

# Report of the weekly coordinator: W43/W44 October 26<sup>th</sup> - November 2<sup>nd</sup>

Markéta Pešková

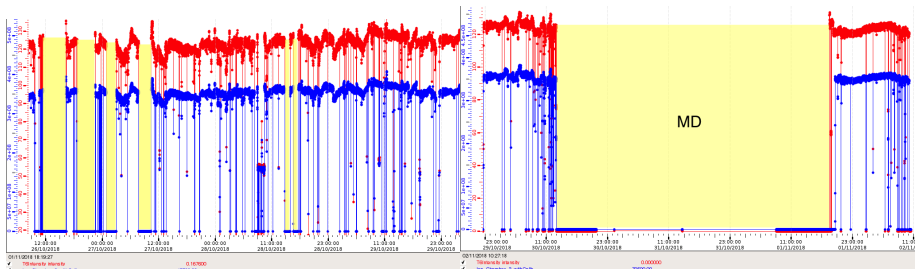
Charles University

November 2, 2018



## Beam conditions

- Mainly stable beam with the intensity on T6 holding on around  $120 \times 10^{11}$
- On Tuesday 30<sup>th</sup>, 13:00 we lost beam → broken thyristor on PS bumper 14, no replacement on site, new installed on Wednesday evening
- **Long MD:** Wednesday 8:00 - Thursday 18:00
- Since yesterday 18:30 beam back, data-taking
- No beam today from 10:10 - 12:00



## Collected spills

Good spills delivered from SPS and recorded at COMPASS for every day:

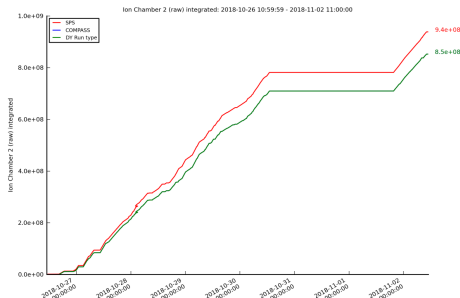
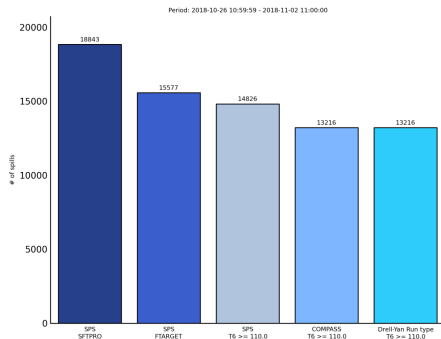
Delivered	2621	3101	3793	2597	0	0	2175
Recorded	2495	2749	3480	2457	0	0	2323

- Good spills over the whole week:
  - Delivered: **14435**
  - Recorded: **13356**
  - COMPASS efficiency: **92.5%**

# Collected spills

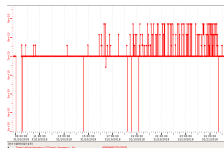
On the left figure:

- What SPS tries to give us
- What SPS actually delivers
- SPS good spills with intensity higher then  $110 \times 10^{11}$  → efficiency 3<sup>rd</sup>/1<sup>th</sup> = **78%**
- Collected spills at COMPASS (all runs) → efficiency 3<sup>rd</sup>/4<sup>th</sup> = **89%**



# Target

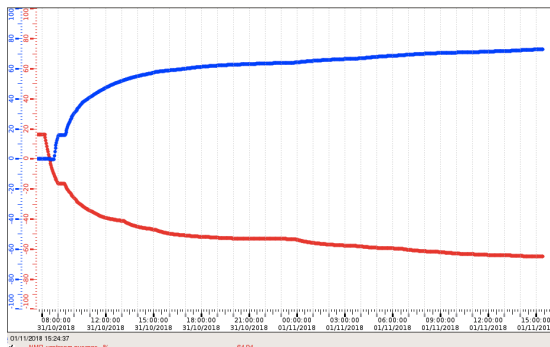
- On Tuesday evening: measurements of the relaxation time of the target material in the zero magnetic field
- Since Wednesday morning, the repolarisation in the opposite direction began, during the night, strange jumps in the MW frequency were observed (not effect of the MW power supply)



# Polarisation

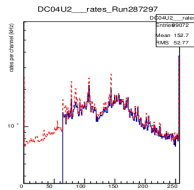
- Repolarisation in the opposite direction after the relaxation measurements, since Wednesday 8:00
- Reached polarisation after the repolarisation:

UP	-66.7%
DOWN	+73.6%



# Detector problems

- PMMs usual problems, loading/powercycling pccofe15 always helped
- DC00, DC01, DC04, loading/powercycling pccofe08 helped
- DC04: SrcID 259 U plane port 8 missing, since yesterday evening, no error in MurphyTV, however, when the beam disappeared, the error in MTV showed
- MWPC (PS01) error now OK
- CEDARs errors, missing plots without any error in MTV, yesterday again, now OK
- SCI-FI01 (Rainers's intervention didn't help), SCI-FI1.5, Scaler errors
- RichWall standard errors
- DAQ (PCI/DMA error once)
- ECAL1, ECAL2, HCAL1 errors, now OK
- RICH MAPMT HV problems, now solved or masked, will have to be dealt with later



Thanks to all the shifters and experts!  
Good luck to Jan!



# SPARES

# Report of the weekly coordinator: W43/W44

## Friday 11:00 - Monday 16:00

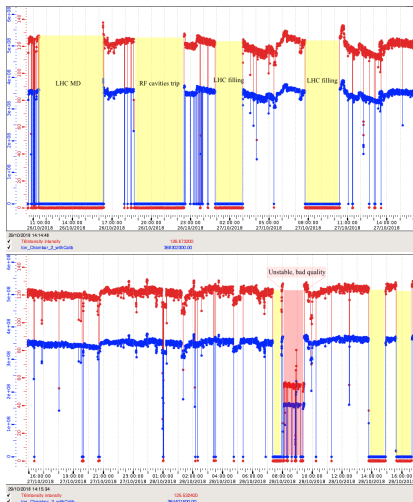
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29.10.2018

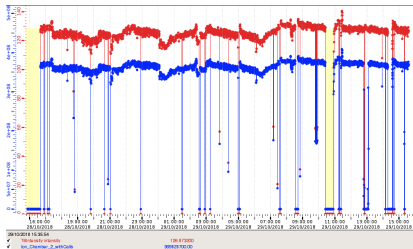
# Beam conditions

- Stable data-taking with some pauses with no beam (LHC MD, on Friday 26<sup>th</sup>, LHC filling, RF cavities trip)
- Intensity on T6 around  $120 \times 10^{11}$ , if too high or low, or the beam quality was bad, shift called SPS ctrl room for correction



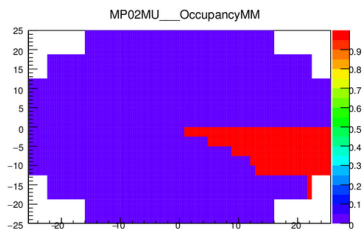
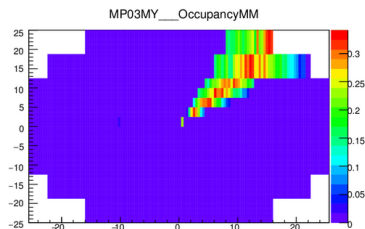
# Beam conditions

- Number of spills since Friday 26<sup>th</sup>, 11:00 till Monday 29<sup>th</sup>, 16:00:
  - Good DY spills: **8730**
  - Delivered from SPS: **9400**
- In the evening on Friday, Marcin performed the CEDAR pressure scans and diaphragma scans, yet to be finished



# Detector problems

- Persistent problems with PMMs (loading or LV powercycle solved it)
- DC00 error (Saturday after noon) solved by powercycling of the pccofe08
- DC01 error (Saturday night), solved by loading
- PS01 (MWPC) error (Sunday night), loading cured it
- ECAL1 errors, RICH errors (Sunday evening)
- DAQ crashes, PCI/DMA error (Saturday 7:30 and 14:19), legal time changed (Sunday night)



# Detector problems

- CEDARs error since Sunday 1am, after loading SrcID 250 CEDARs disconnected, cool plots empty, the next (!) shift noticed in 11am
  - firmware refreshed, after Marcin's and Igor's intervention, all TDC cards recovered
  - references for the cool plots added by Vincent and Moritz
- RichWall errors, appearing and being solved
- SciFi-1.5U errors today at 12:20, solved by powercycling the crate during 5mins access
- Scaler error yesterday evening and today after noon, solved by loading

# Report of the weekly coordinator: W44

## Monday 16:00 - Tuesday 16:00

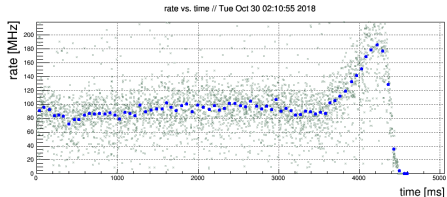
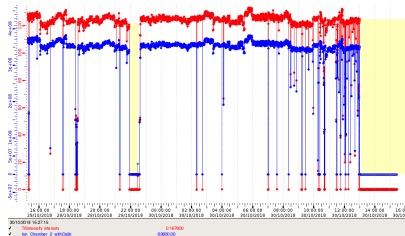
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30.10.2018

# Beam conditions

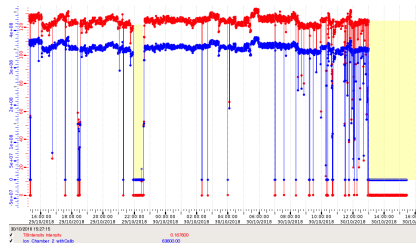
- Stable data-taking with 1 short period without beam in the night, since today since 13:00 no beam again for CPS due to faulty power supply
- In the Monday afternoon fighting with bad spill profile (peak in the end of spill), SPS ctrl room called repeatedly, however, the quality always deteriorated → LHC filling, situation continued till 3:00





# Beam conditions

- Intensity on T6 slightly above  $120 \times 10^{11}$
- Number of spills since Monday 29<sup>th</sup>, 16:00 till Tuesday 30<sup>th</sup>, 16:00:
  - Good DY spills: **2460**
  - Delivered from SPS: **2600**
  - COMPASS efficiency: **94%**



# Detector problems

- Yesterday at 18:45 gas flow (Argon) fluctuation in many detectors, due to the low atmospheric pressure
- HCAL1 errors yesterday evening, solved
- ECAL2 many bad blocks (night), fixed, now according to DCS:
  - ECAL2 has fallen through the ground 11m to the basement (Y=-1160)..
- DC00 error (11:00), solved after rebooting the pccofe08
- PMM problem (SrcID 380), solved by rebooting the pccofe15

# Report of the weekly coordinator: W44

## Tuesday 16:00 - Wednesday 16:00

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31.10.2018

## Beam conditions

- No beam since yesterday **13:00** → no spare thyristor for bumper 14, problem with extraction of beam from PS to SPS, but no beam for North Area only
- They hopefully get the spare before the end of the MD
- In the morning, **8:00**, MD started
- The new data-taking period W22 began (starting with run 287257)

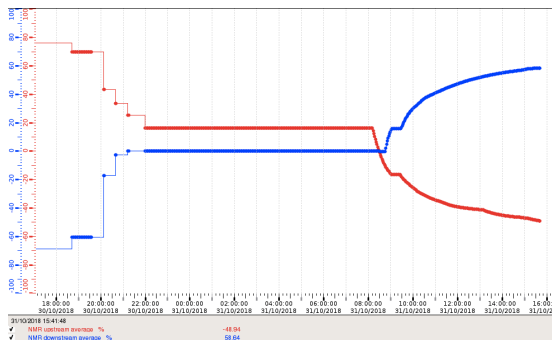
# MD activities

- Work on the target started yesterday evening, since there was no chance of having beam
  - Measurement of the relaxation time for the material in the zero magnetic field, and other tests
- DAQ: connection of the x-switch to the DAQ completed yesterday evening
- Some other DAQ tests

# Polarisation

- In the morning at **8:00** the repolarisation in the opposite direction began
- Reached polarisation at this moment:

UP	- 49
DOWN	+ 58.7



# Report of the weekly coordinator: W44

## Wednesday 16:00 - Thursday 16:00

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1.11.2018

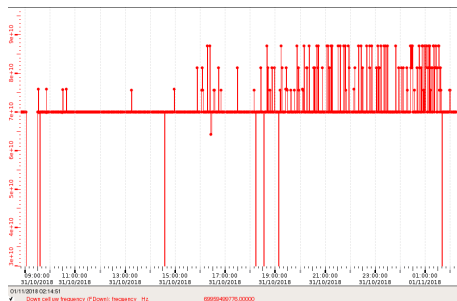
## MD activities and plans

- Thyristor in the PS bumper replaced yesterday evening, beam expected back at 18:00
- The repolarisation is on-going till the beam is back
- Tomorrow morning: low intensity beam → setting up for the upcoming ion run
- since yesterday there are stickers on every door of 888 about the safety shoes and helmets..



# Target

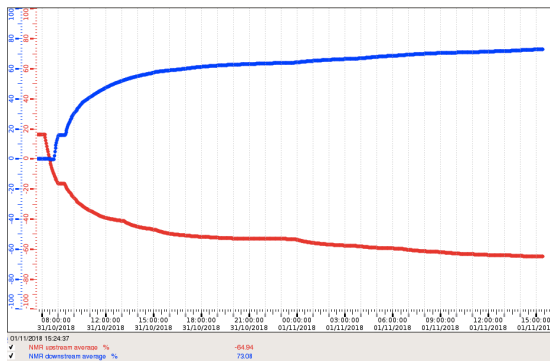
- During the night some strange jumps were reported in the MW frequency for the downstream cell polarisation (DCS and counter in the PT room), no change seen on the MW power supply or speer thermometer, maybe some problem with the frequency counter?



# Polarisation

- Polarisation is ongoing till **18:00**
- Reached polarisation till now:

UP	- 65.1
DOWN	+ 73.3



## Detector problems

- SciFi01: Rainer restored the communication with the discriminator board responsible for the inefficient channels in the central part of FI01X and reset it, to be seen if it worked
- MW2 (416) giving error, load cured it
- DC04 (259) port 2 error, loaded and solved
- RICH MAPMTs HV problems are spreading, yesterday the channel 83 was masked, today problems with the whole CCR2 board 04 (ch. 97-114), LEDs were off, strange behaviour in the DCS, after powercycling OK, but 103 remained in undervoltage

