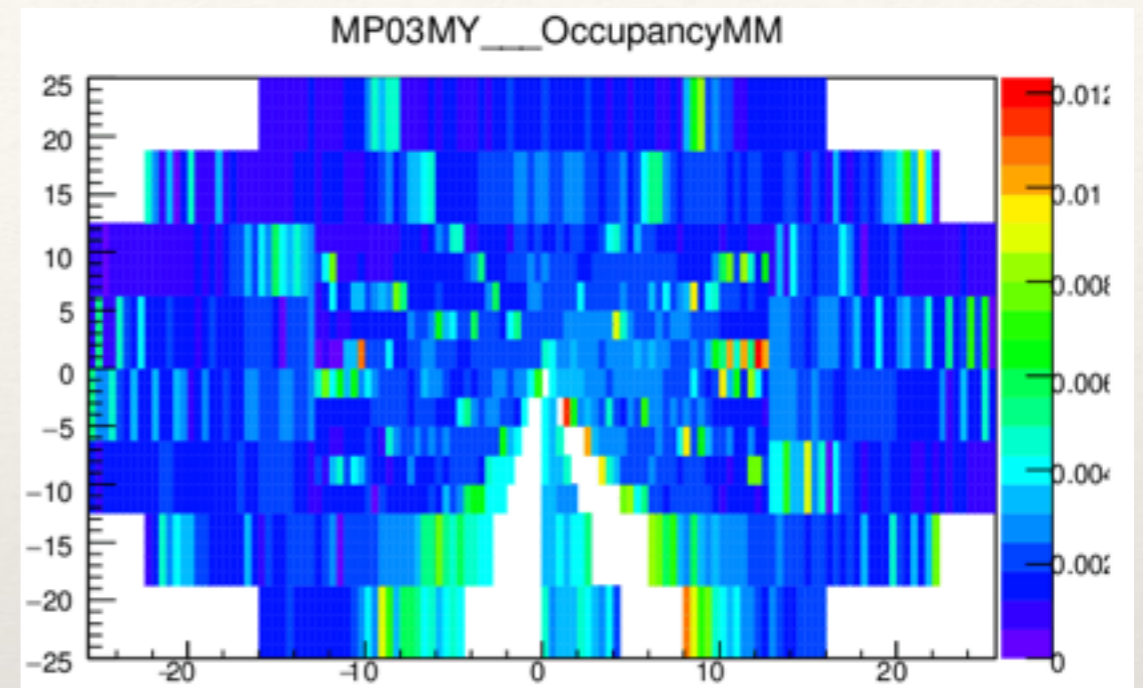


Thursday 27.09. Evening

- ❖ Target: 20:18 Stop Microwave. Polarization -67.3% upstream and +74.1% downstream. Go to transverse field. Started to acquire in DY mode.
- ❖ DAQ: Run number 286333 issue is still being investigated. Vladimir answered that the Run has problem with spill number. Vladimir will come to CERN on monday and will study the issue.
Ondrej: the condition `spillNumber == MaxSpill` (set in GUI) in last event in cycle was not satisfied in Master process and the run number was not incremented.

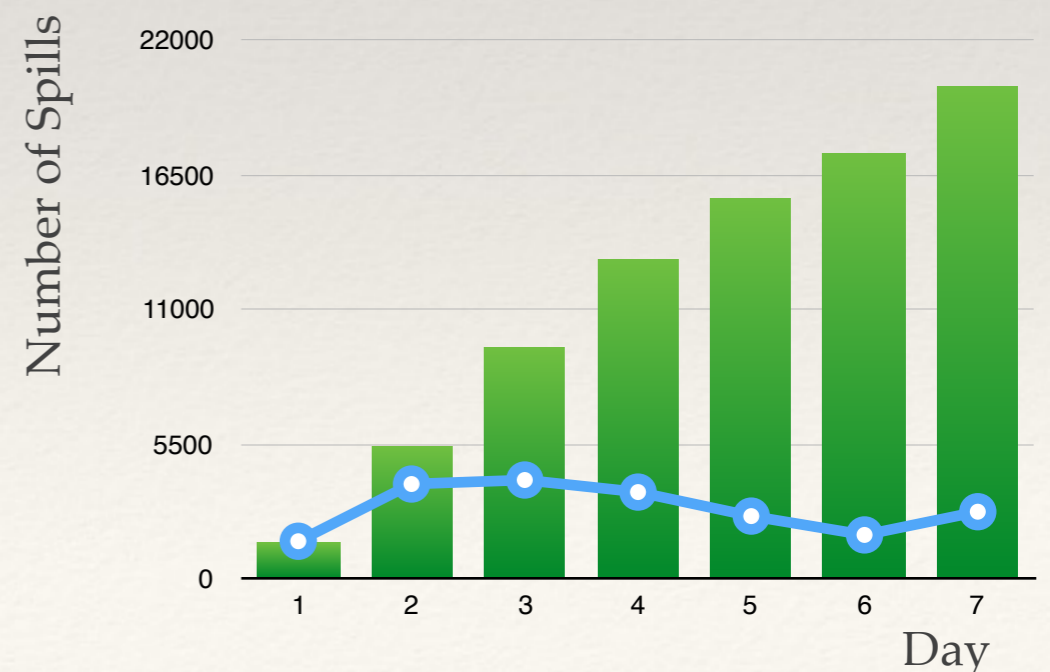
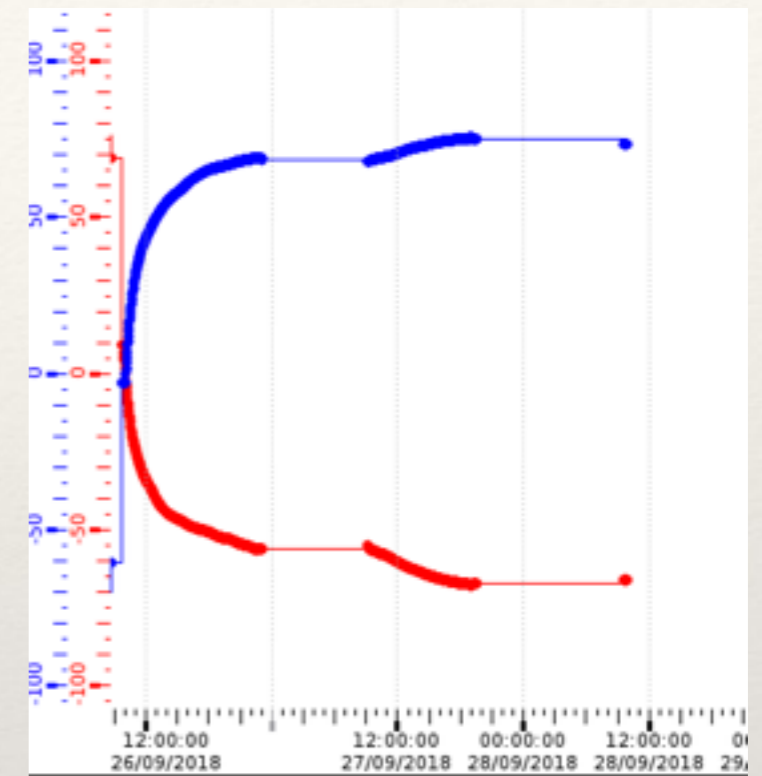
Thursday-Friday 28.09. Night

- ❖ MM: Missing part on MP03, recovered by re-loading SrcID 382
- ❖ DC: Low rate of a part of DC00Y1, solved by re-loading SrcID 257



Friday 28.09.Morning

- ❖ Beam was scheduled to be off since 8:30. Target people were prepare to increase target polarization. But Beam off was postponed to 9:23. Yuriy estimated time for polarization more that 2 hours. At 8:50 we decided with Vincent to shut the beam off and let people maintain target polarization.
- ❖ Beam off was postponed again to 10 am and then to ~10:45
- ❖ Continue target polarization
- ❖ **Total Number of Good Spills > 20000**



Summary. The main issues

- ❖ W45, PMM, DC, GEMs can start generate noise. Reload, or power-cycle of the equipment usually helped.
- ❖ PixelMM MP03MY plane can lose a part. Reload can help.
- ❖ DC00, DC01 - missing channels. Hotlink contact problem.
- ❖ DAQ: PCCORC35 can get stuck by COOOL when saving ordinary shift plots (reboot). Run 28633 issue. Issue on MUX12. Power cycled VXS and replug PCCOFE52. Power cycled create with PCCOFE15.
- ❖ CEDARs DIP 7 alarm. Reloading of VME was needed
- ❖ Flipped target polarization during MD. Two brakes for night data taking. Polarization is ongoing. -67% (up), +74% (down)
- ❖ Alignment was done for SM1, SM2 off/on., some trigger test with low intensity pion beam
- ❖ DCS: if no access the Alarm will be triggered if DAQ operating in Artificial spill structure.
- ❖ Taking care about beam intensity at level of 120 and less 130.
- ❖ LaCamera was fully disassembled.
- ❖ **Total number of good spills > 20 000**

~70 buns and croissants have been eaten 😊

Week 39-40

Week Coordinator:

Charles-Joseph Naim

Best Wishes and Good Luck!