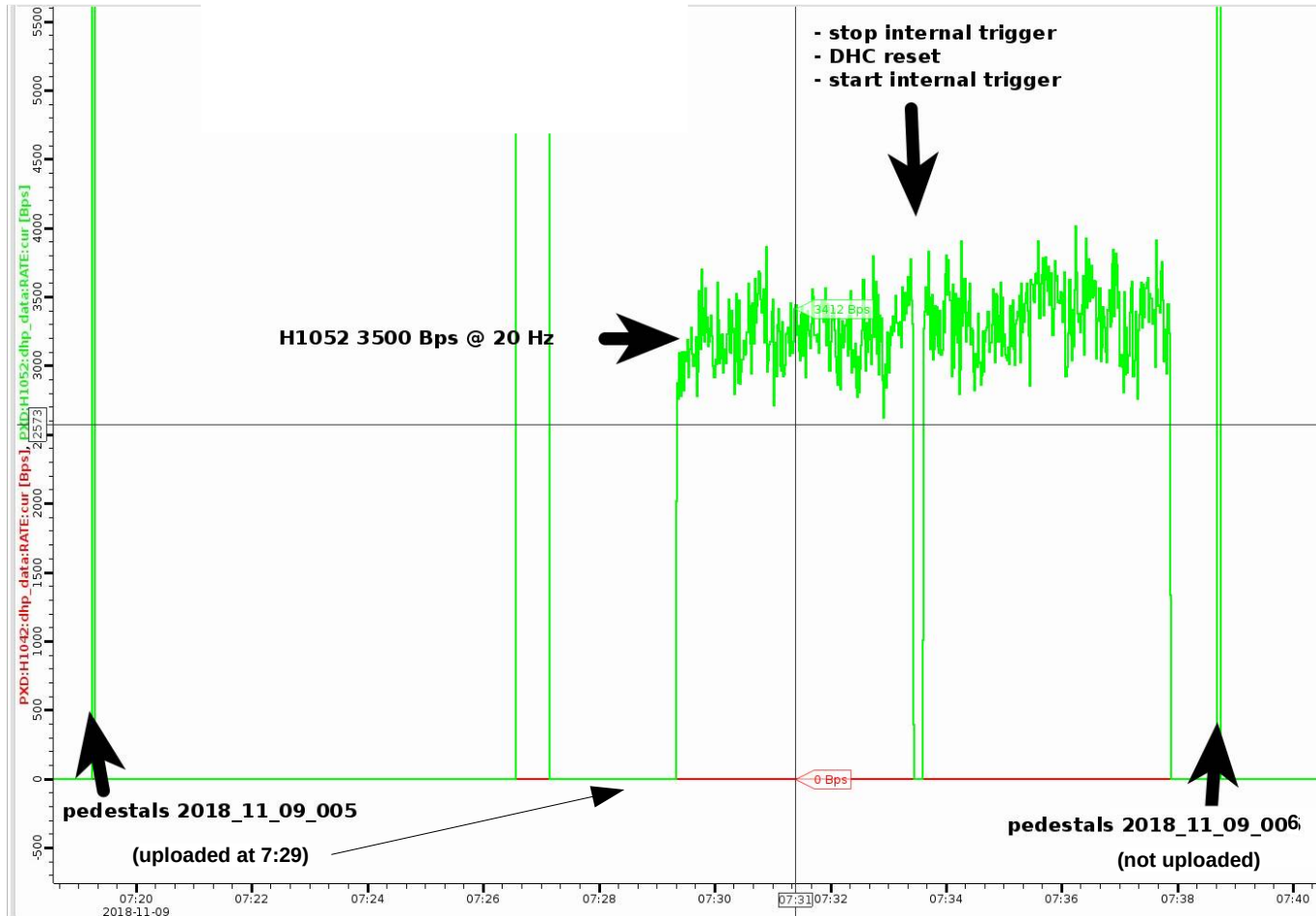


# 1042 & 1052 on 2018-11-09

- Backward modules 1042 and 1052
- Start with single module operation of 1052
- Subsequently power 1042 and operate together
  
- <https://elog.belle2.org/elog/PXD-Commissioning-KEK/927>
- <https://elog.belle2.org/elog/PXD-Commissioning-KEK/928>
- [https://b2rc.kek.jp/channel/pxd\\_commissioning\\_at\\_kek?msg=HZwxmKuRYCWZxZDWt](https://b2rc.kek.jp/channel/pxd_commissioning_at_kek?msg=HZwxmKuRYCWZxZDWt)
- [https://b2rc.kek.jp/channel/pxd\\_commissioning\\_at\\_kek?msg=PB42J95YHKZxFcBLZ](https://b2rc.kek.jp/channel/pxd_commissioning_at_kek?msg=PB42J95YHKZxFcBLZ)

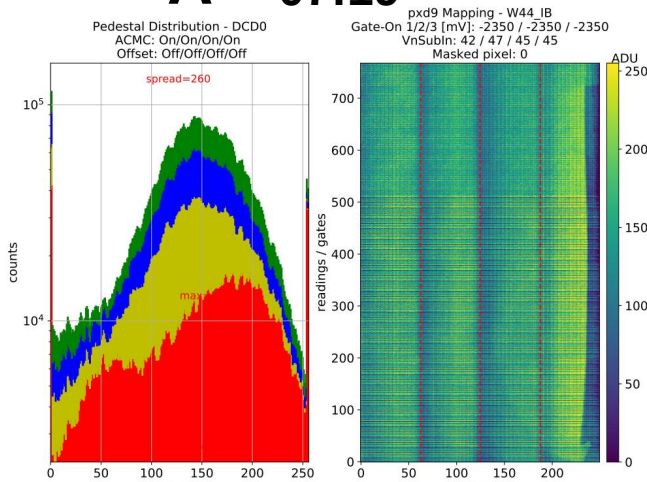
# 1052 single operation – investigation of DHC reset



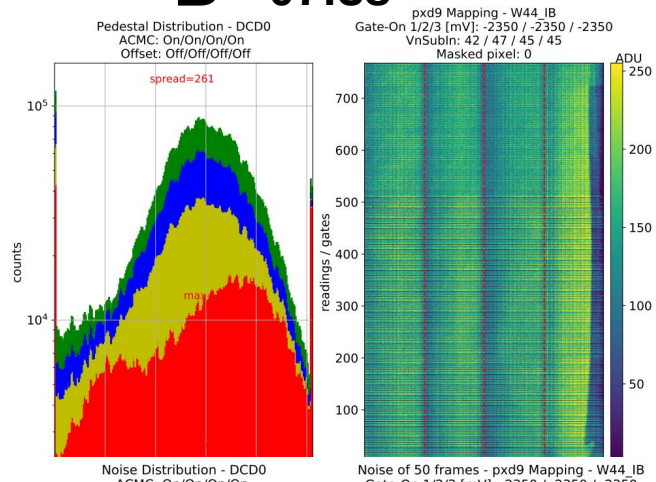
- DHC reset did not trigger strange behavior
- (the times with hit rate 0 were without active triggers)

# Single 1052 operation on 2018-11-09

**A** 07:19



**B** 07:38

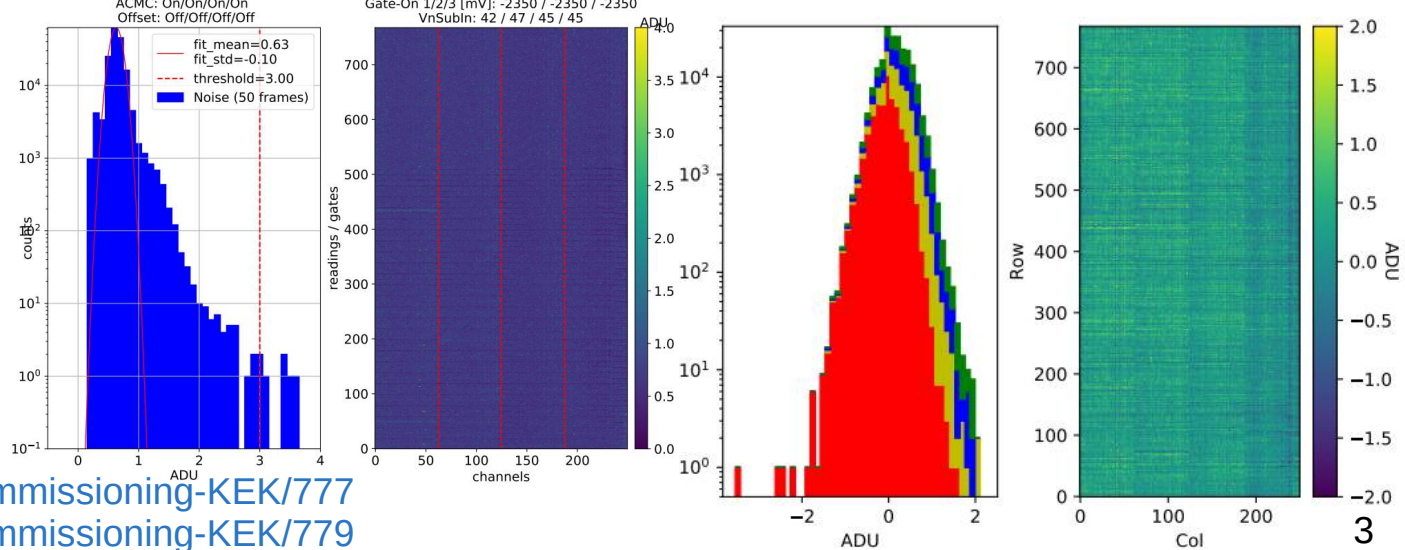


## Only moderate change between pedestals

- Pedestal change moderate, almost all < 2 ADU
- (“vertical bands” of lowered/ increased regions visible, not exactly the same state?)

Difference of mean pedestals

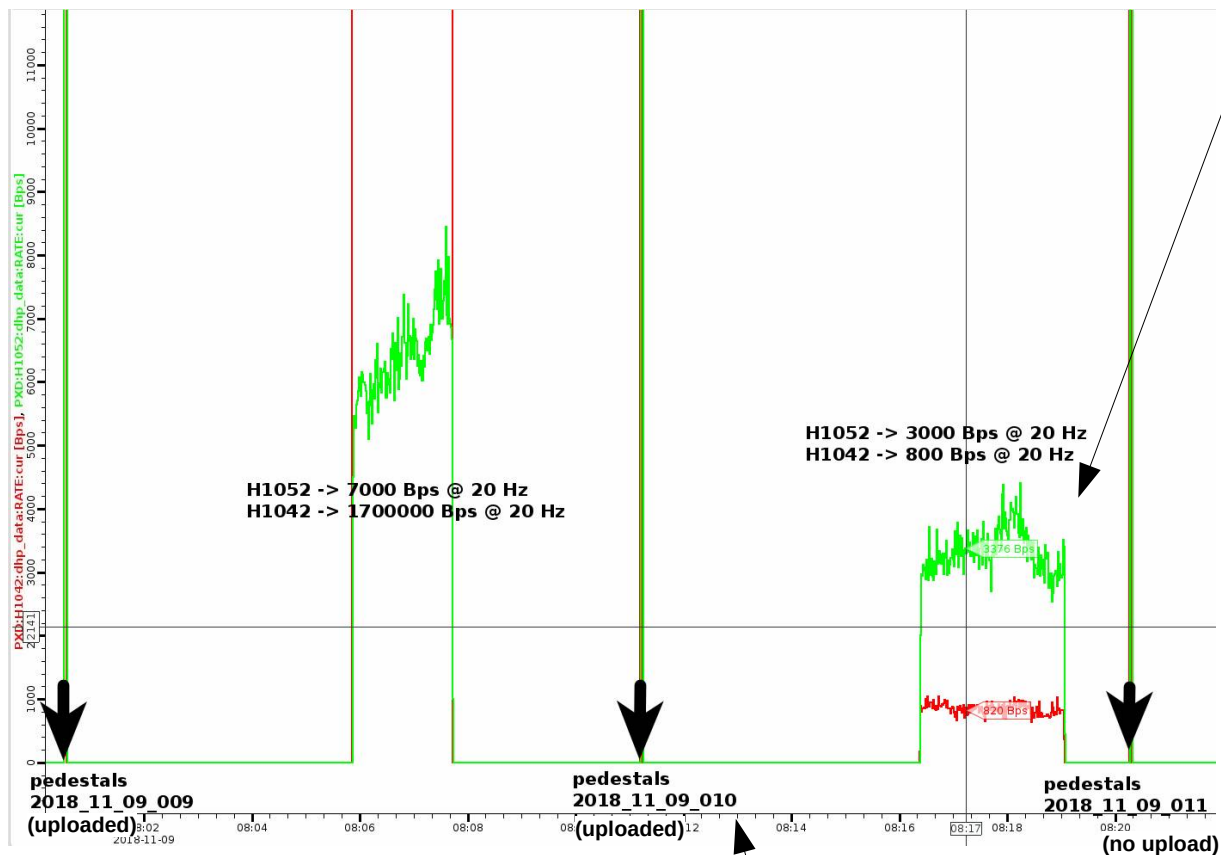
**B-A**



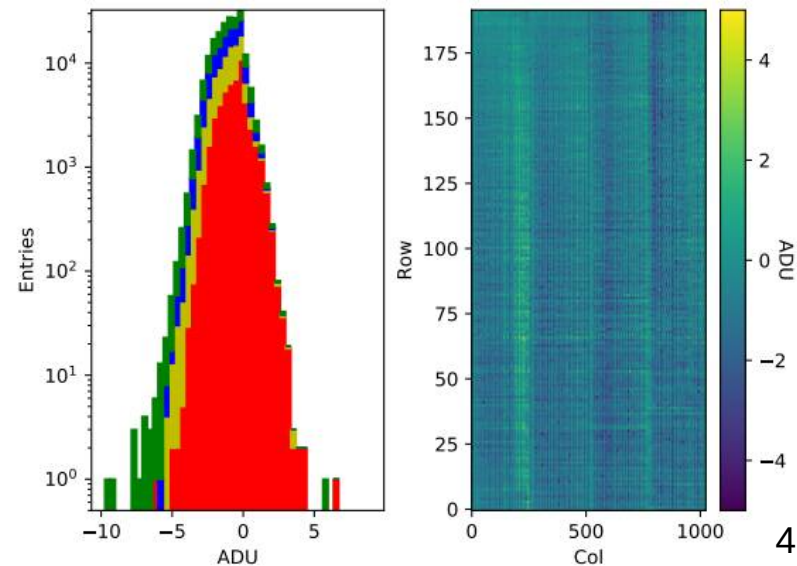
# 1042 & 1052 on 2018-11-09

- **1052 pedestals significantly differing w.r.t. stand-alone operation**
- But, same data rate on 1052 as in stand-alone mode after uploading new pedestals → state of 1052 seems to have changed by powering 1042
- Inhomogeneous increase, many pixels close to 5 ADU threshold or above

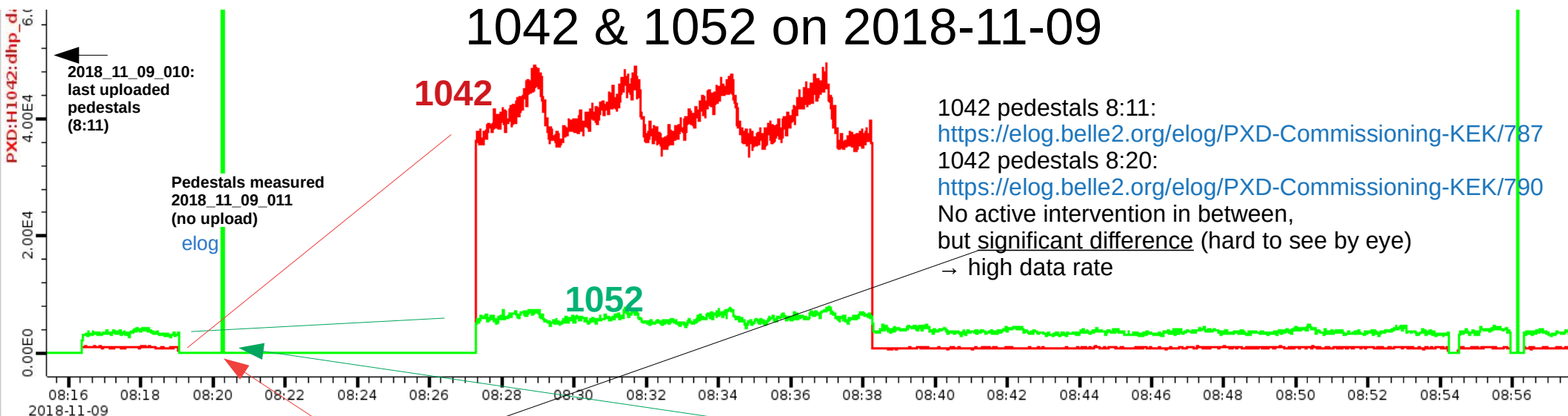
1052 ped. diff. (1042 on vs. 1042 off)  
2018\_11\_09\_010 (8:11) vs. 006 (7:38)<sup>b</sup>



<https://elog.belle2.org/elog/PXD-Commissioning-KEK/788>



# 1042 & 1052 on 2018-11-09

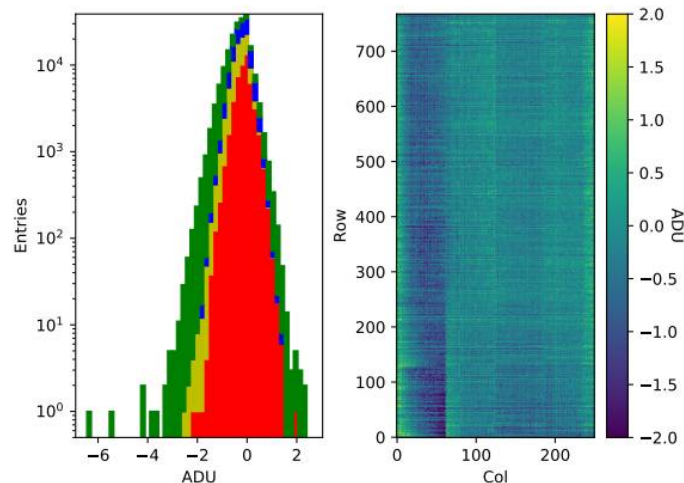
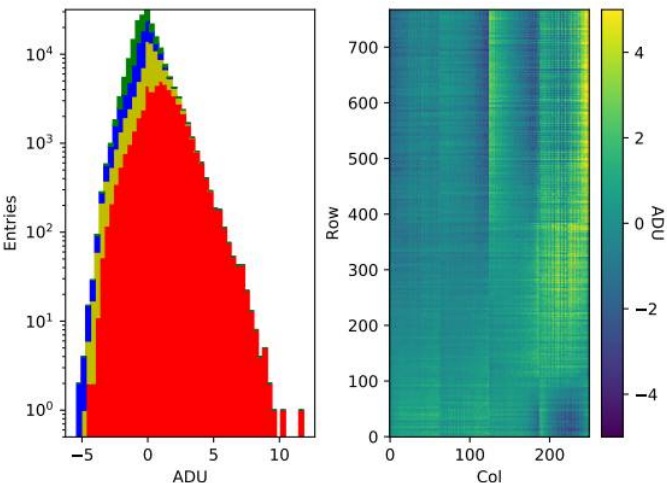


## pedestal difference

**1042**

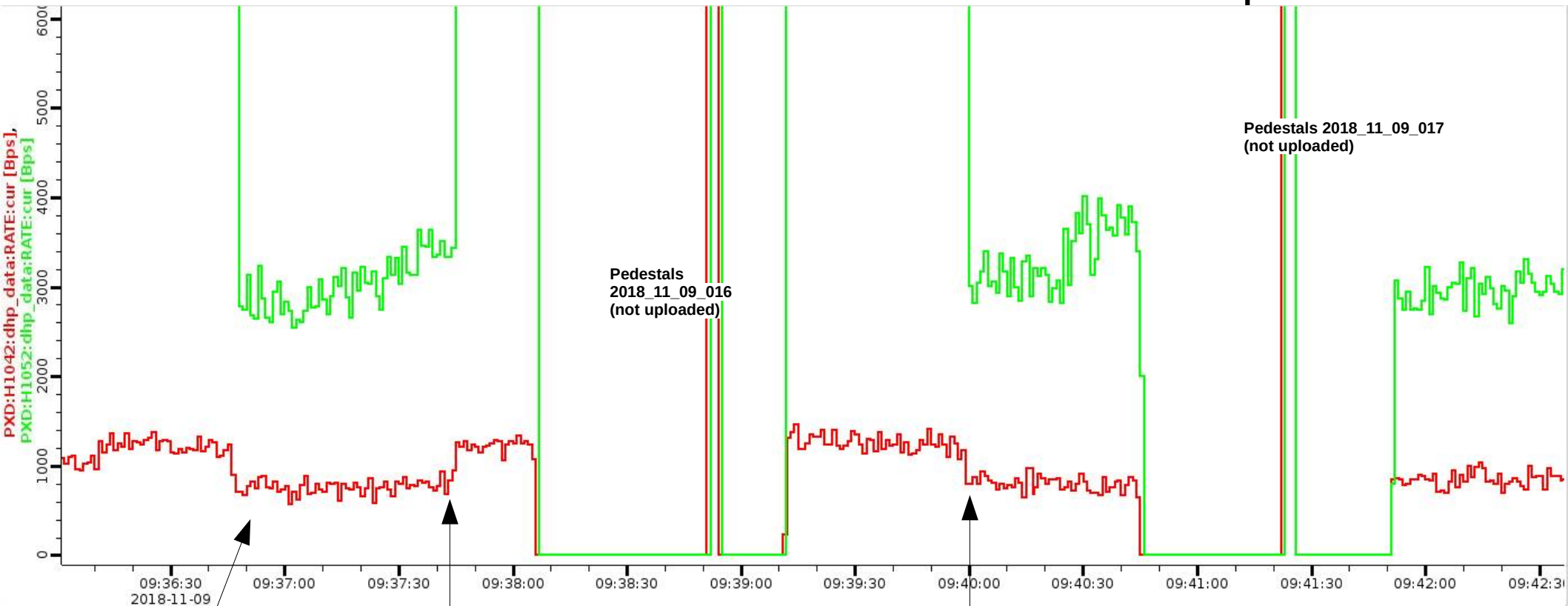
2018\_11\_09\_011 (8:20) vs. 010 (8:11)

**1052**



- Spontaneous large increase in data rate between 8:19 – 8:27 without intervention (only triggering raw data readout for pedestals was done)
- Very large difference in pedestals measured for 1042 between 8:20 and 8:11
  - many pixels over threshold
- Spontaneous “recovery” without intervention at ~ 8:38

# 1042 & 1052 on 2018-11-09: artificial switcher phase



Running system,  
standard module rate

Delay all switcher signals  
on 1052 (value 15)

Reset all switcher signal  
delays on 1052 (value 0)

→ 1042 rate jumps up

→ 1042 rate jumps back

sw_clear_sdly		0	0
sw_gate_sdly		0	0
sw_clk_sdly		0	0
sw_frame_sdly		0	0

# 1042 & 1052 on 2018-11-09: artificial switcher phase

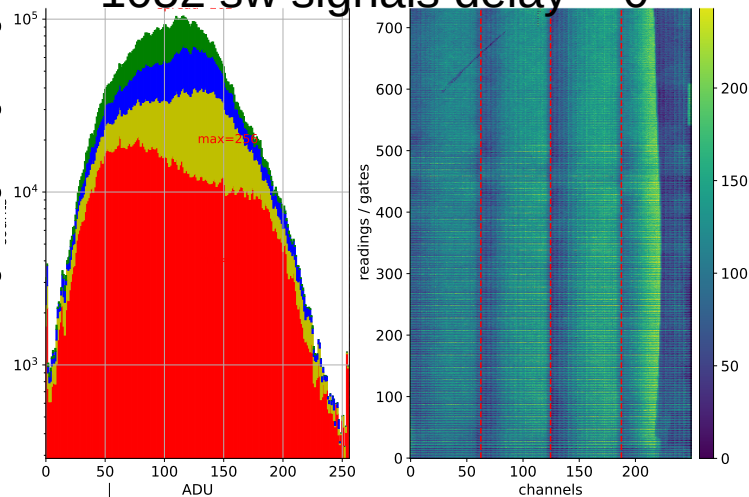
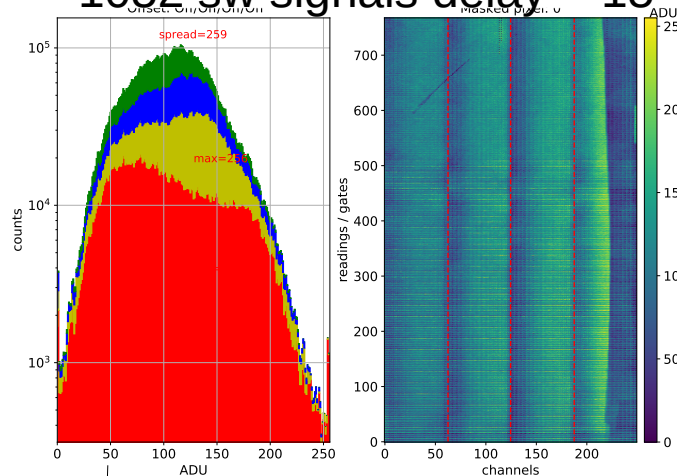
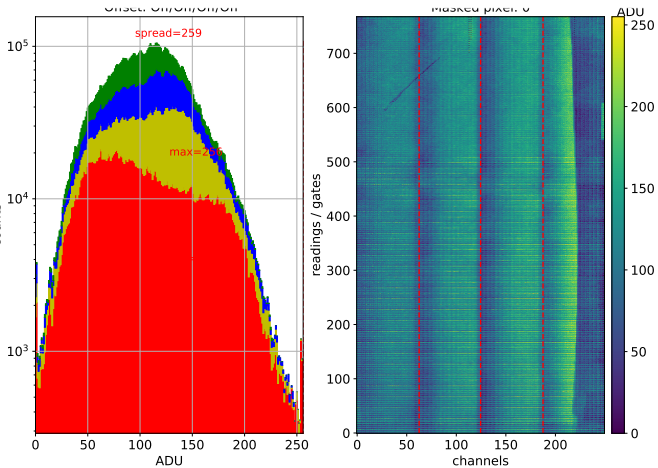
9:29 1042 pedestals (015)

9:38 1042 pedestals (016)

9:39 1042 pedestals (016)

1052 sw signals delay = 15

1052 sw signals delay = 0



Difference of mean pedestals

Difference of mean pedestals

