

# AGIPD Offline Correction



## Detector group

Based on data sample: `/gpfs/exfel/exp/SPB/202030/p900119/raw`

Release : 2.8.3

April 30, 2020

*Extended version*

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## INPUT OF THE CALIBRATION PIPELINE

in-folder	“/gpfs/exfel/exp/SPB/202030/-p900119/raw”	the folder to read data from, required
run	98	runs to process, required
out-folder	“/gpfs/exfel/d/proc/SPB/202030/-p900119/r0098”	the folder to output to, required
calfile	“”	path to calibration file. Leave empty if all data should come from DB
sequences	[-1]	sequences to correct, set to -1 for all, range allowed
mem-cells	0	number of memory cells used, set to 0 to automatically infer
interlaced	False	whether data is in interlaced layout
overwrite	True	set to True if existing data should be overwritten
cluster-profile	“noDB”	one
max-pulses	[0, 500, 1]	range list [st, end, step] of maximum pulse indices. 3 allowed maximum list input elements.
local-input	False	one
bias-voltage	300	one
cal-db-interface	“tcp://max-exf016:8015#8045”	the database interface to use
use-dir-creation-date	True	use the creation data of the input dir for database queries
sequences-per-node	1	number of sequence files per cluster node if run as slurm job, set to 0 to not run SLURM parallel
photon-energy	9.2	photon energy in keV
index-v	2	version of RAW index type
nodb	False	if set only file-based constants will be used
b1c-noise-threshold	5000	above this mean signal intensity now baseline correction via noise is attempted
corr-asic-diag	False	if set, diagonal drop offs on ASICs are corrected
melt-snow	“”	if set to "none" snowy pixels are identified and resolved to NaN, if set to "interpolate", the value is interpolated from neighbouring pixels

cal-db-timeout	300000	in milli seconds
max-cells-db-dark	0	set to a value different than 0 to use this value for dark data DB queries
max-cells-db	0	set to a value different than 0 to use this value for DB queries
chunk-size-idim	1	chunking size of imaging dimension, adjust if user software is sensitive to this.
creation-date-offset	“00:00:00”	add an offset to creation date, e.g. to get different constants
instrument	“SPB”	the instrument the detector is installed at, required
force-hg-if-below	1000	set to a value other than 0 to force a pixel into high gain if it's high gain offset subtracted value is below this threshold
force-mg-if-below	1000	set to a value other than 0 to force a pixel into medium gain if it's medium gain offset subtracted value is below this threshold
mask-noisy-adc	0.25	set to a value other than 0 and below 1 to mask entire ADC if fraction of noisy pixels is above the detector acquisition rate, use 0 to try to auto-determine
acq-rate	0.0	the detector acquisition rate, use 0 to try to auto-determine
gain-setting	0.1	the gain setting, use 0.1 to try to auto-determine
h5path-ctrl	“/CONTROL/- SPB_IRU_AGIPD1M1/MDL/- FPGA_COMP_TEST”	path to control information
karabo-da-control only-offset	“AGIPD1MCTRL00” False	karabo DA for control information Apply only Offset correction. if False, Offset is applied by Default. if True, Offset is only applied.
rel-gain	False	do relative gain correction based on PC data
xray-gain	False	do relative gain correction based on xray data
blc-noise	False	if set, baseline correction via noise peak location is attempted
blc-stripes	True	if set, baseline corrected via stripes
blc-hmatch	False	if set, base line correction via histogram matching is attempted
match-asics	False	if set, inner ASIC borders are matched to the same signal level
adjust-mg-baseline	False	adjust medium gain baseline to match highest high gain value
dont-zero-nans	False	do not zero NaN values in corrected data
dont-zero-orange	False	do not zero very negative and very large values
blc-set-min	False	Shift to 0 negative medium gain pixels after offset corr

## AGIPD OFFLINE CORRECTION, SEQUENCES = 0-3

Author: European XFEL Detector Group, Version: 1.0

Offline Calibration for the AGIPD Detector

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_0-3
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 2.1 Processed Files

```
Processing a total of 64 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00000.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00001.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00002.h5
3		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00003.h5
4	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00000.h5
5		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00001.h5
6		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00002.h5
7		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00003.h5
8	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00000.h5
9		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00001.h5
10		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00002.h5
11		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00003.h5
12	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00000.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00001.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00002.h5
15		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00003.h5
16	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00000.h5
17		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00001.h5
18		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00002.h5
19		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00003.h5
20	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00000.h5
21		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00001.h5
22		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00002.h5
23		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00003.h5
24	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00000.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00001.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00002.h5
27		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00003.h5
28	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00000.h5
29		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00001.h5
30		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00002.h5
31		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00003.h5
32	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00000.h5
33		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00001.h5
34		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00002.h5
35		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00003.h5
36	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00000.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00001.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00002.h5
39		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00003.h5
40	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00000.h5
41		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00001.h5
42		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00002.h5
43		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00003.h5
44	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00000.h5
45		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00001.h5
46		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00002.h5
47		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00003.h5
48	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00000.h5
49		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00001.h5
50		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00002.h5
51		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00003.h5
52	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00000.h5
53		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00001.h5
54		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00002.h5
55	<b>Processed Files</b>	3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00003.h5
56	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00000.h5
57		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00001.h5
58		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00002.h5
59		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00003.h5

A range of 500 pulse indices is selected: from 0 to 500 with a step of 1  
Running 32 tasks parallel  
Running 32 tasks parallel

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
```



```
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
```

```
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```

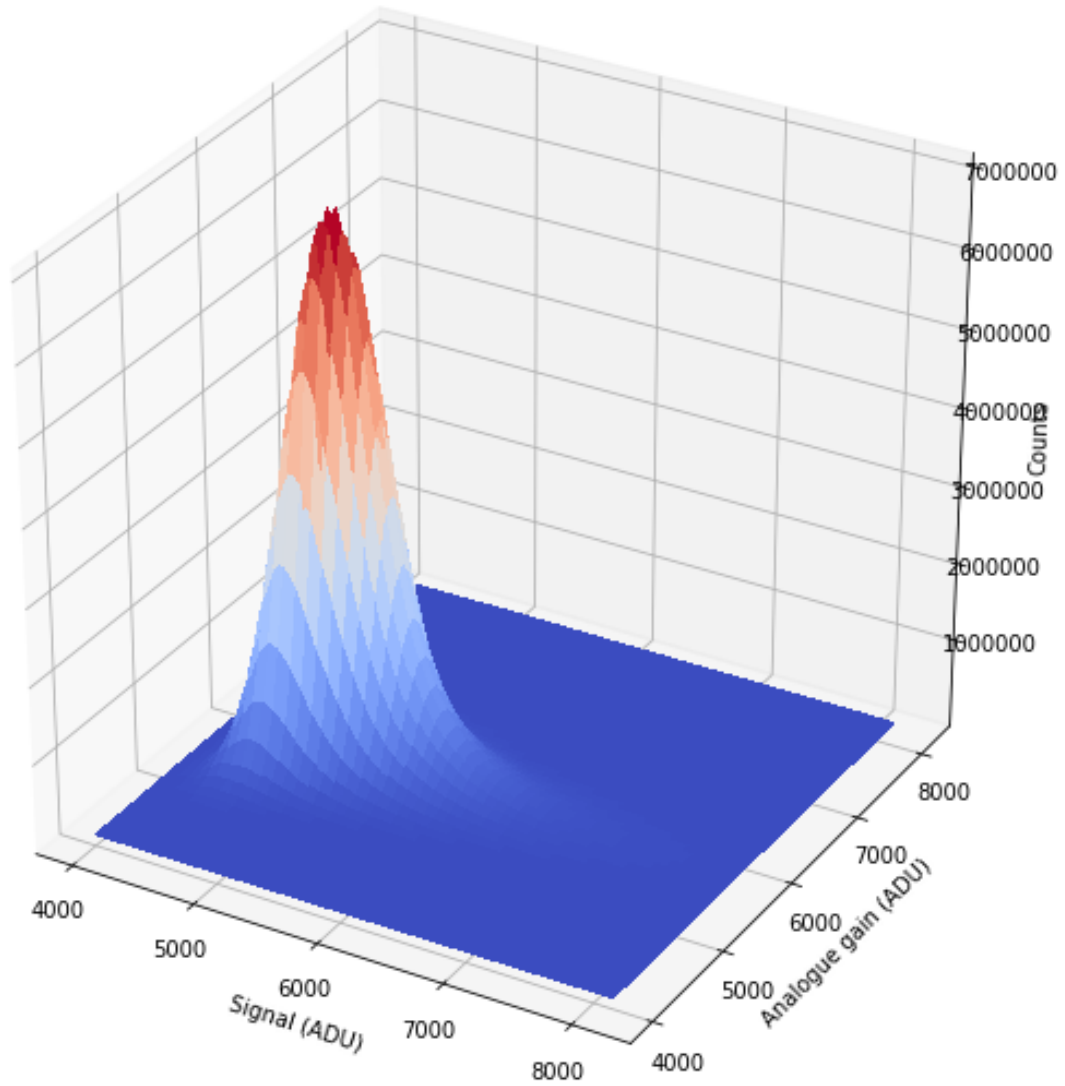
```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

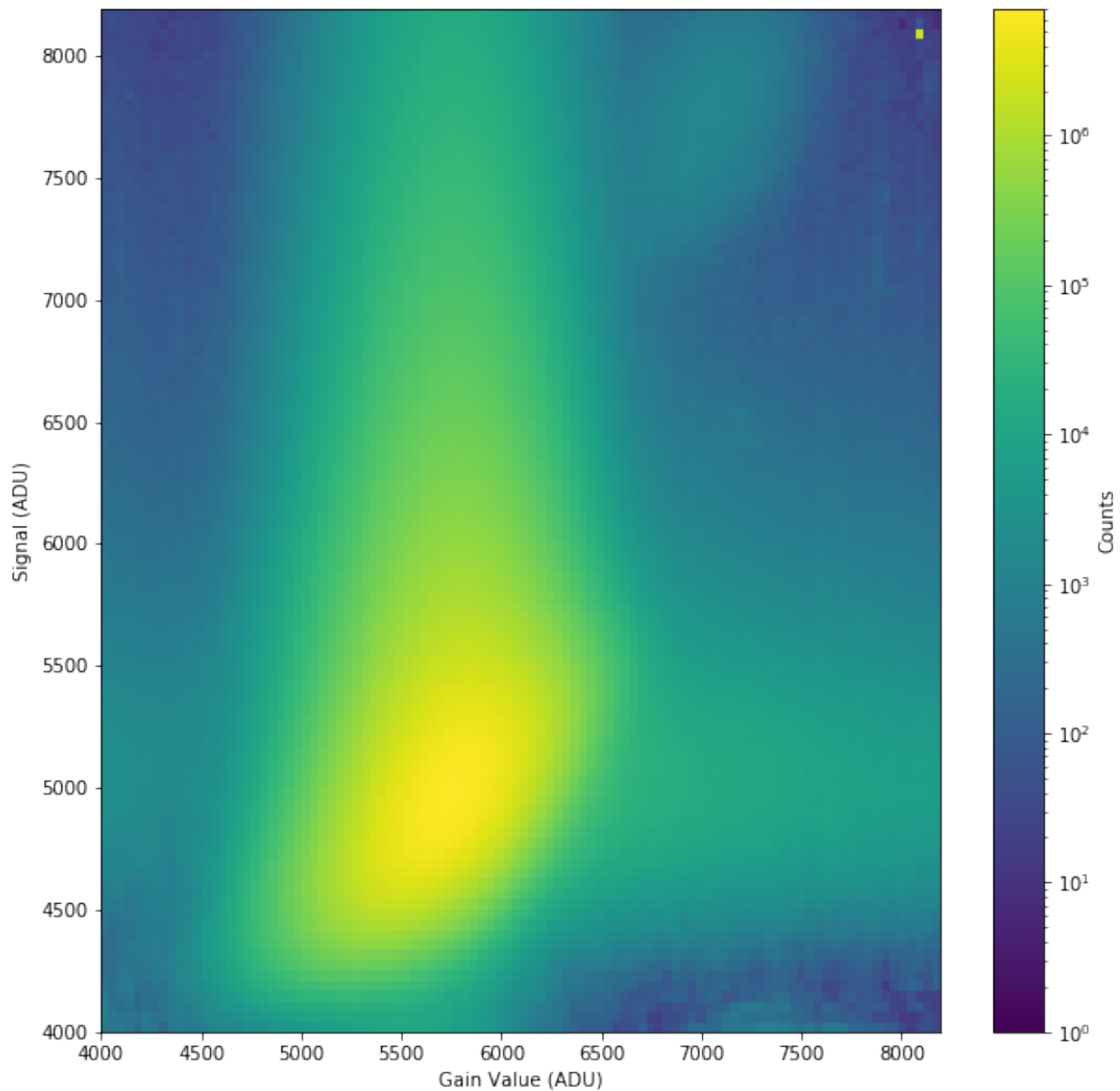
```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 2.2 Signal vs. Analogue Gain

The following plot shows plots signal vs. gain for the first 128 images.

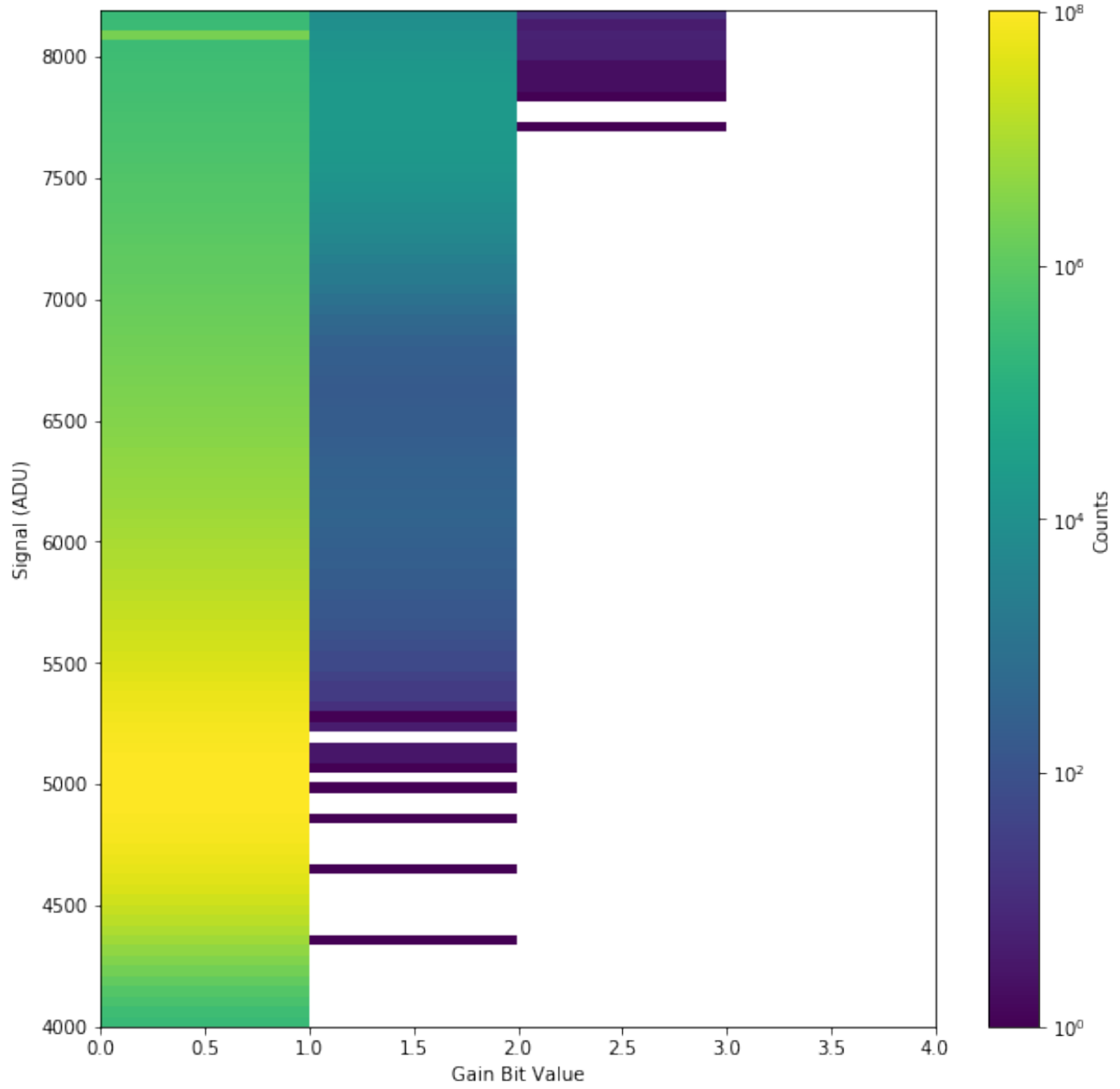


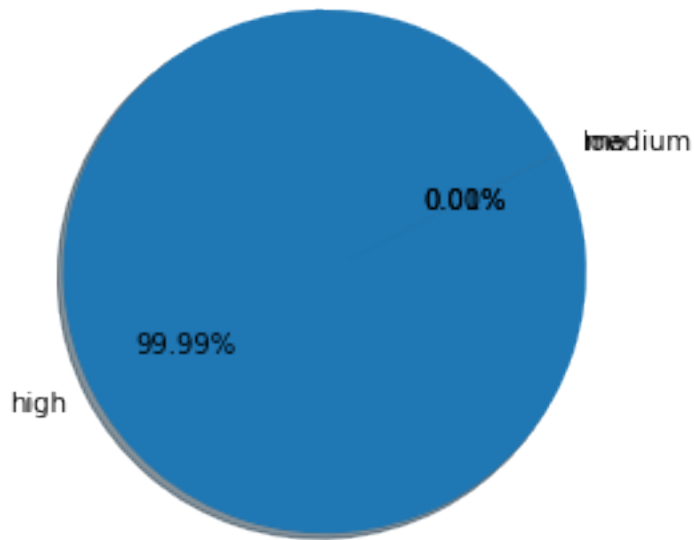




### 2.3 Signal vs. Digitized Gain

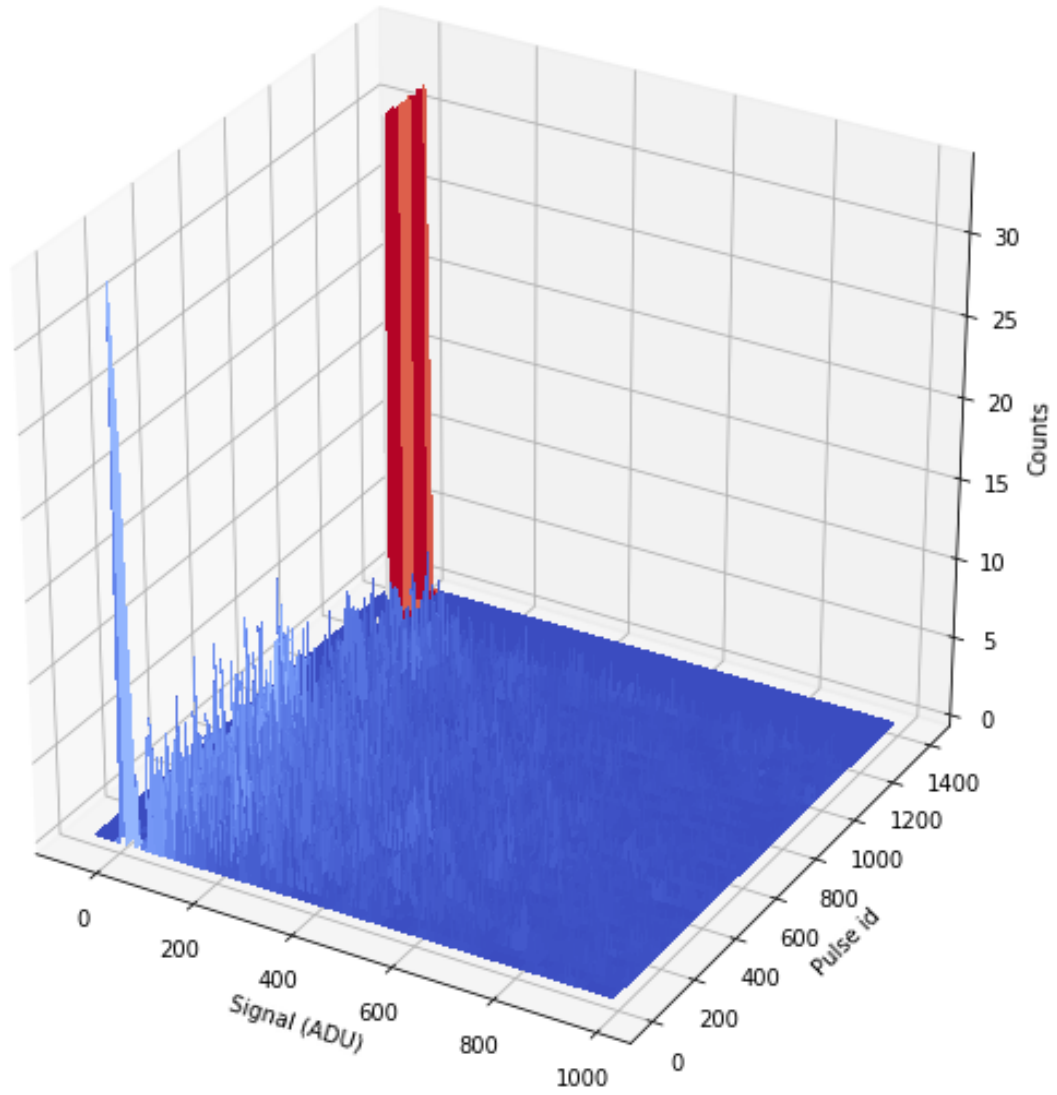
The following plot shows plots signal vs. digitized gain for the first 128 images.

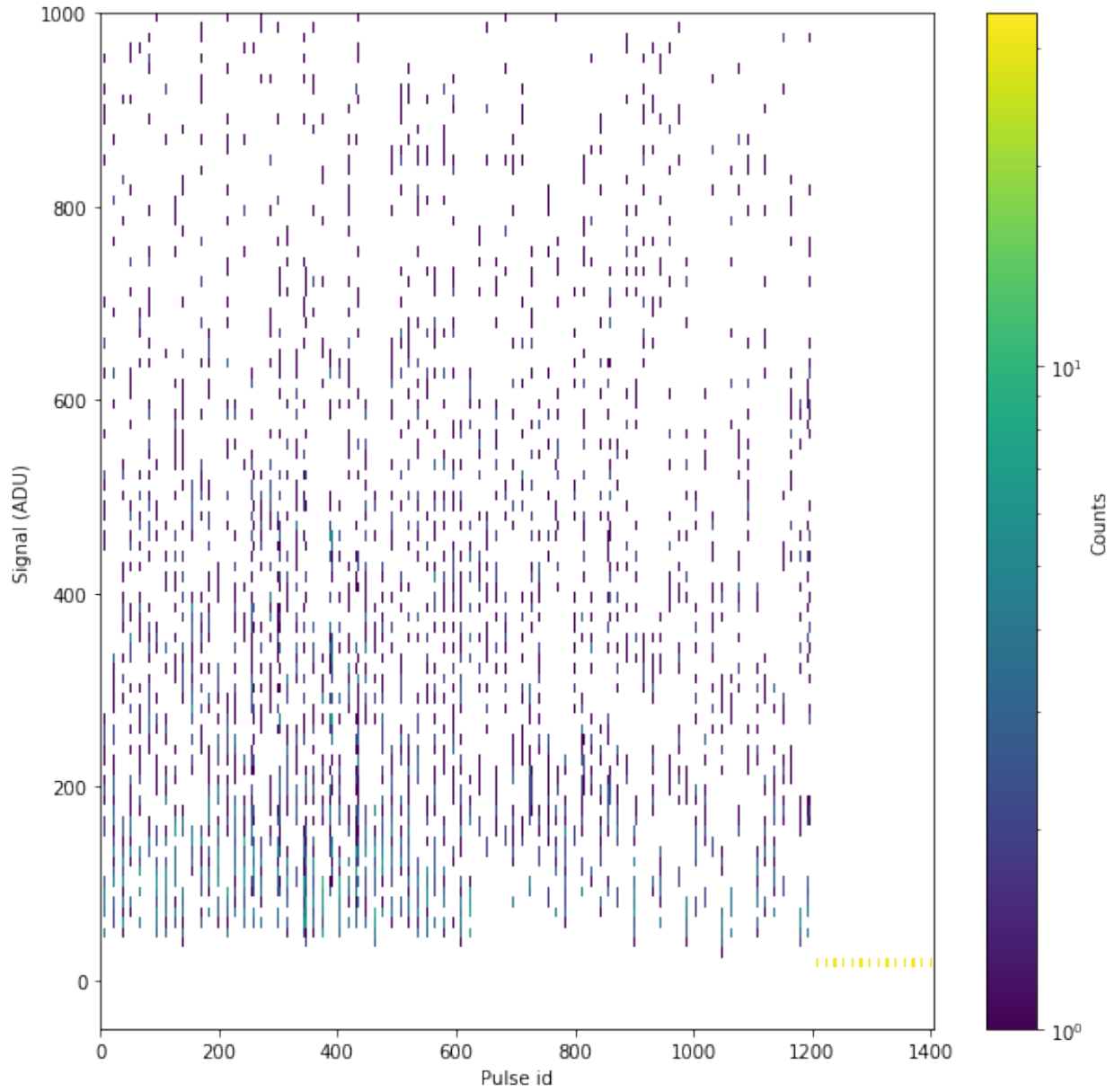


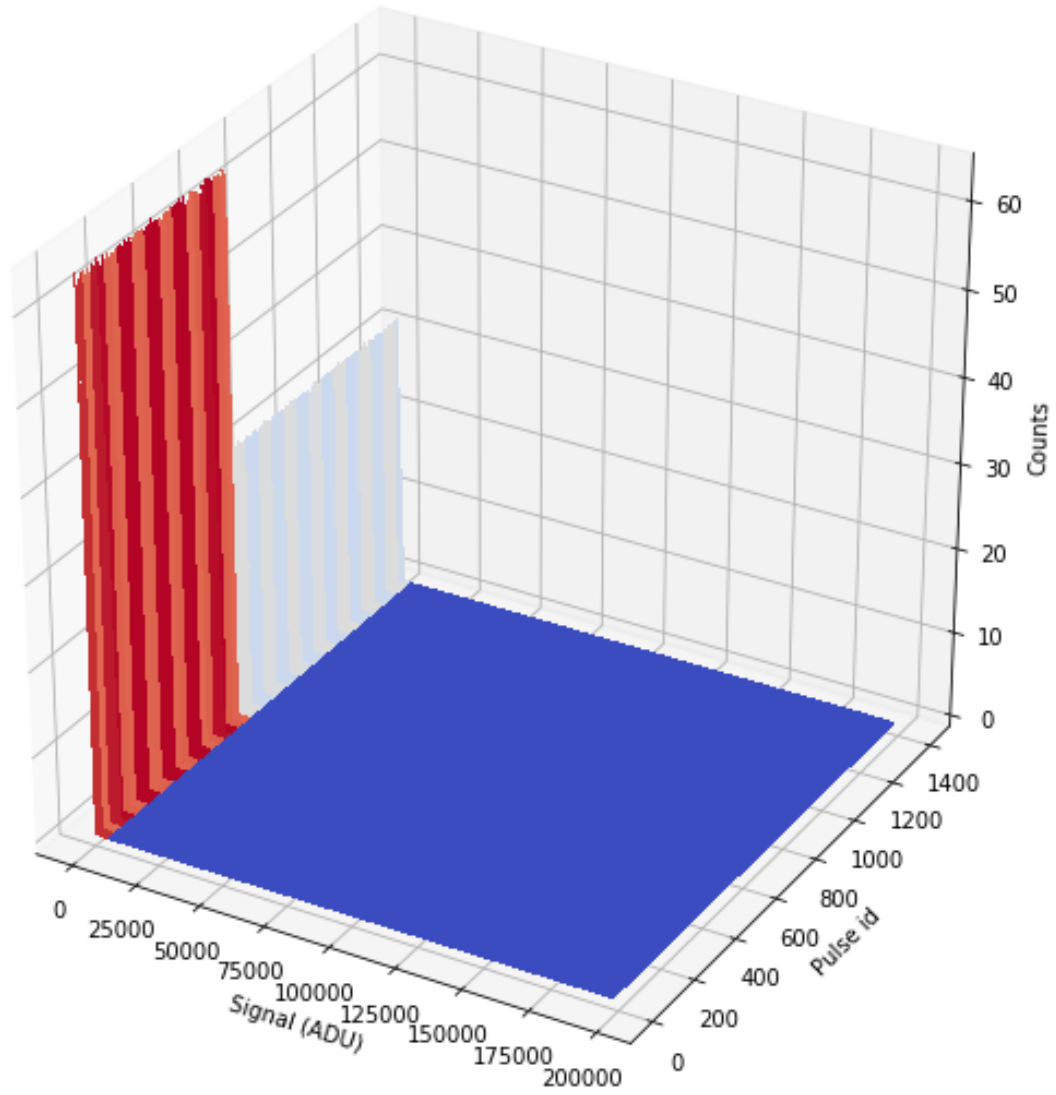


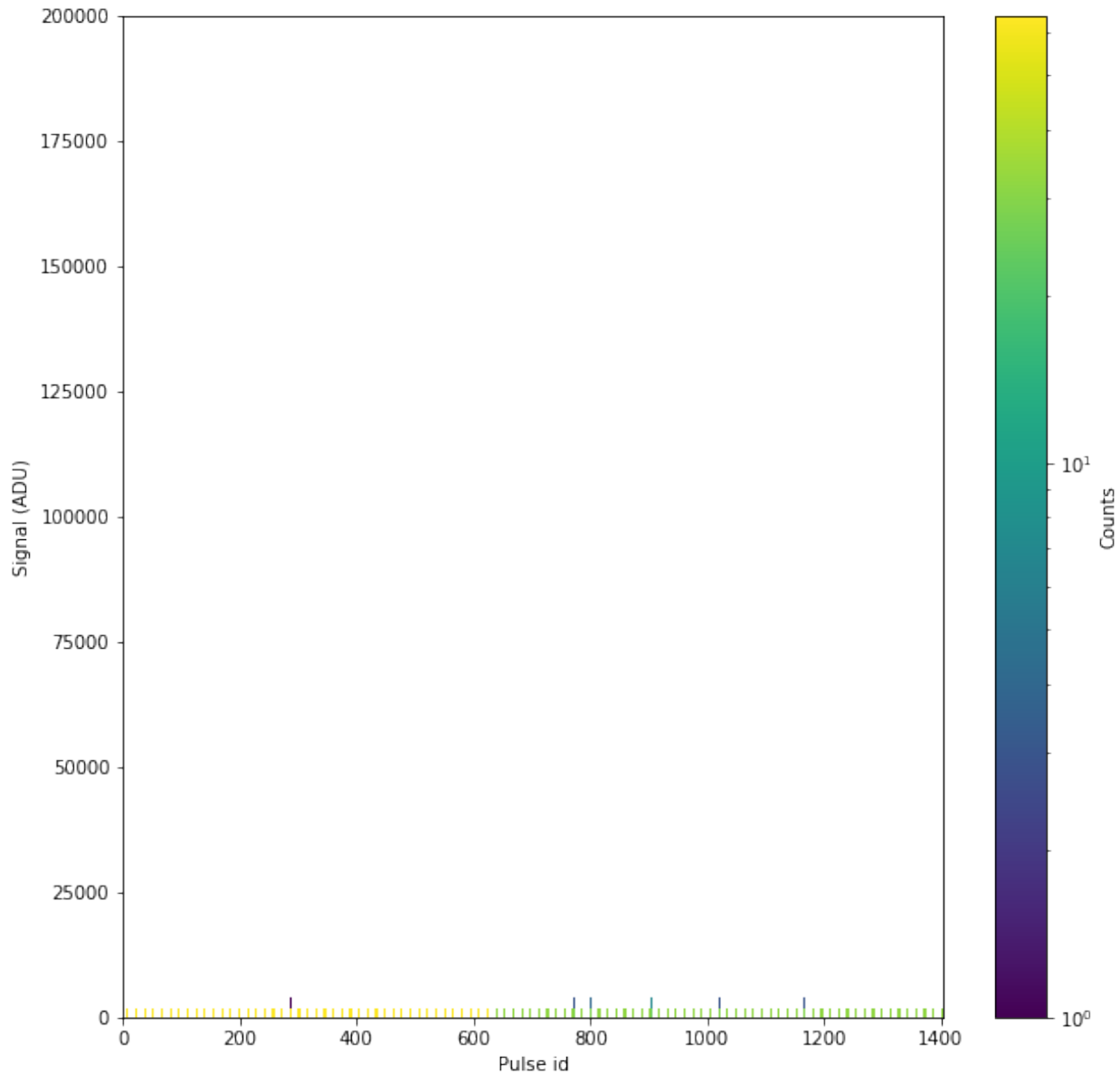
## 2.4 Mean Intensity per Pulse

The following plots show the mean signal for each pulse in a detailed and expanded intensity region.



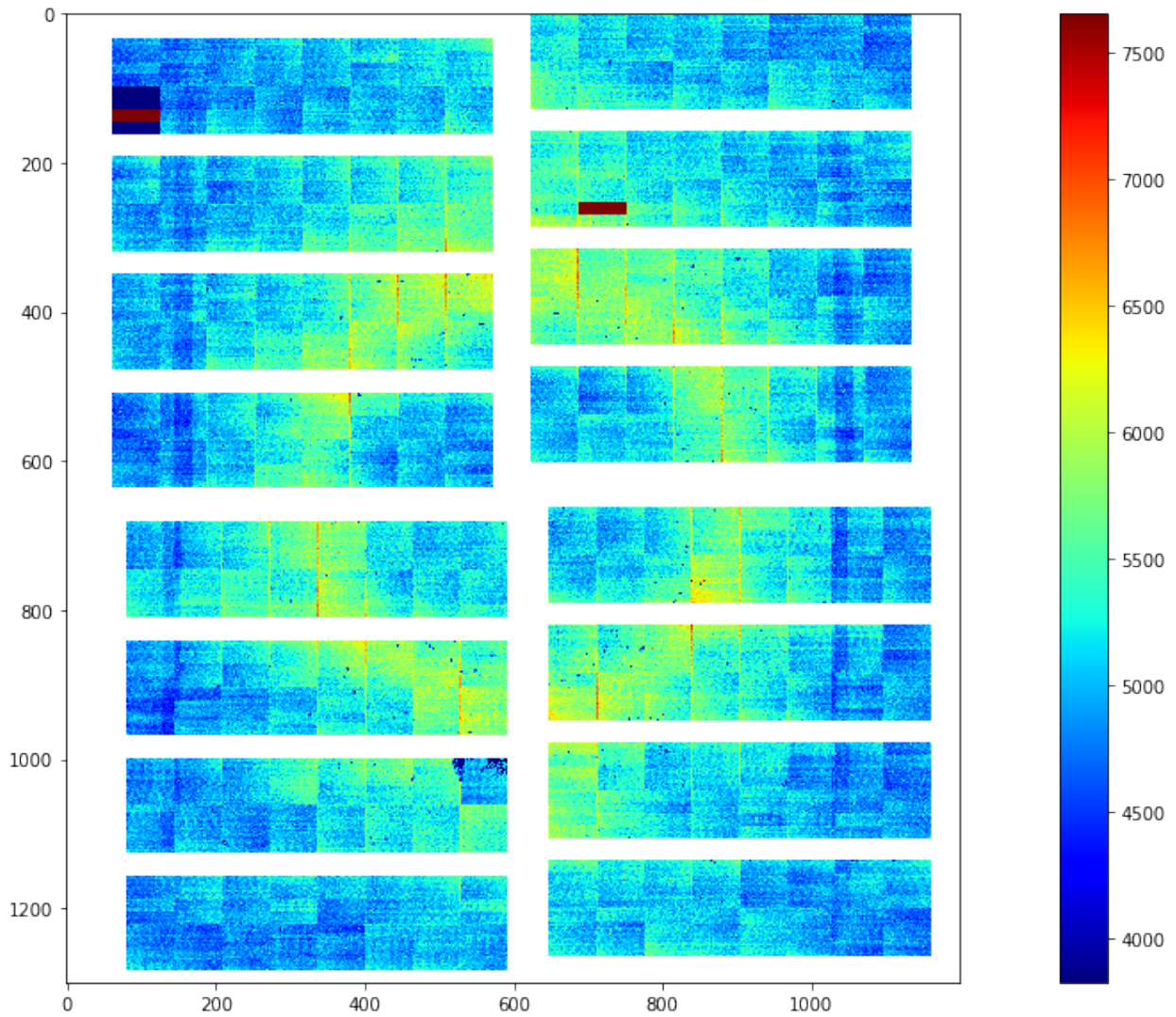






### 2.4.1 Mean RAW Preview

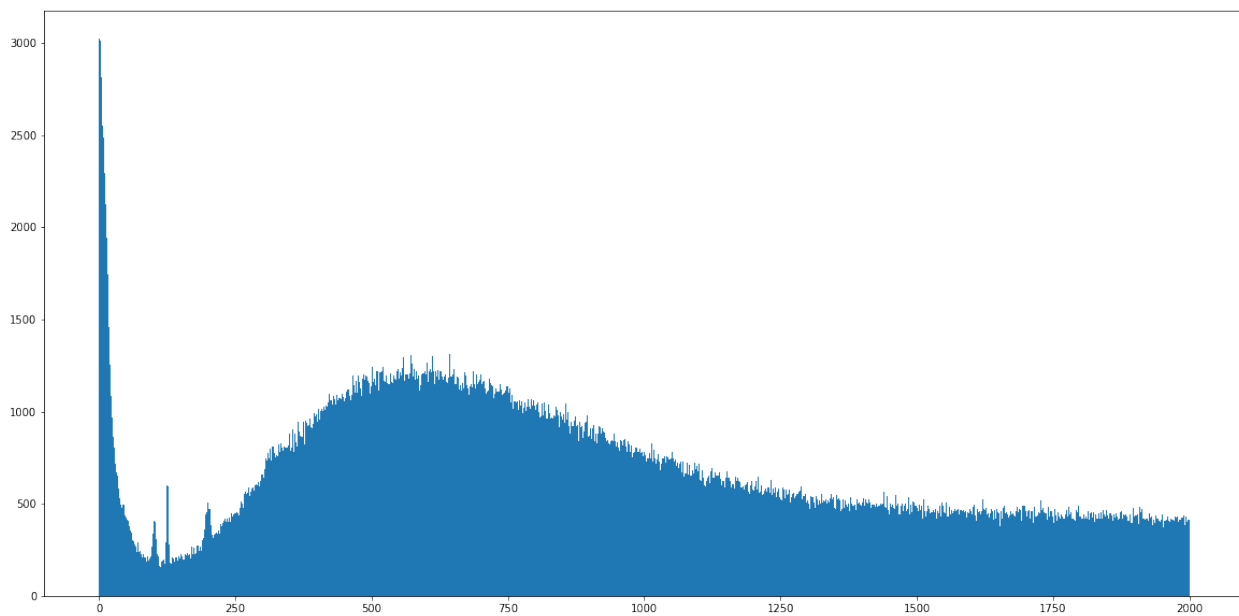
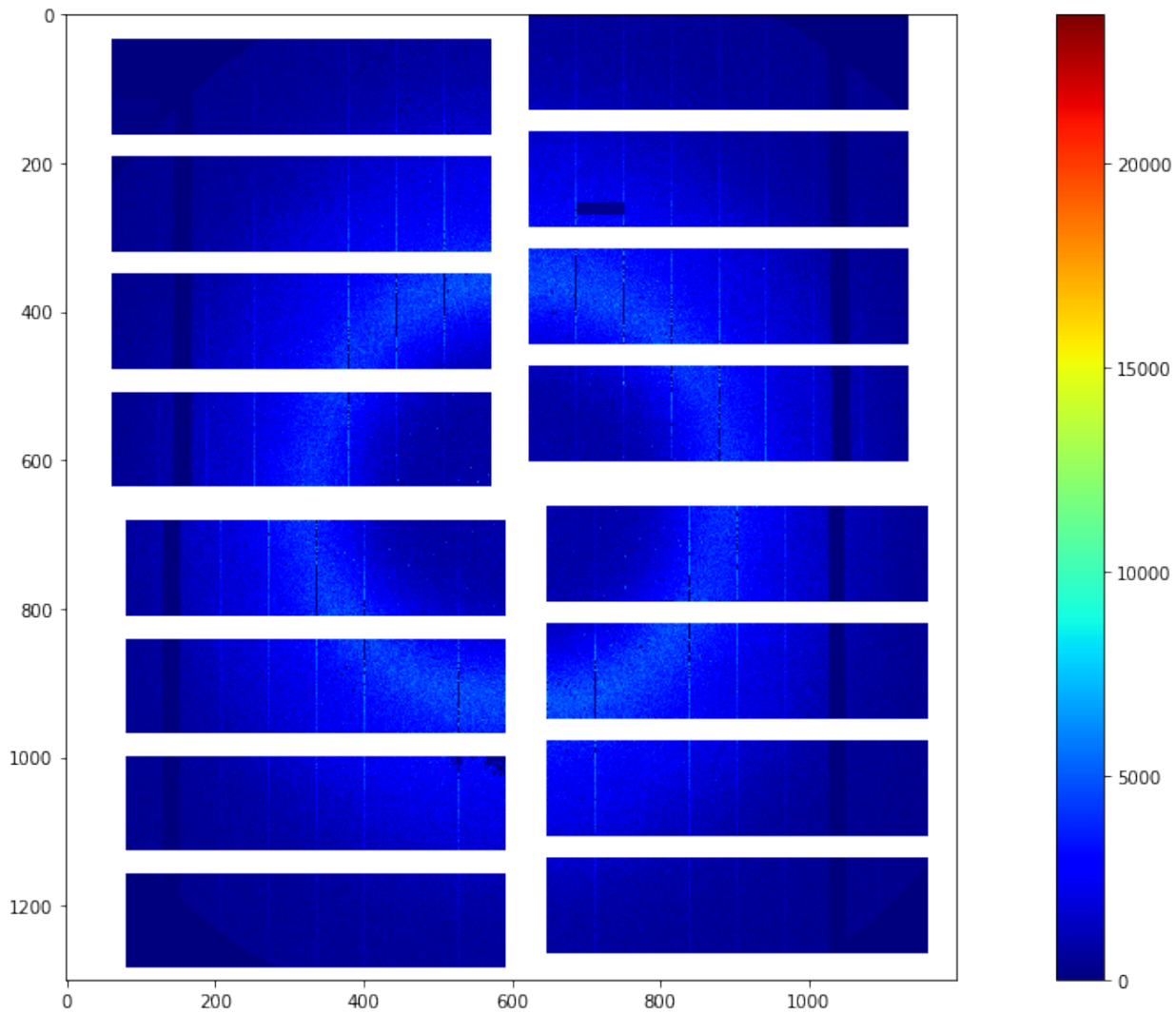
The per pixel mean of the first 128 images of the RAW data



### 2.4.2 Single Shot Preview

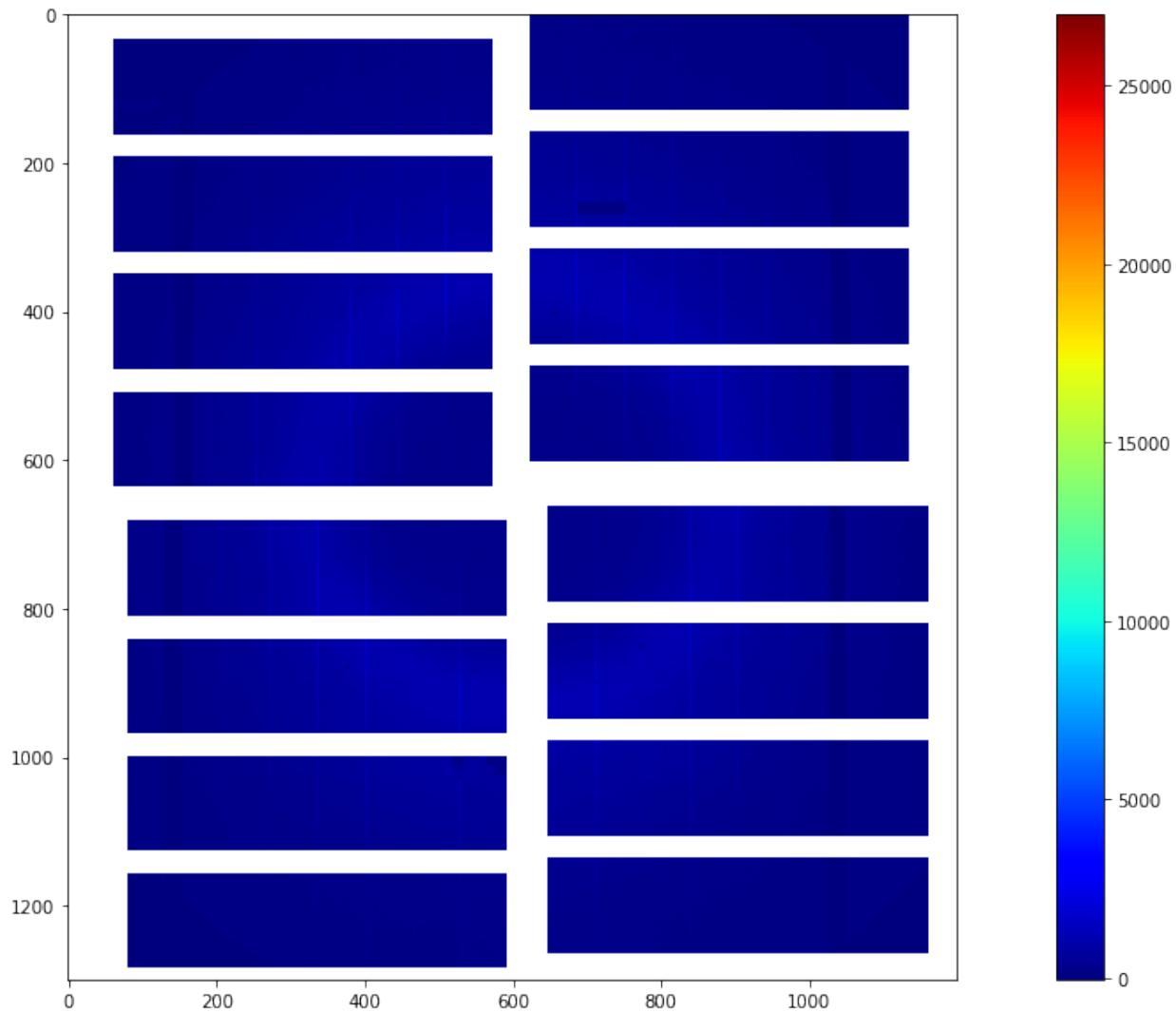
A single shot image from cell 12 of the first train

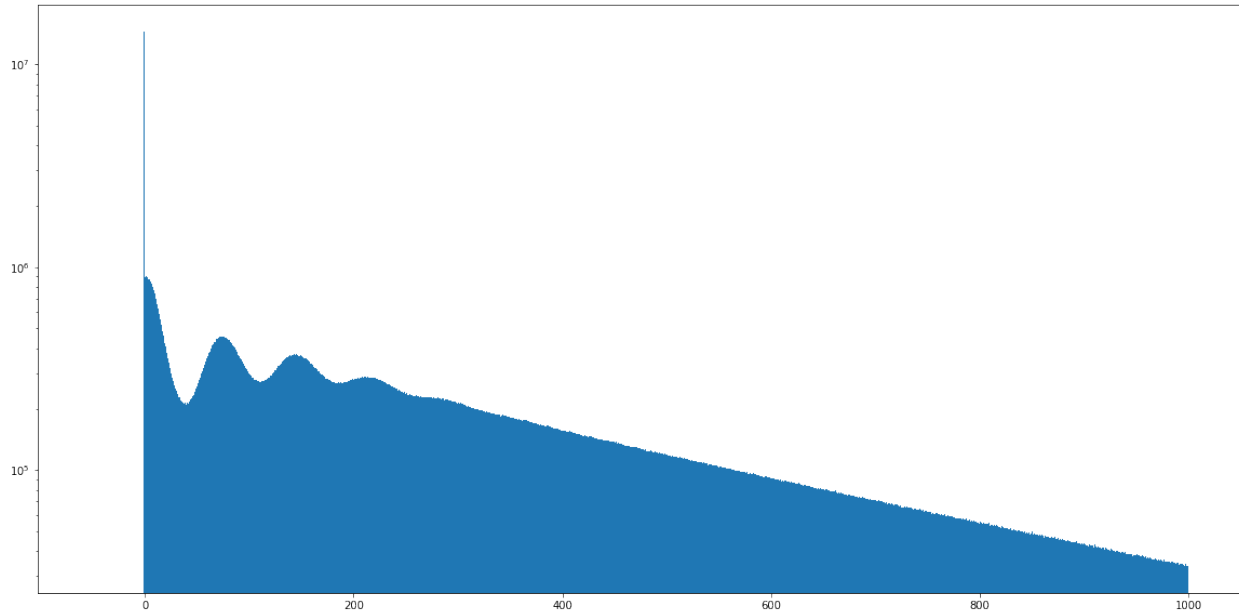




### 2.4.3 Mean CORRECTED Preview

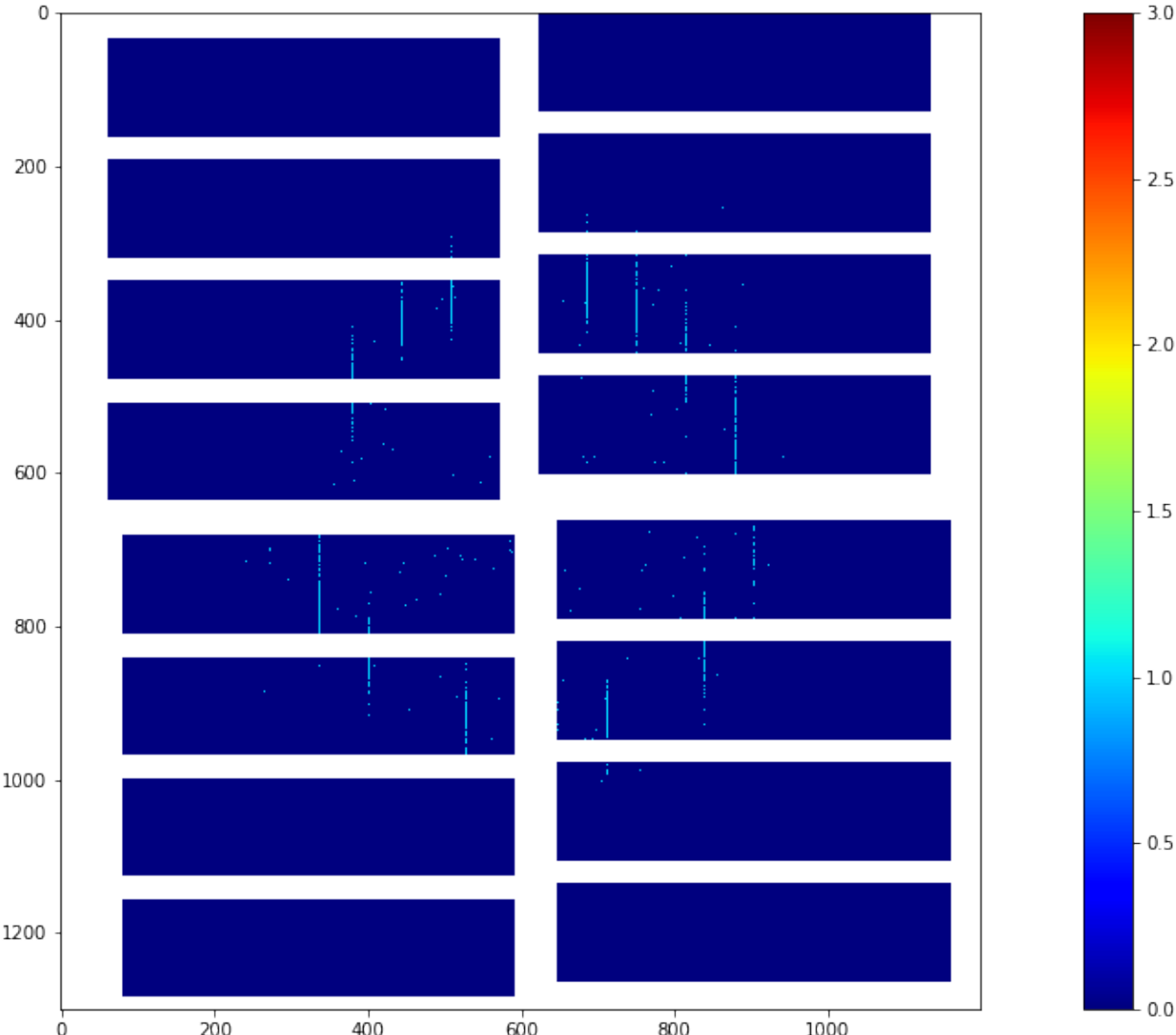
The per pixel mean of the first 128 images of the CORRECTED data





#### 2.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data



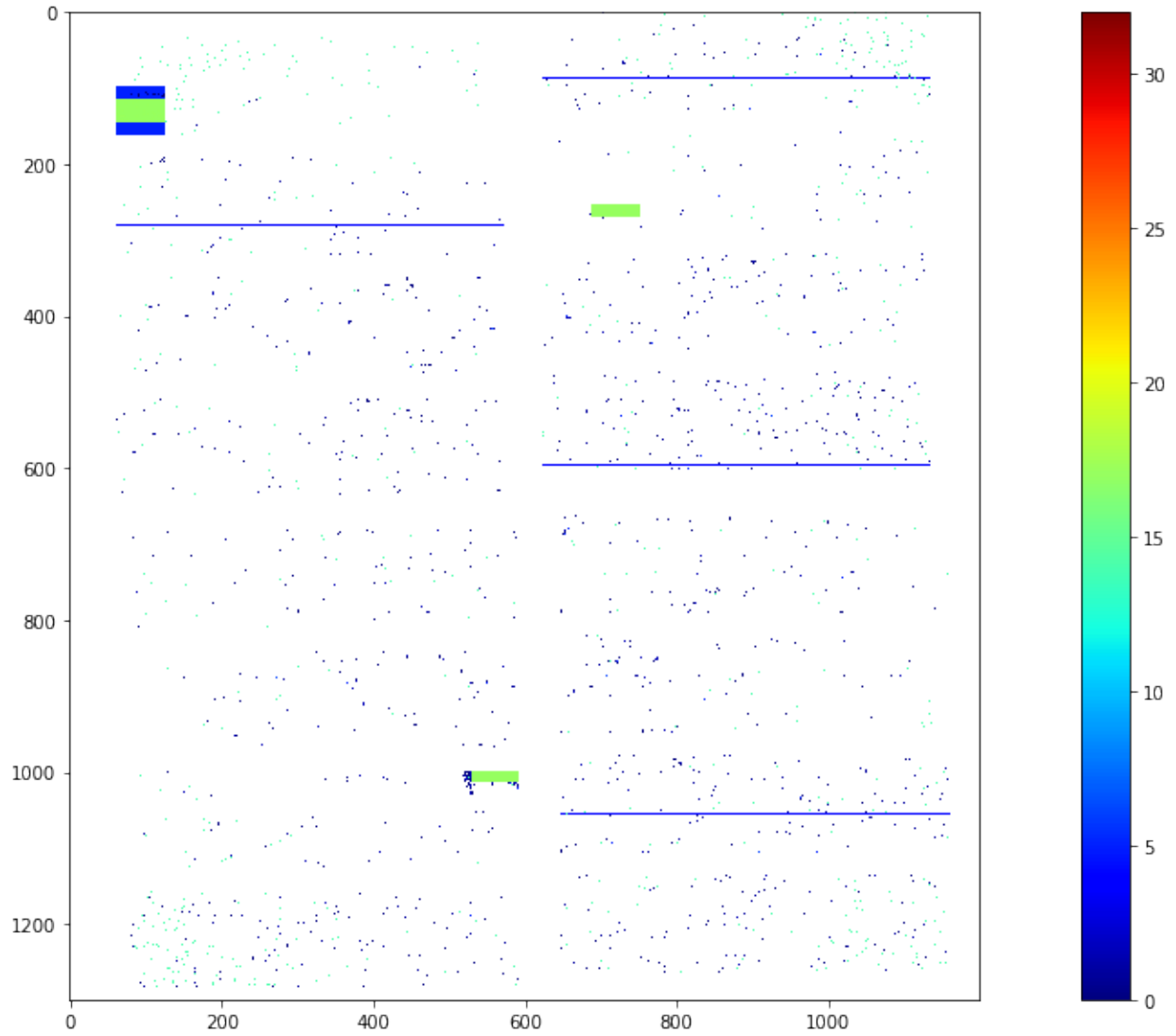
## 2.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

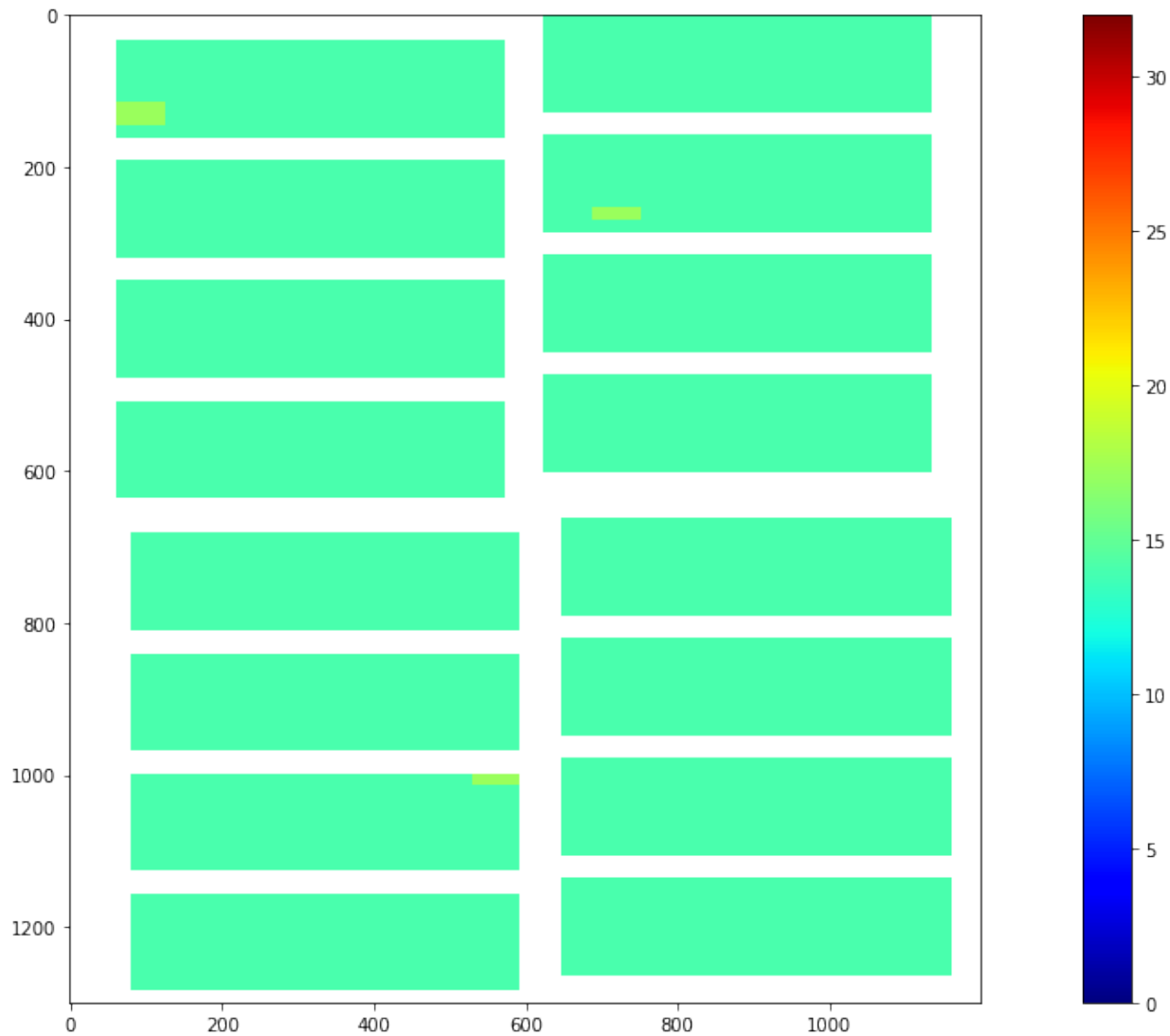
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 2.5.1 Single Shot Bad Pixels

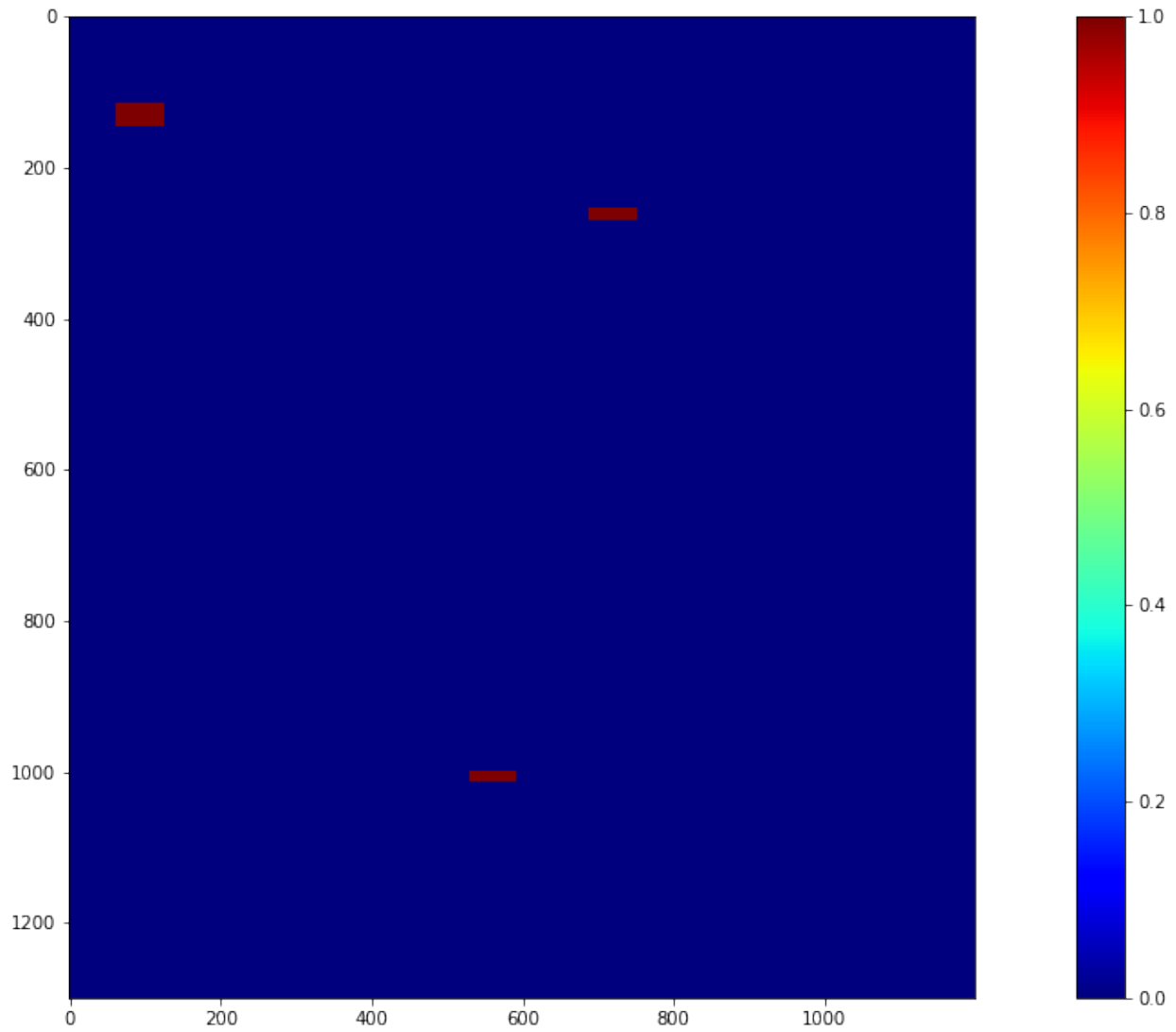
A single shot bad pixel map from cell 4 of the first train



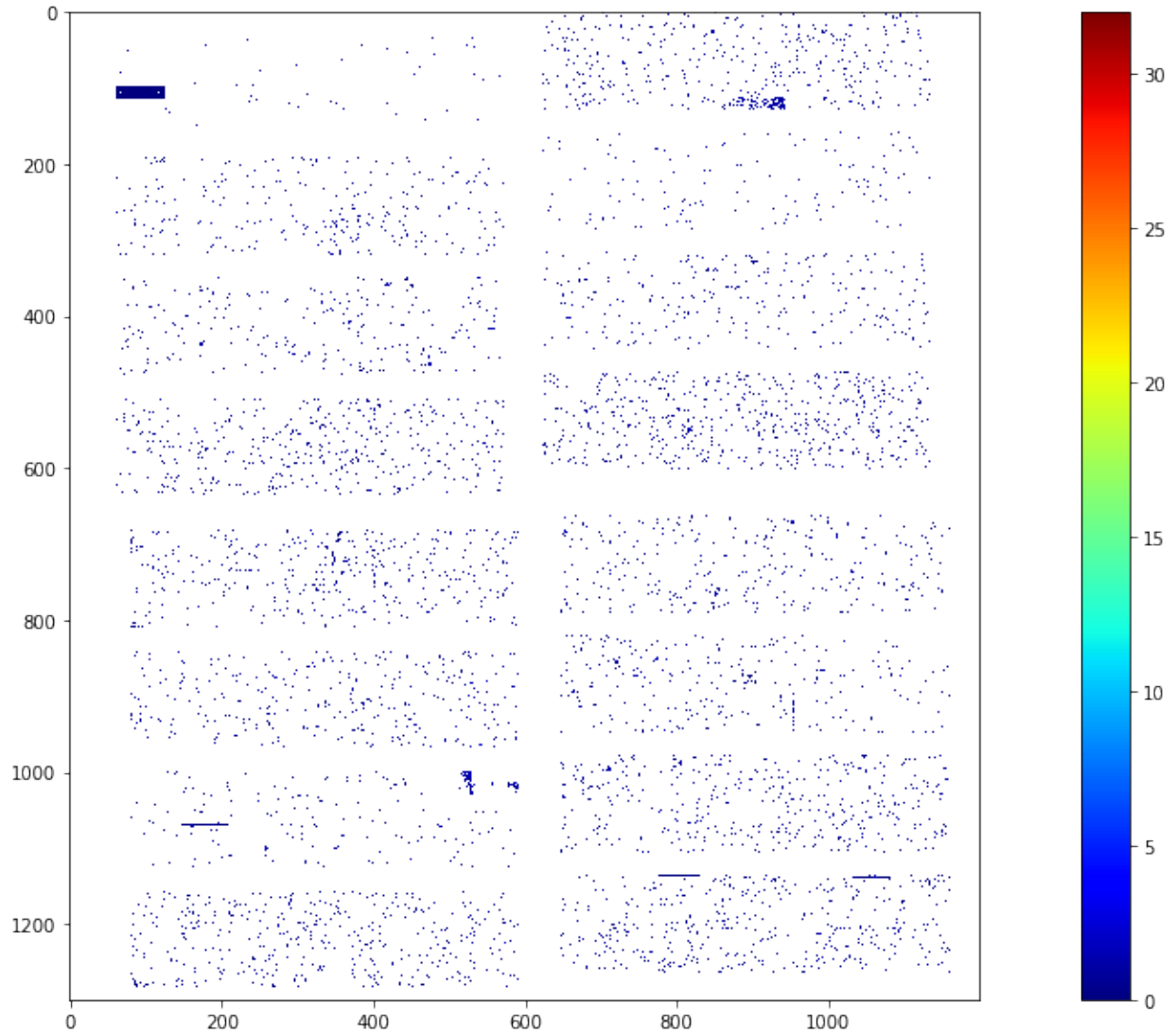
### 2.5.2 Full Train Bad Pixels



### 2.5.3 Full Train Bad Pixels - Only Dark Char. Related







## AGIPD OFFLINE CORRECTION, SEQUENCES = 4-7

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_4-7
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 3.1 Processed Files

```
Processing a total of 64 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00004.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00005.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00006.h5
3		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00007.h5
4	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00004.h5
5		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00005.h5
6		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00006.h5
7		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00007.h5
8	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00004.h5
9		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00005.h5
10		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00006.h5
11		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00007.h5
12	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00004.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00005.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00006.h5
15		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00007.h5
16	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00004.h5
17		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00005.h5
18		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00006.h5
19		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00007.h5
20	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00004.h5
21		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00005.h5
22		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00006.h5
23		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00007.h5
24	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00004.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00005.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00006.h5
27		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00007.h5
28	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00004.h5
29		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00005.h5
30		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00006.h5
31		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00007.h5
32	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00004.h5
33		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00005.h5
34		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00006.h5
35		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00007.h5
36	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00004.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00005.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00006.h5
39		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00007.h5
40	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00004.h5
41		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00005.h5
42		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00006.h5
43		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00007.h5
44	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00004.h5
45		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00005.h5
46		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00006.h5
47		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00007.h5
48	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00004.h5
49		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00005.h5
50		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00006.h5
51		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00007.h5
52	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00004.h5
53		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00005.h5
54		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00006.h5
55	<b>Processed Files</b>	3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00007.h5
56	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00004.h5
57		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00005.h5
58		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00006.h5
59		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00007.h5

```
A range of 500 pulse indices is selected: from 0 to 500 with a step of 1
Running 32 tasks parallel
Running 32 tasks parallel
```

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
```

```
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
```

```
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```



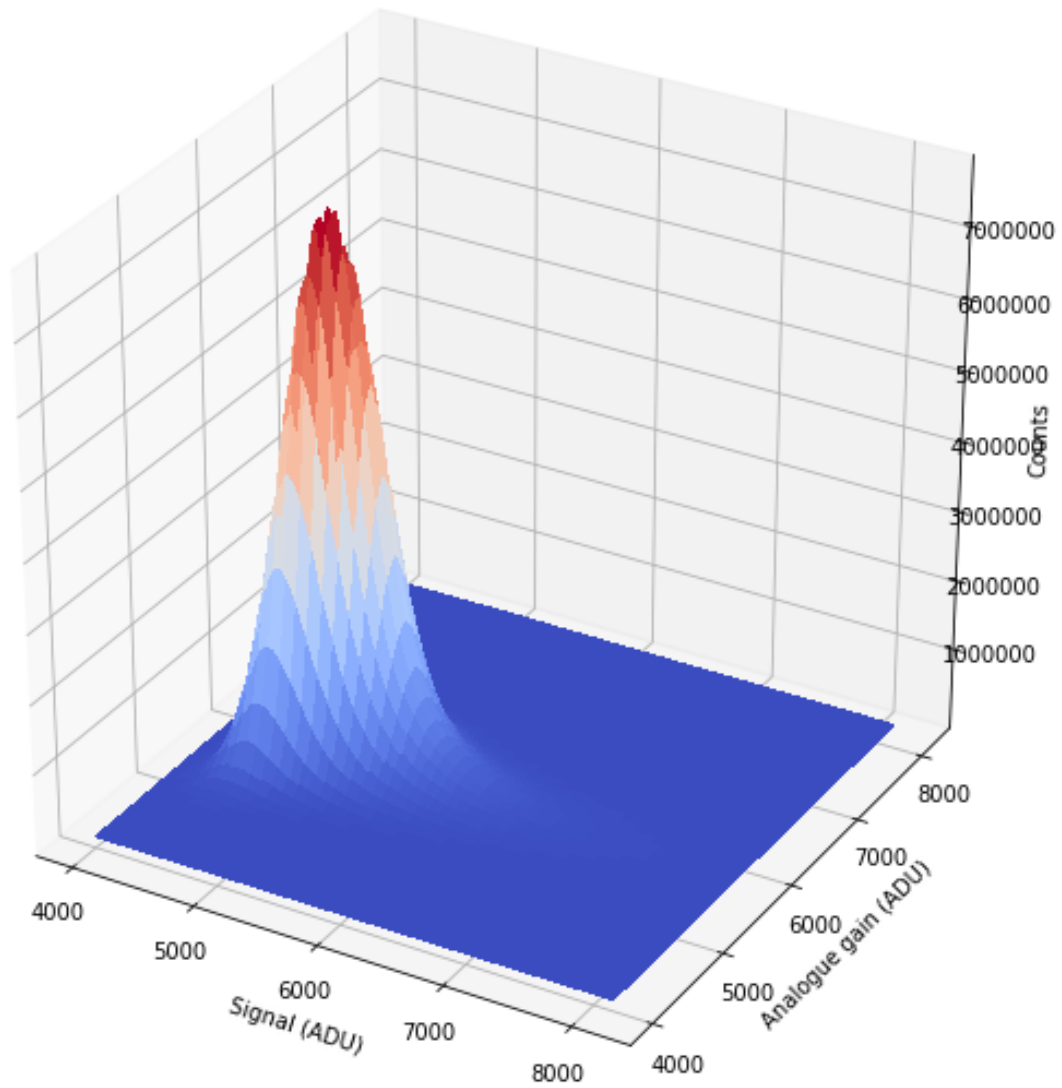
```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

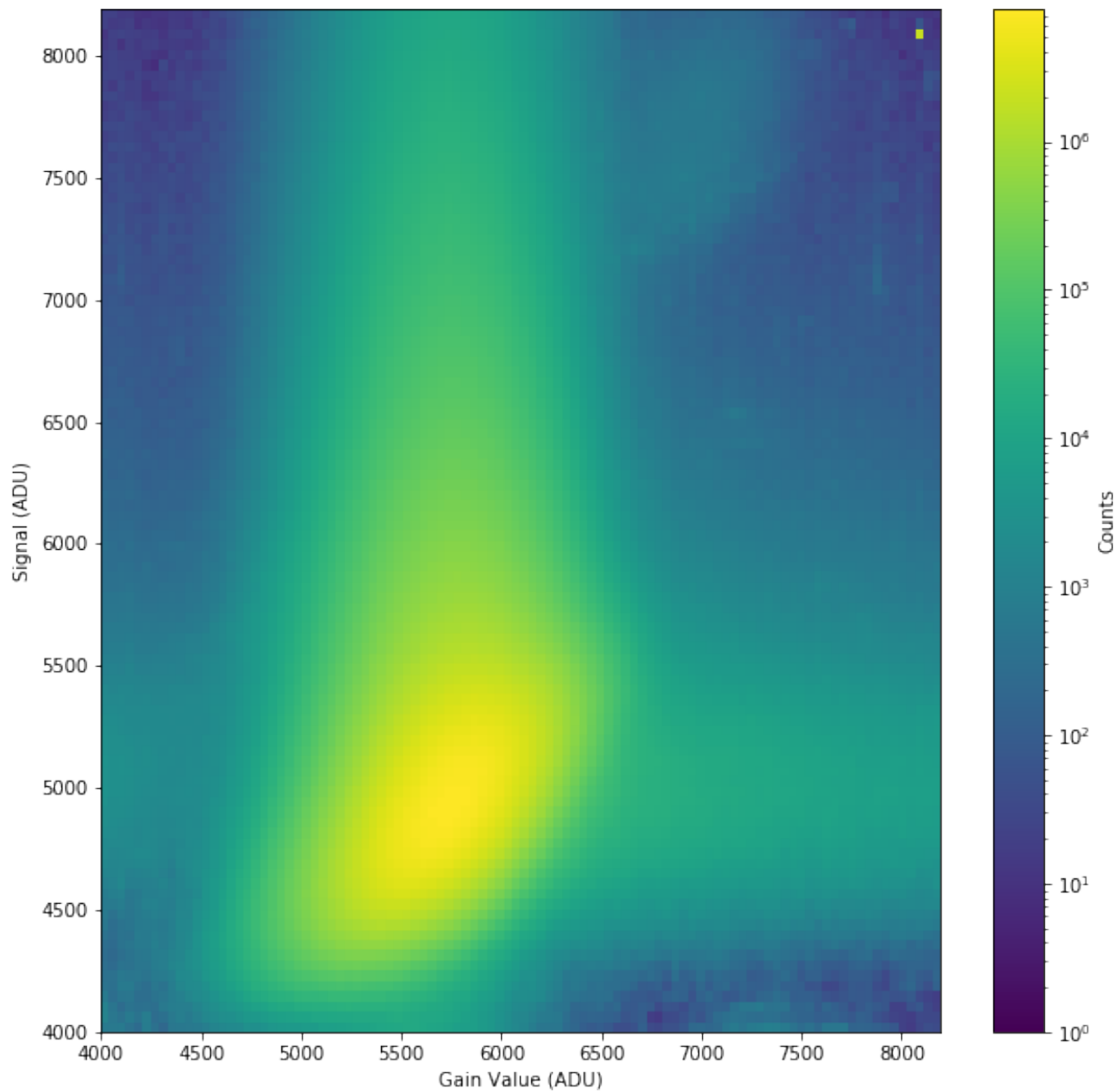
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 3.2 Signal vs. Analogue Gain

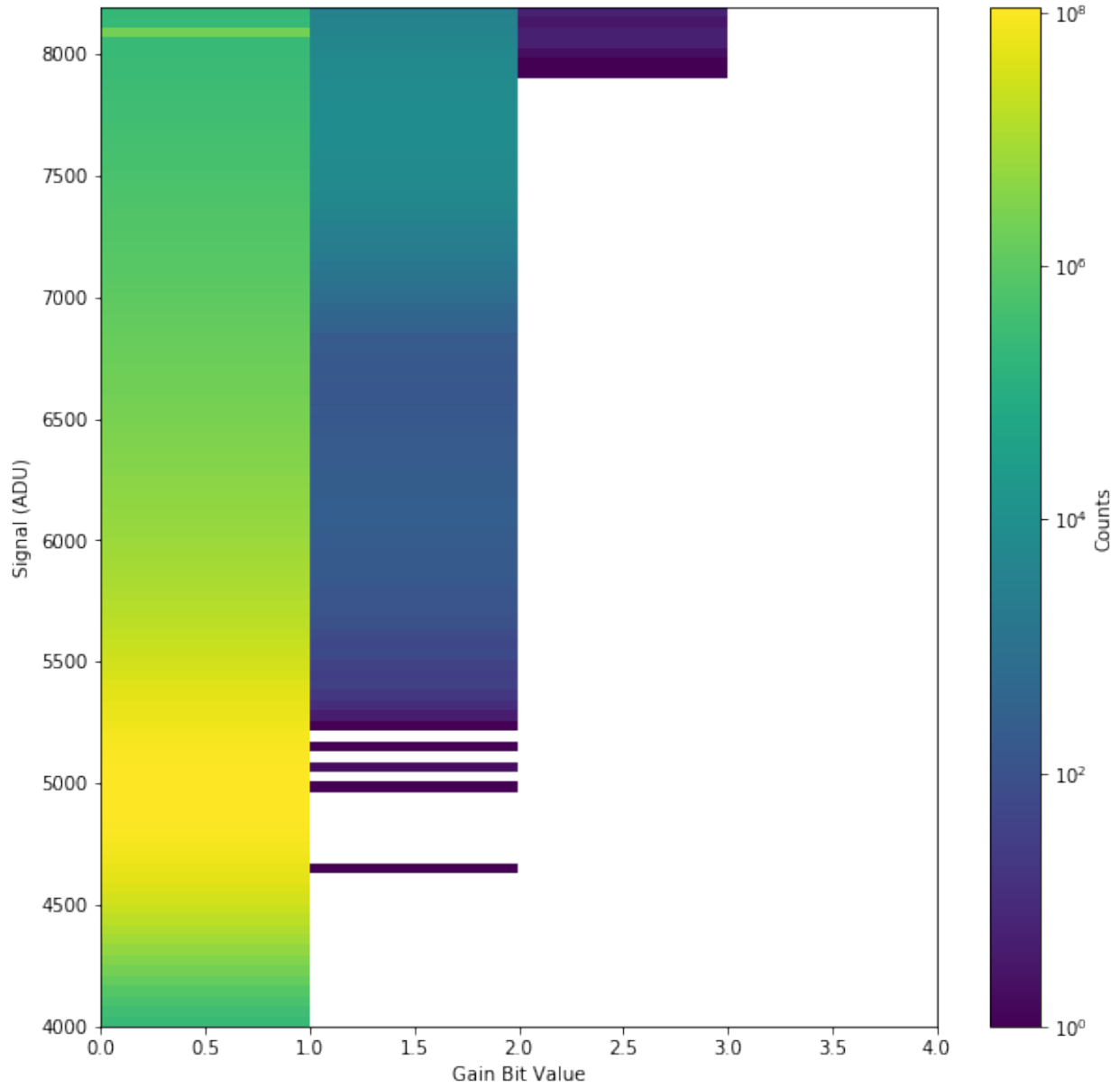
The following plot shows plots signal vs. gain for the first 128 images.

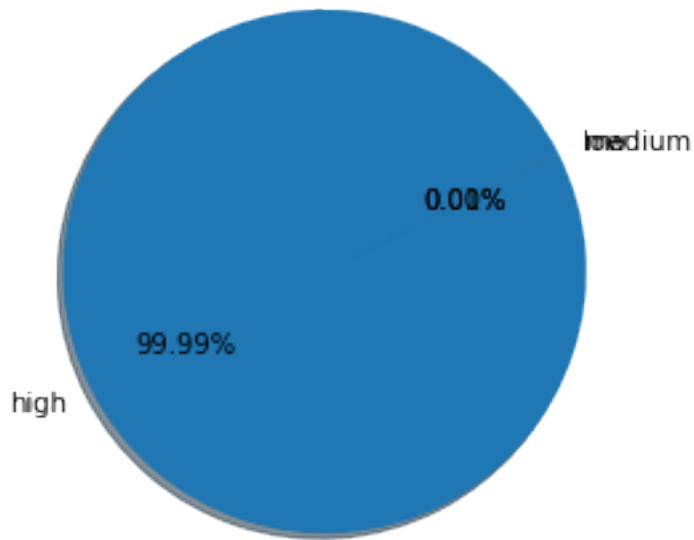




### 3.3 Signal vs. Digitized Gain

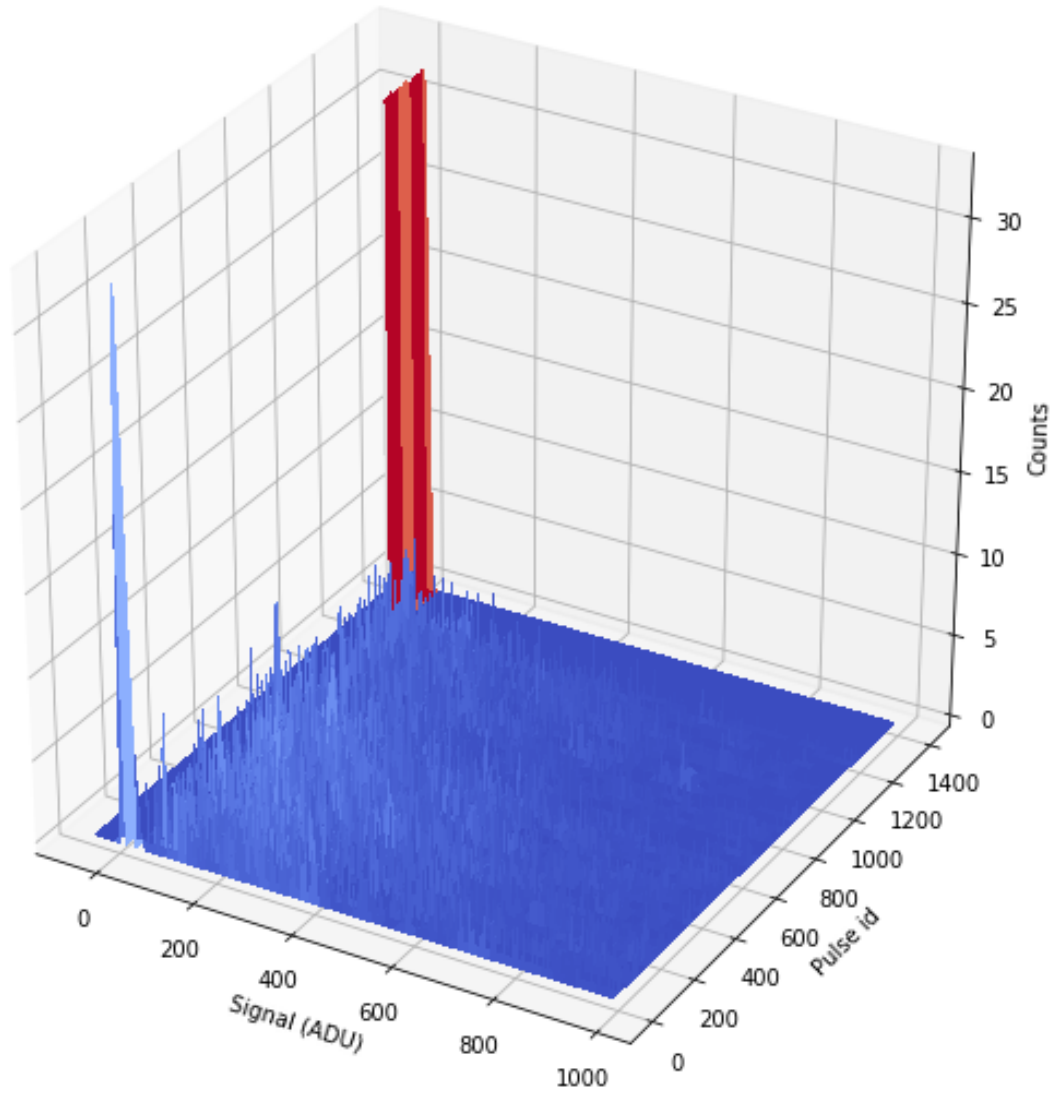
The following plot shows plots signal vs. digitized gain for the first 128 images.



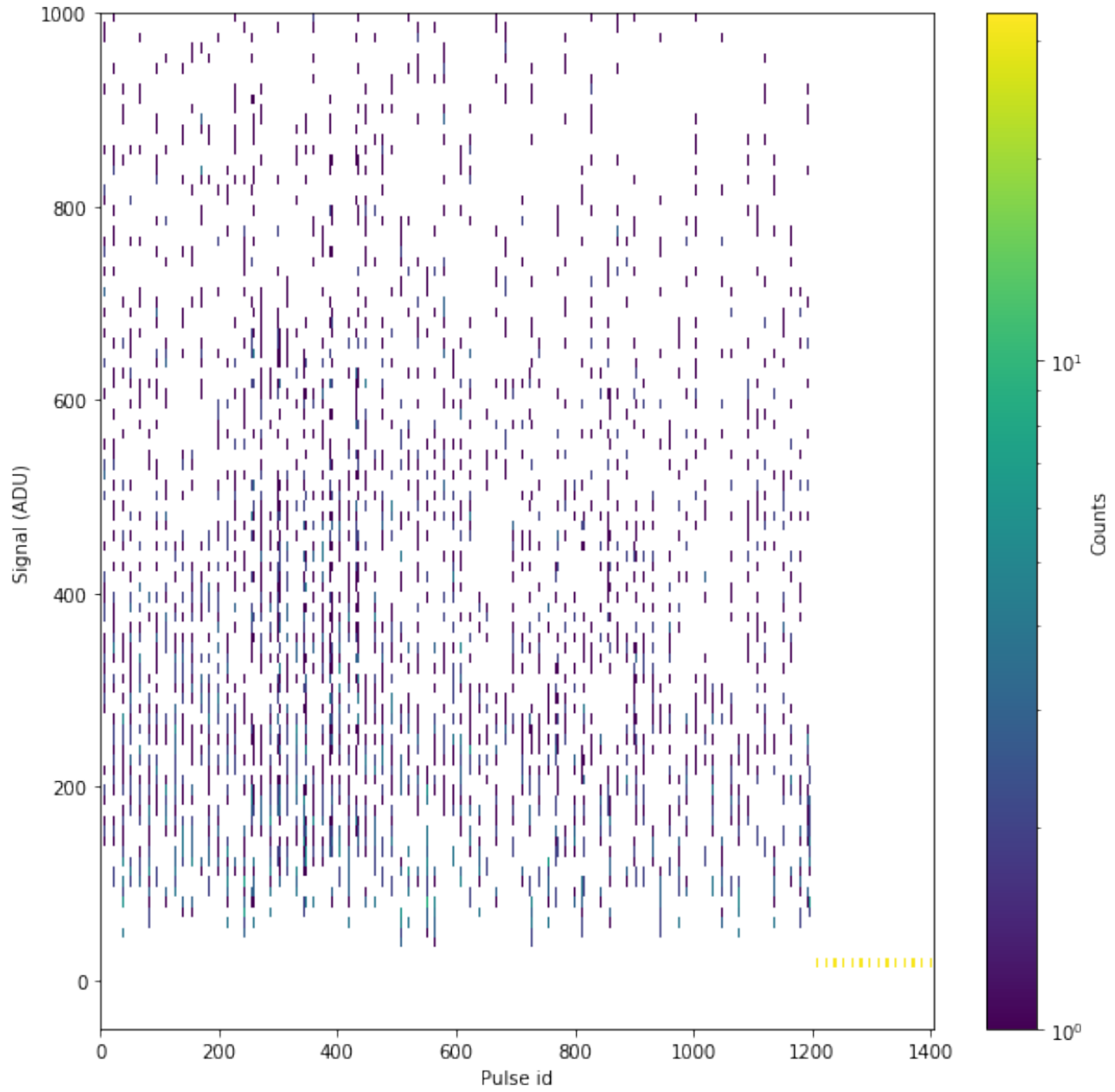


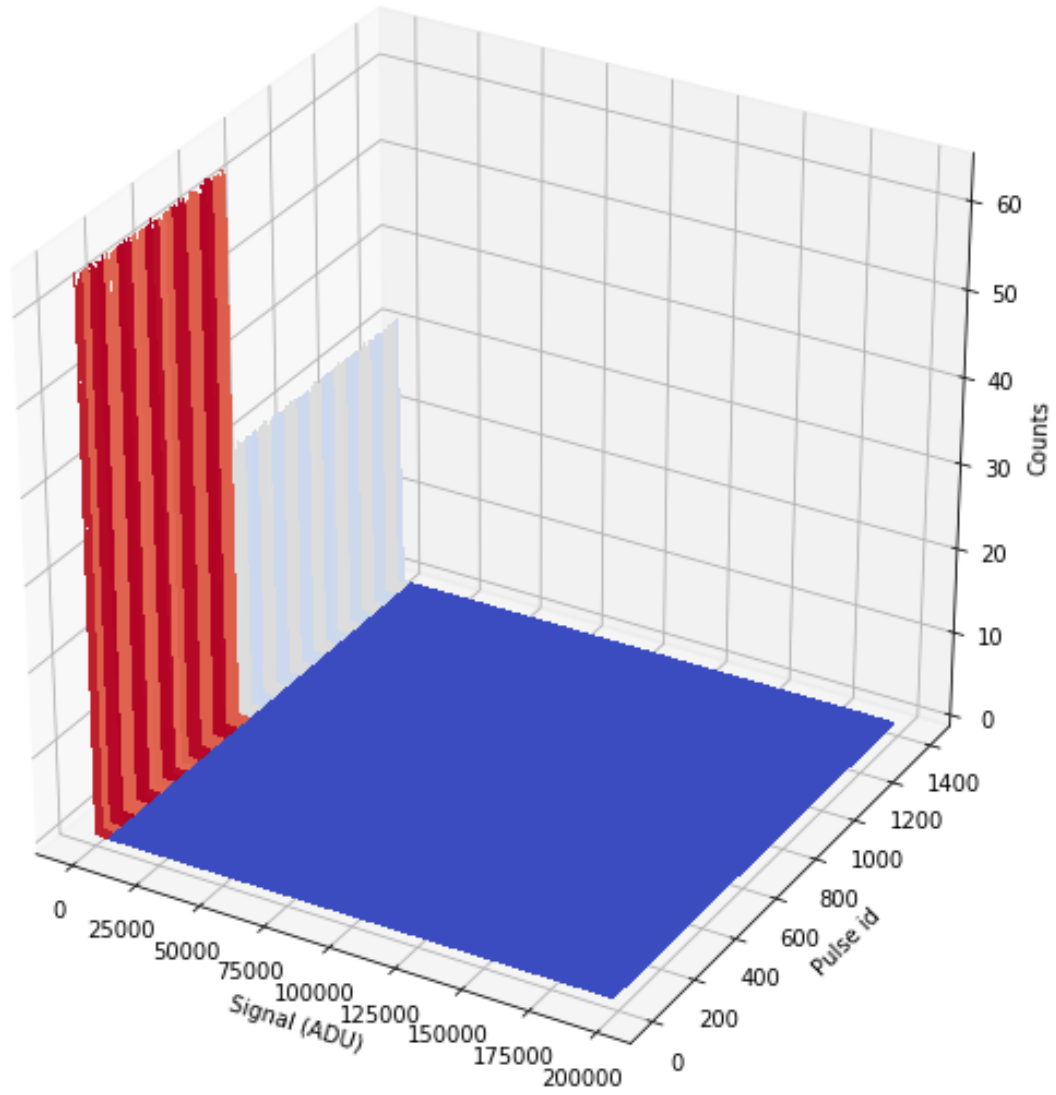
### 3.4 Mean Intensity per Pulse

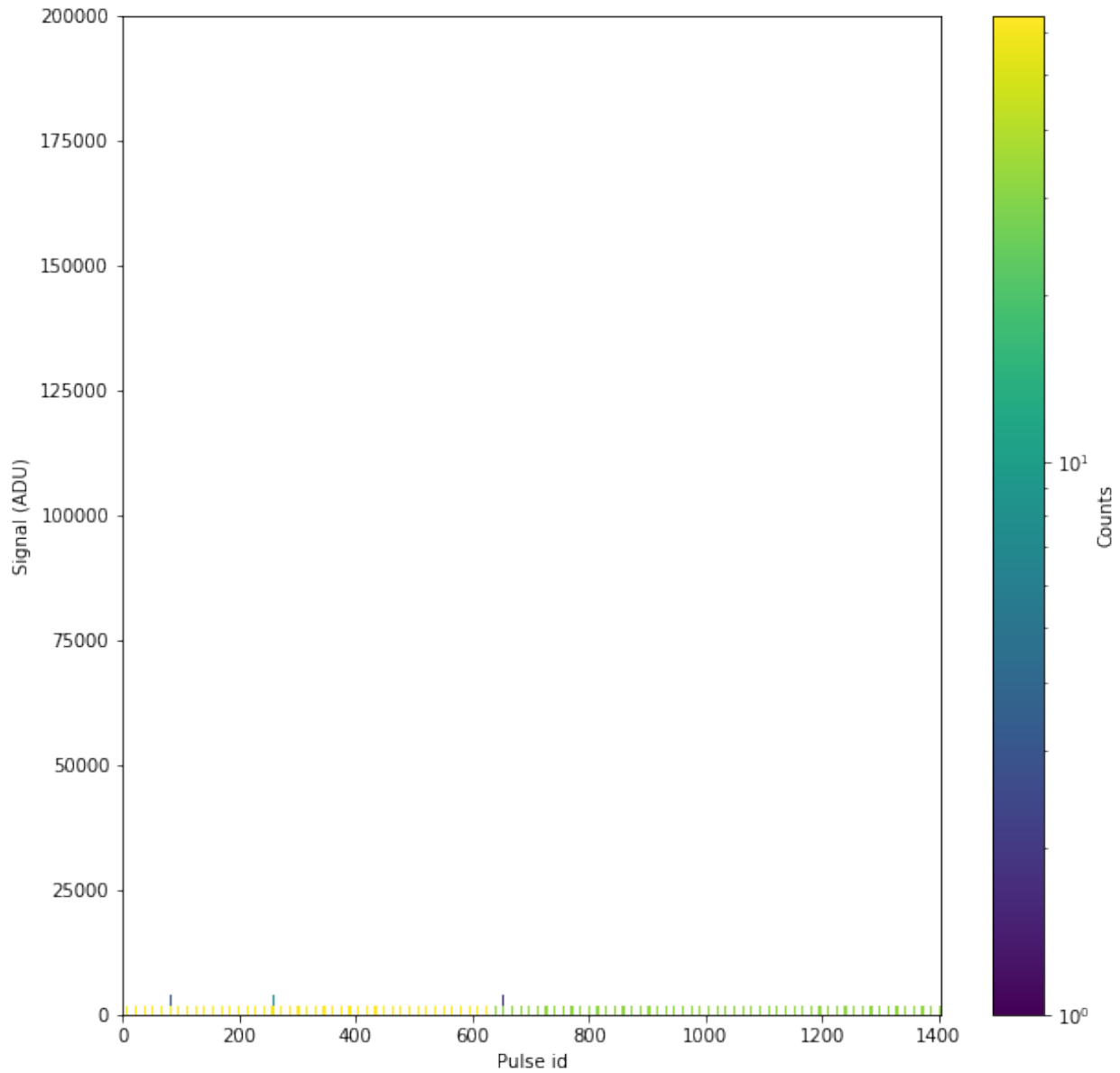
The following plots show the mean signal for each pulse in a detailed and expanded intensity region.





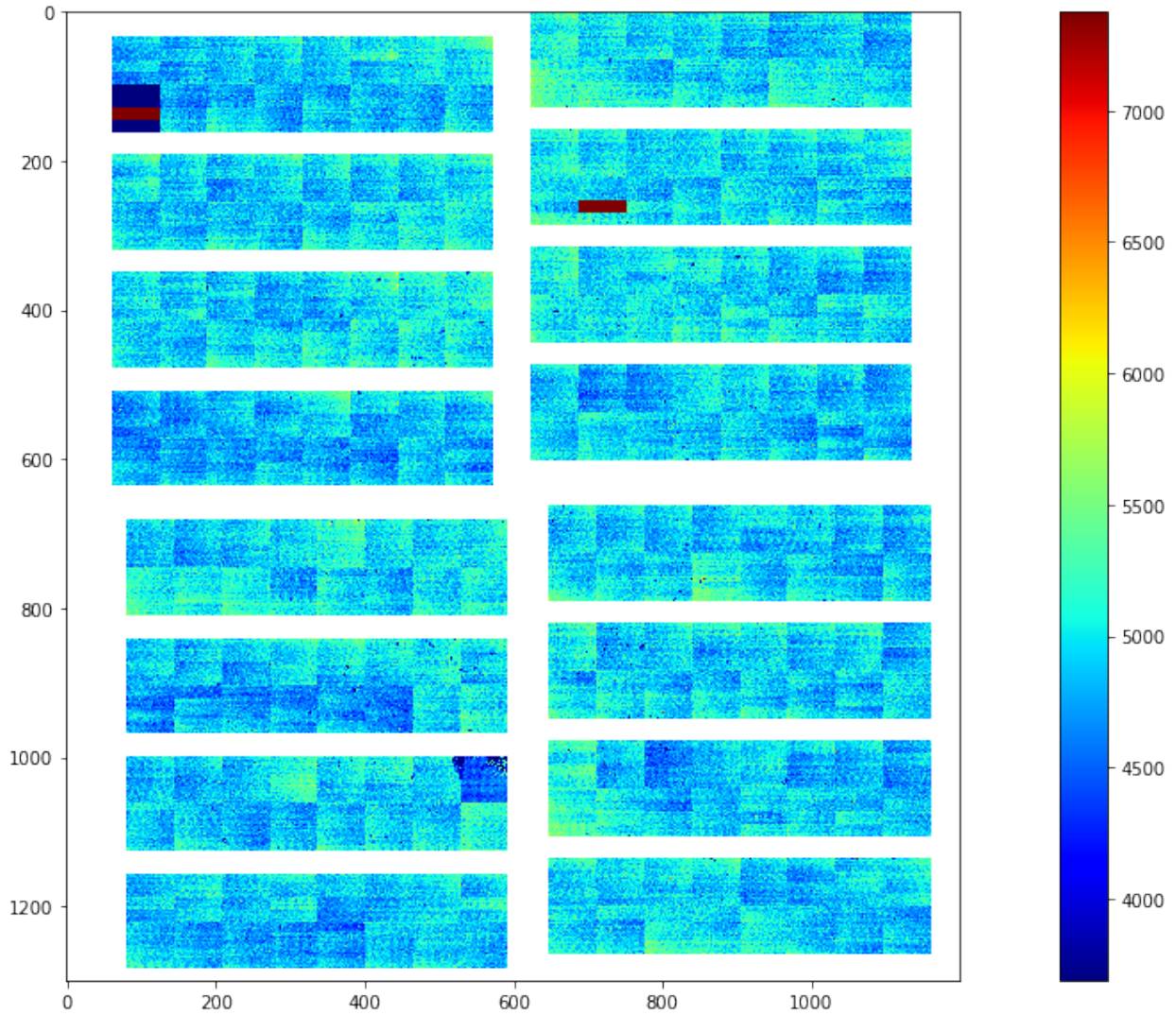






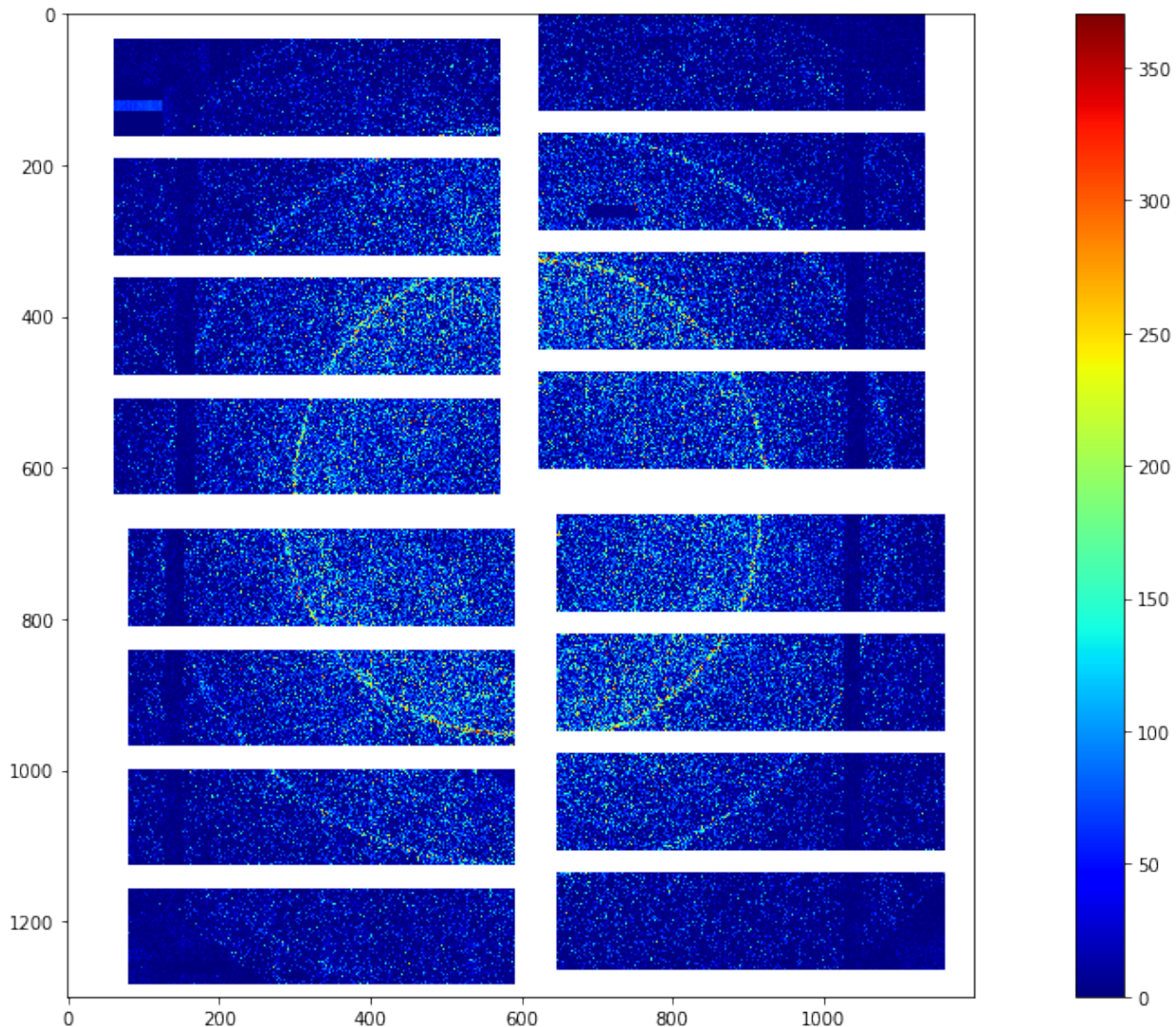
### 3.4.1 Mean RAW Preview

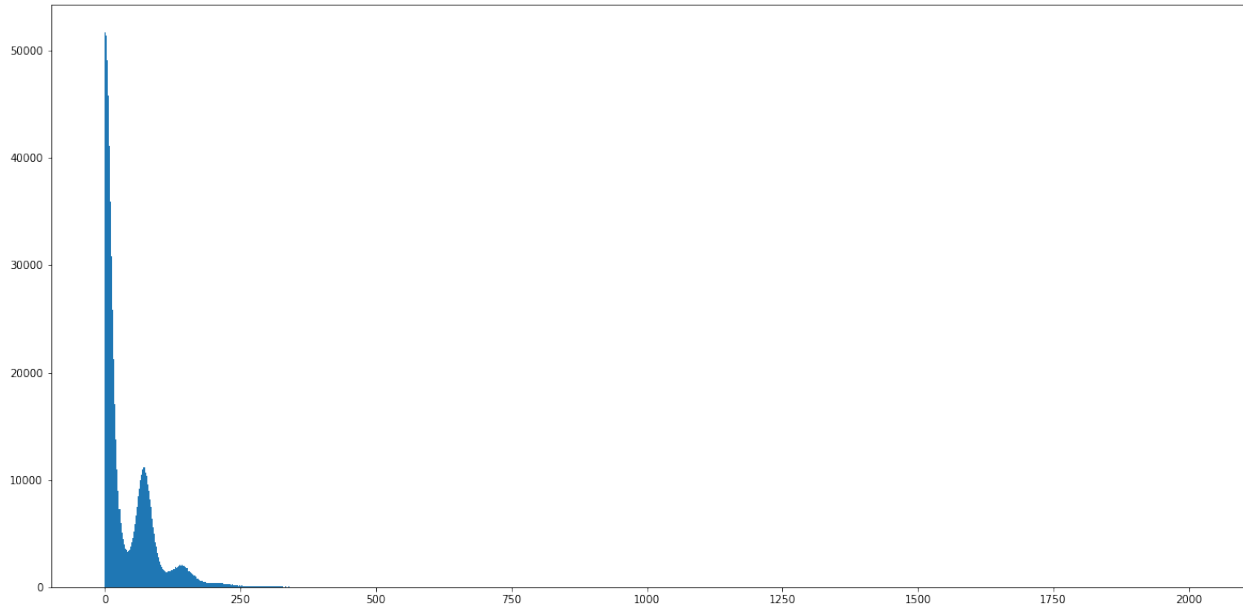
The per pixel mean of the first 128 images of the RAW data



### 3.4.2 Single Shot Preview

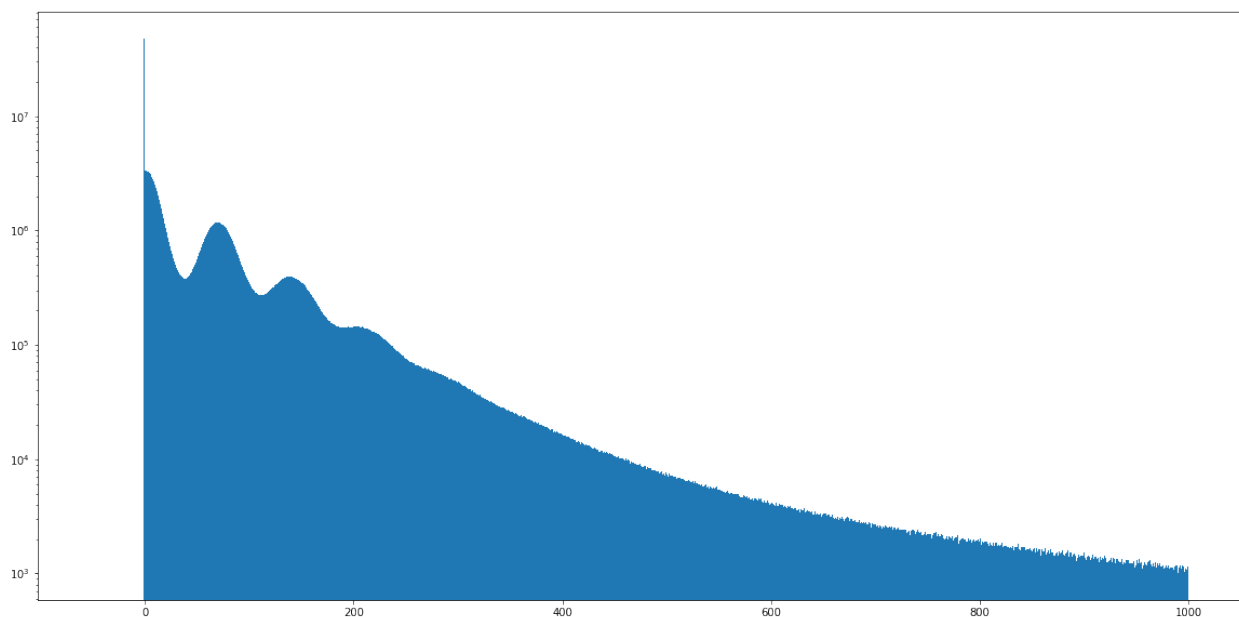
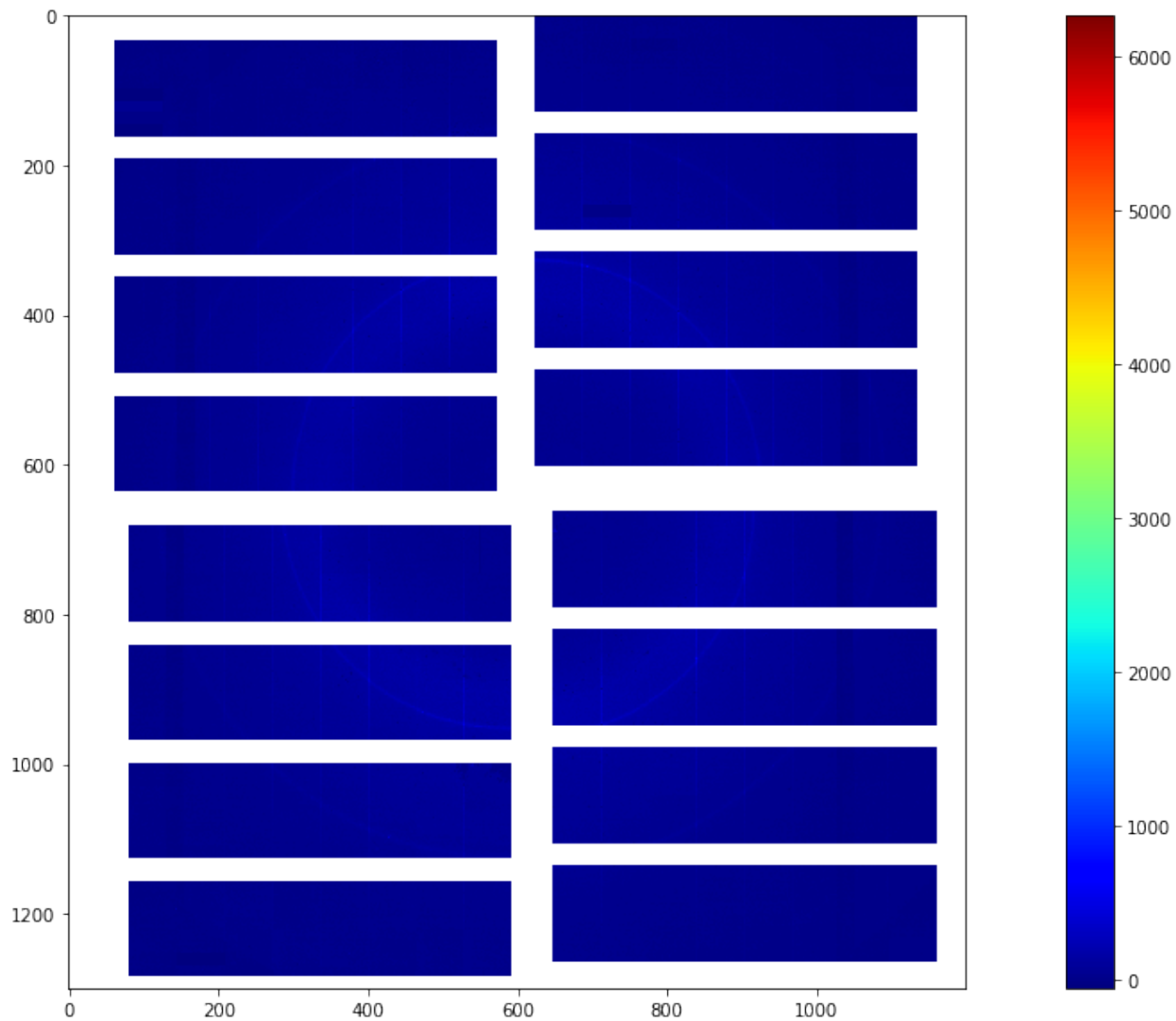
A single shot image from cell 12 of the first train





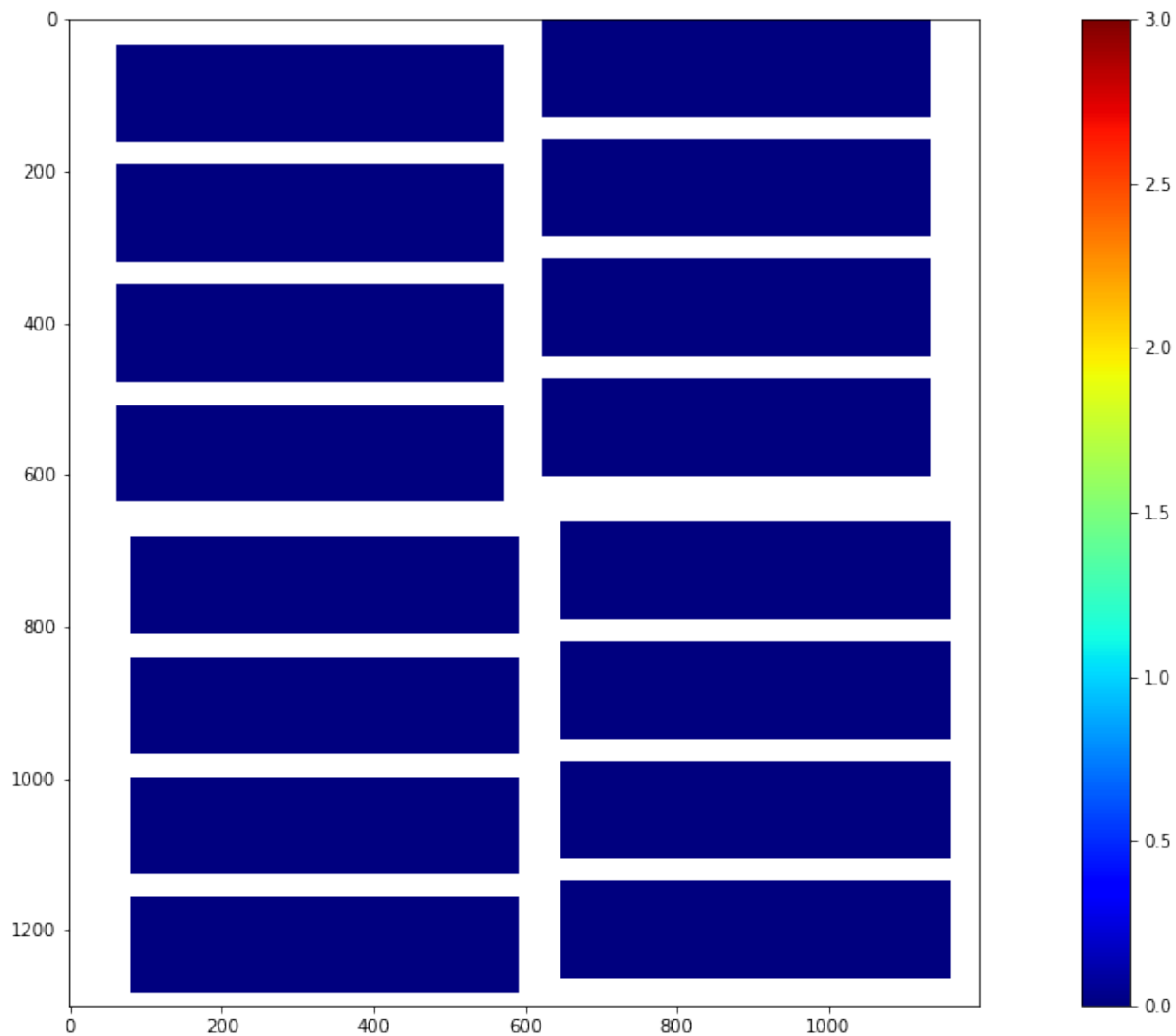
### 3.4.3 Mean CORRECTED Preview

The per pixel mean of the first 128 images of the CORRECTED data



### 3.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data





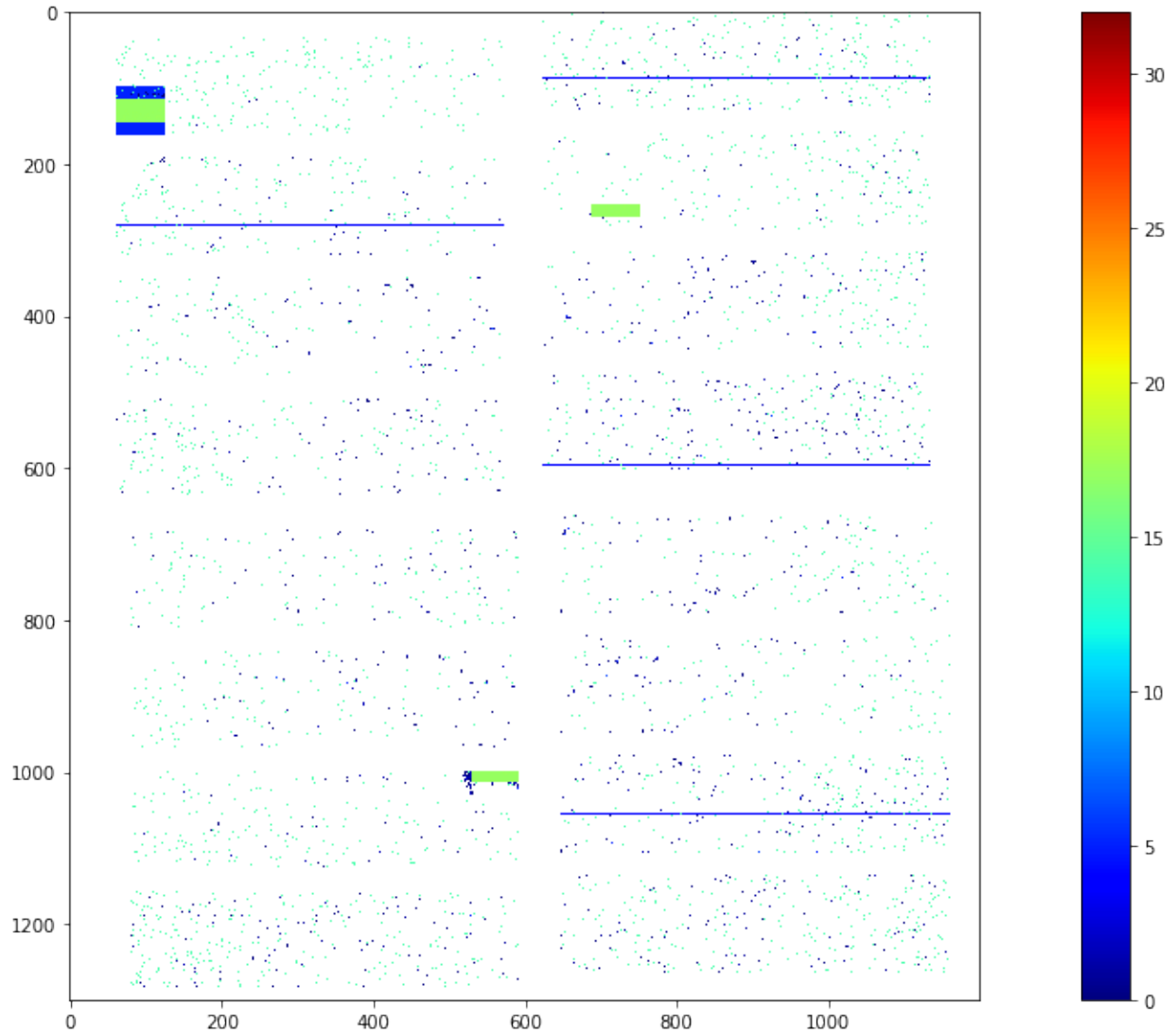
## 3.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

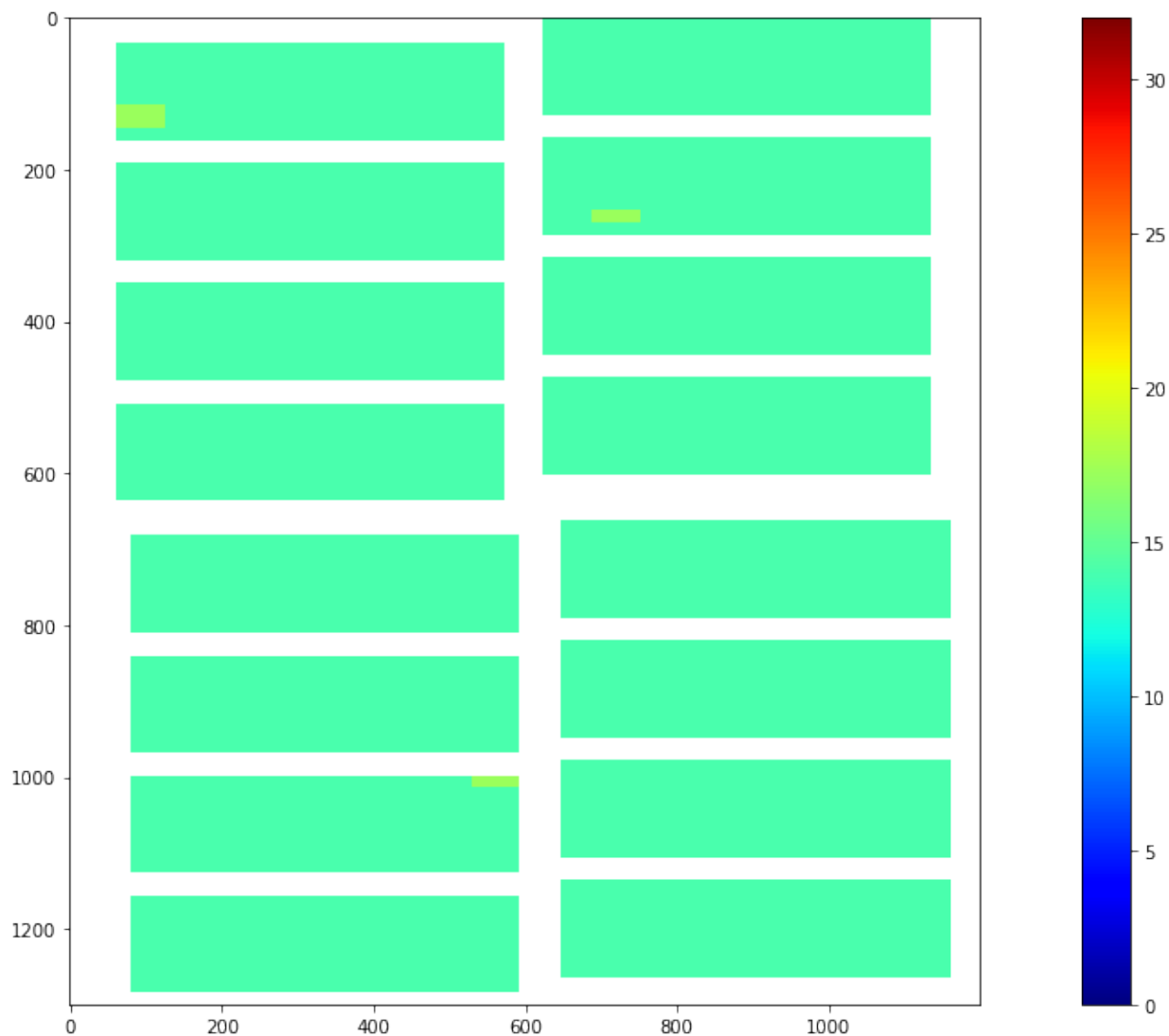
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 3.5.1 Single Shot Bad Pixels

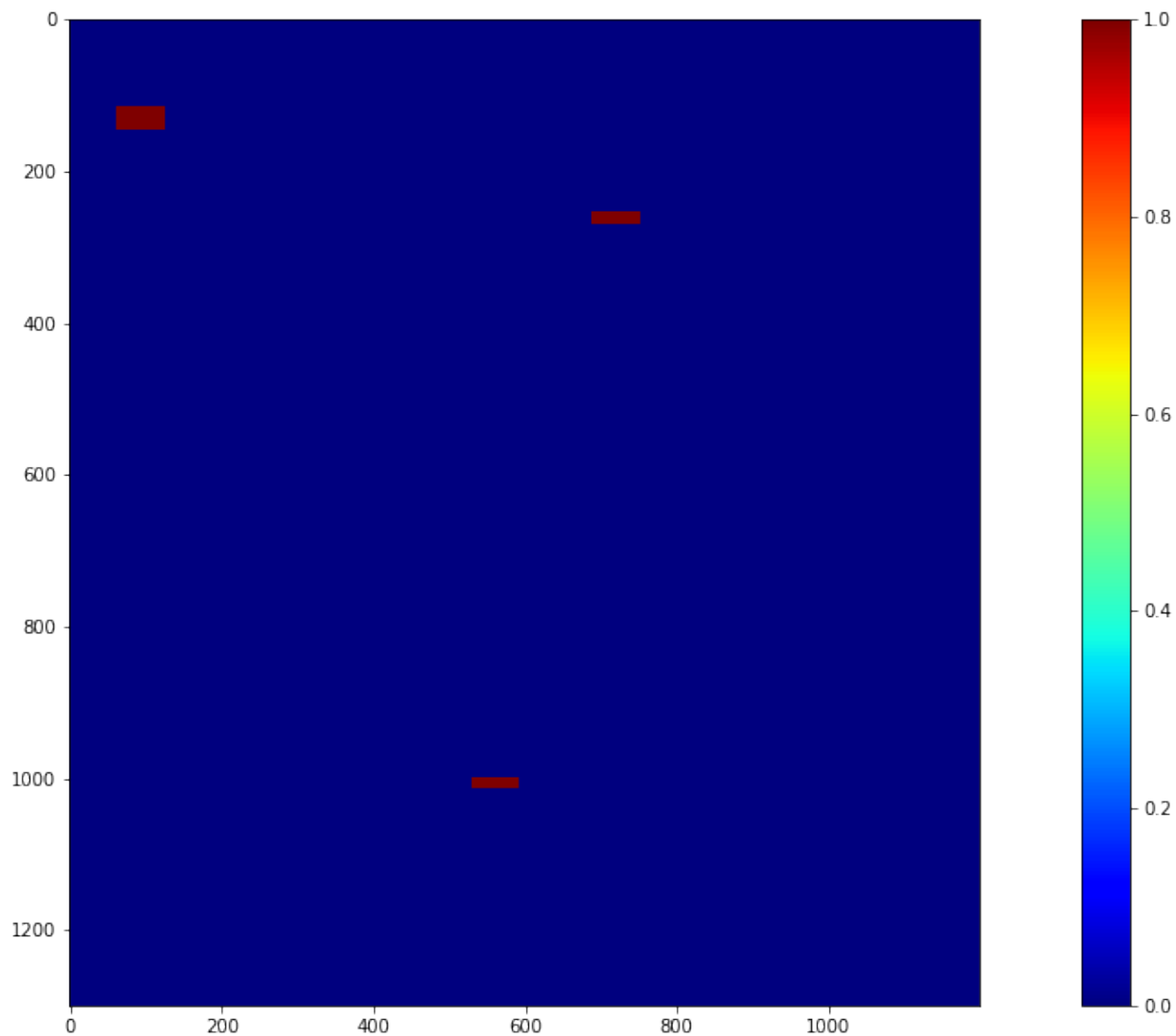
A single shot bad pixel map from cell 4 of the first train

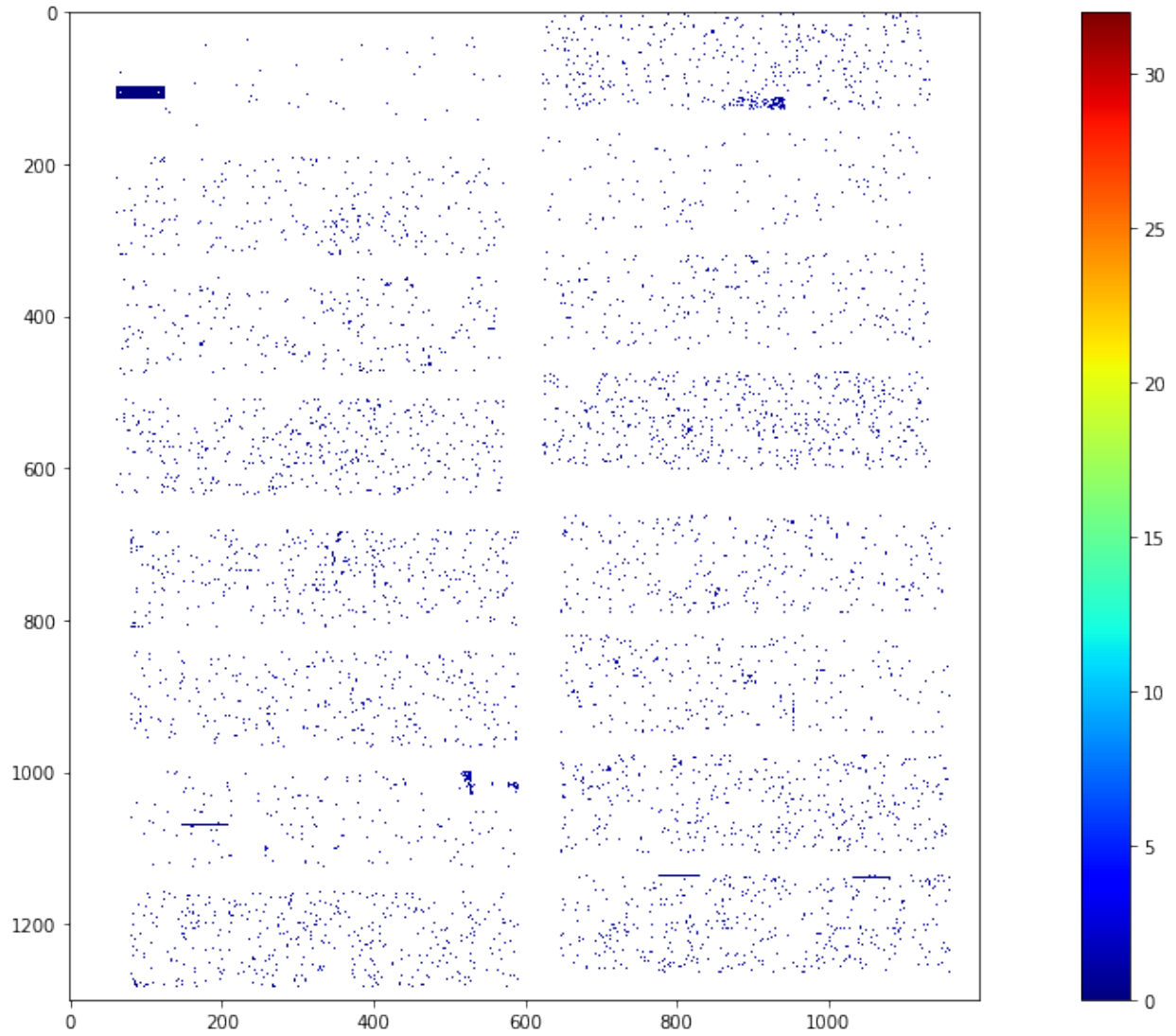


### 3.5.2 Full Train Bad Pixels



### 3.5.3 Full Train Bad Pixels - Only Dark Char. Related





## AGIPD OFFLINE CORRECTION, SEQUENCES = 8-11

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_8-11
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 4.1 Processed Files

```
Processing a total of 64 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00008.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00009.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00010.h5
3		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00011.h5
4	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00008.h5
5		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00009.h5
6		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00010.h5
7		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00011.h5
8	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00008.h5
9		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00009.h5
10		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00010.h5
11		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00011.h5
12	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00008.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00009.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00010.h5
15		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00011.h5
16	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00008.h5
17		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00009.h5
18		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00010.h5
19		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00011.h5
20	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00008.h5
21		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00009.h5
22		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00010.h5
23		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00011.h5
24	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00008.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00009.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00010.h5
27		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00011.h5
28	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00008.h5
29		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00009.h5
30		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00010.h5
31		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00011.h5
32	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00008.h5
33		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00009.h5
34		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00010.h5
35		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00011.h5
36	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00008.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00009.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00010.h5
39		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00011.h5
40	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00008.h5
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44	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00008.h5
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46		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00010.h5
47		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00011.h5
48	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00008.h5
49		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00009.h5
50		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00010.h5
51		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00011.h5
52	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00008.h5
53		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00009.h5
54		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00010.h5
55	<b>Processed Files</b>	3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00011.h5
56	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00008.h5
57		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00009.h5
58		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00010.h5
59		3	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00011.h5

A range of 500 pulse indices is selected: from 0 to 500 with a step of 1  
Running 32 tasks parallel  
Running 32 tasks parallel

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
```



```
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
```

```
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels.... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```

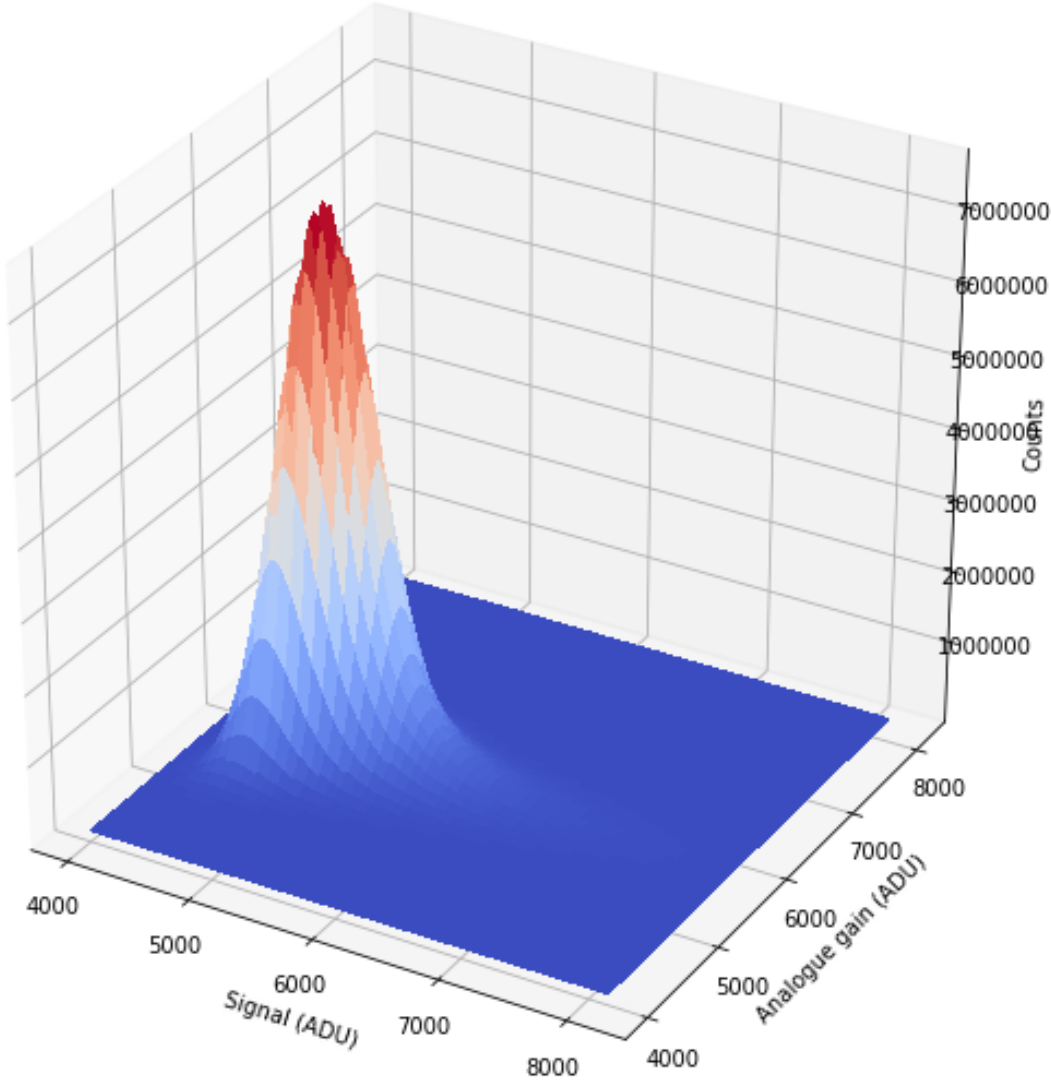
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bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

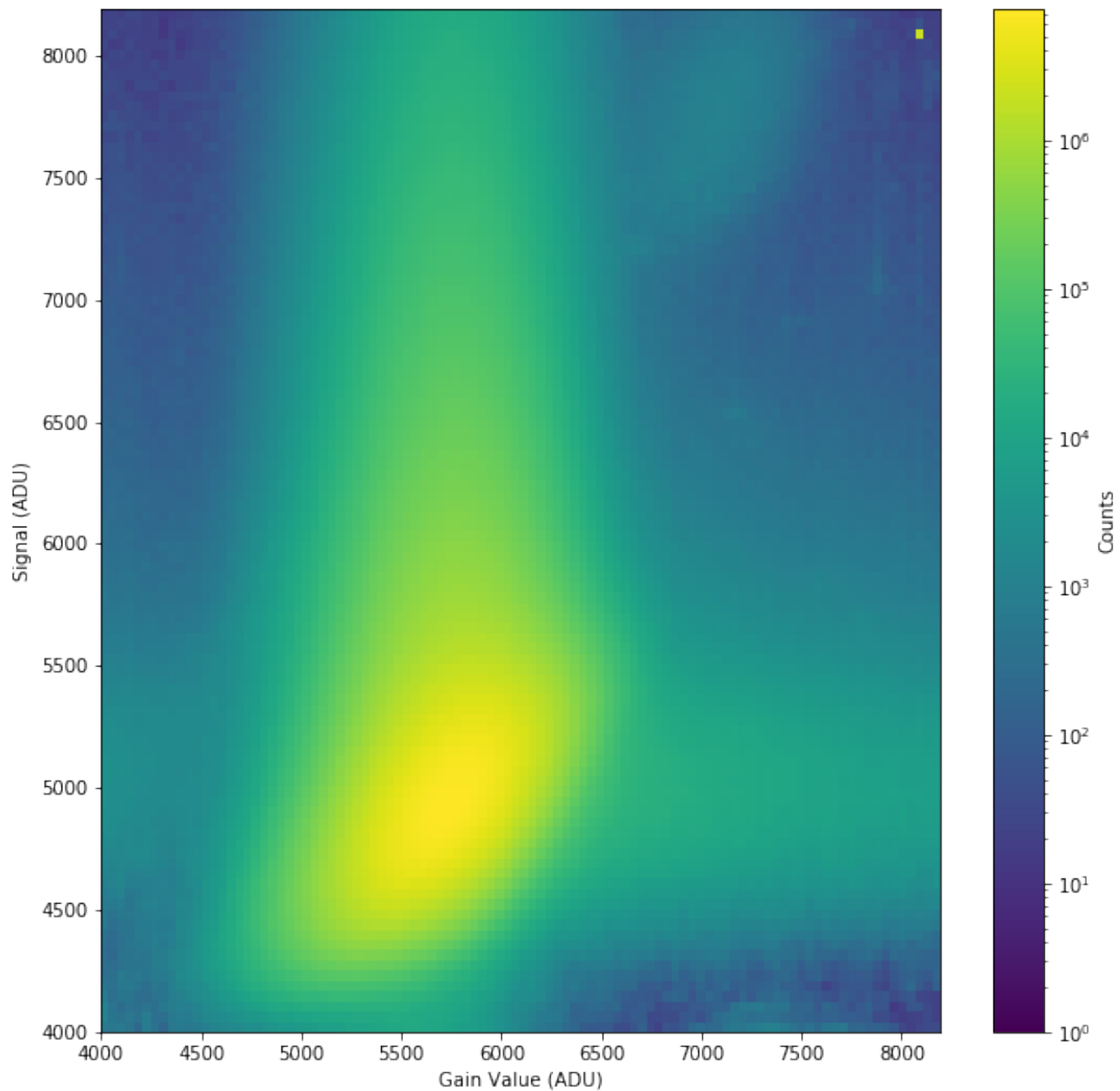
```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 4.2 Signal vs. Analogue Gain

The following plot shows plots signal vs. gain for the first 128 images.

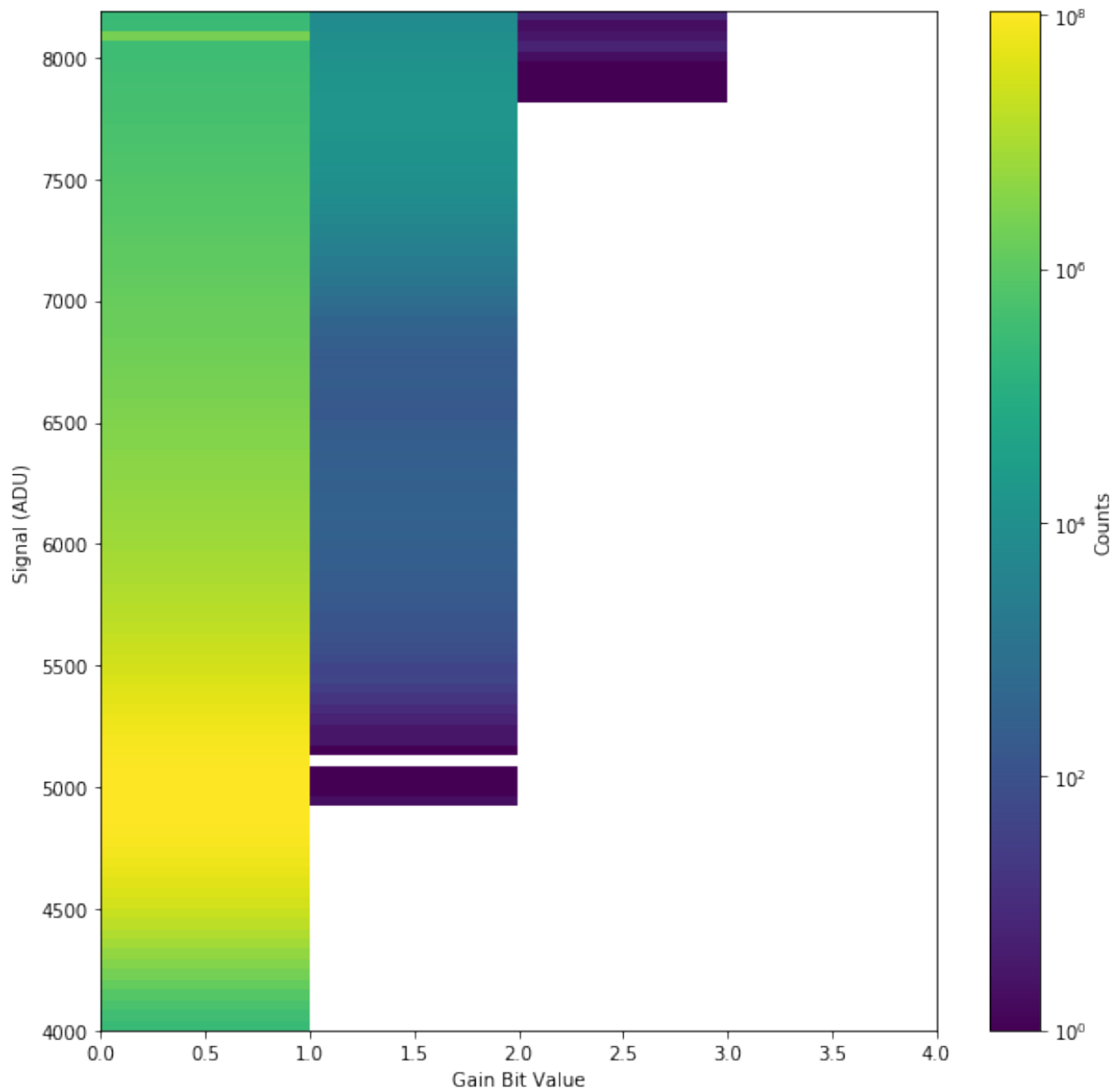


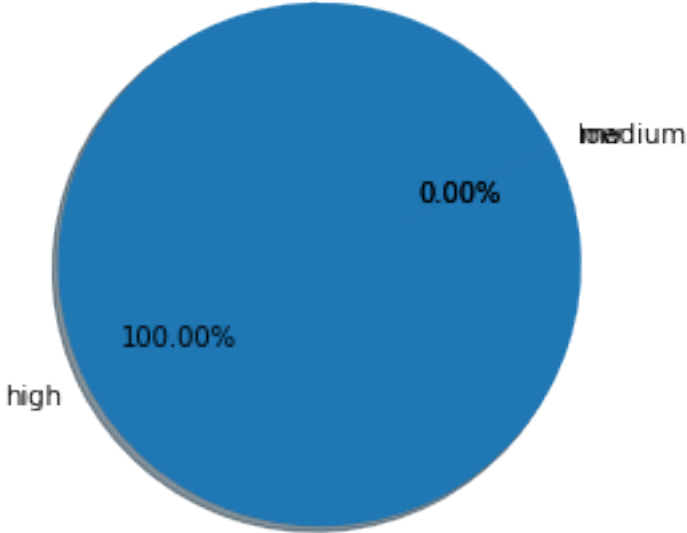




### 4.3 Signal vs. Digitized Gain

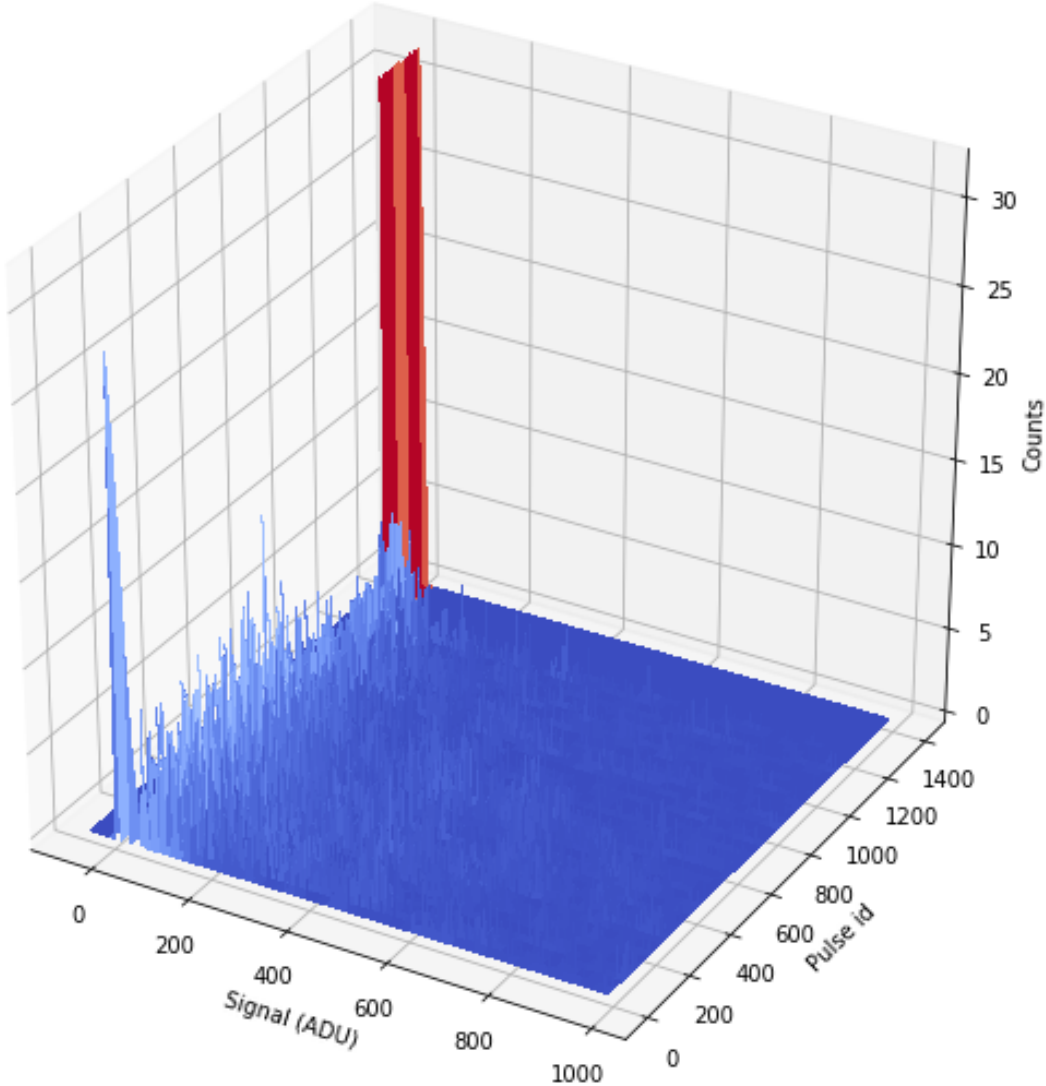
The following plot shows plots signal vs. digitized gain for the first 128 images.

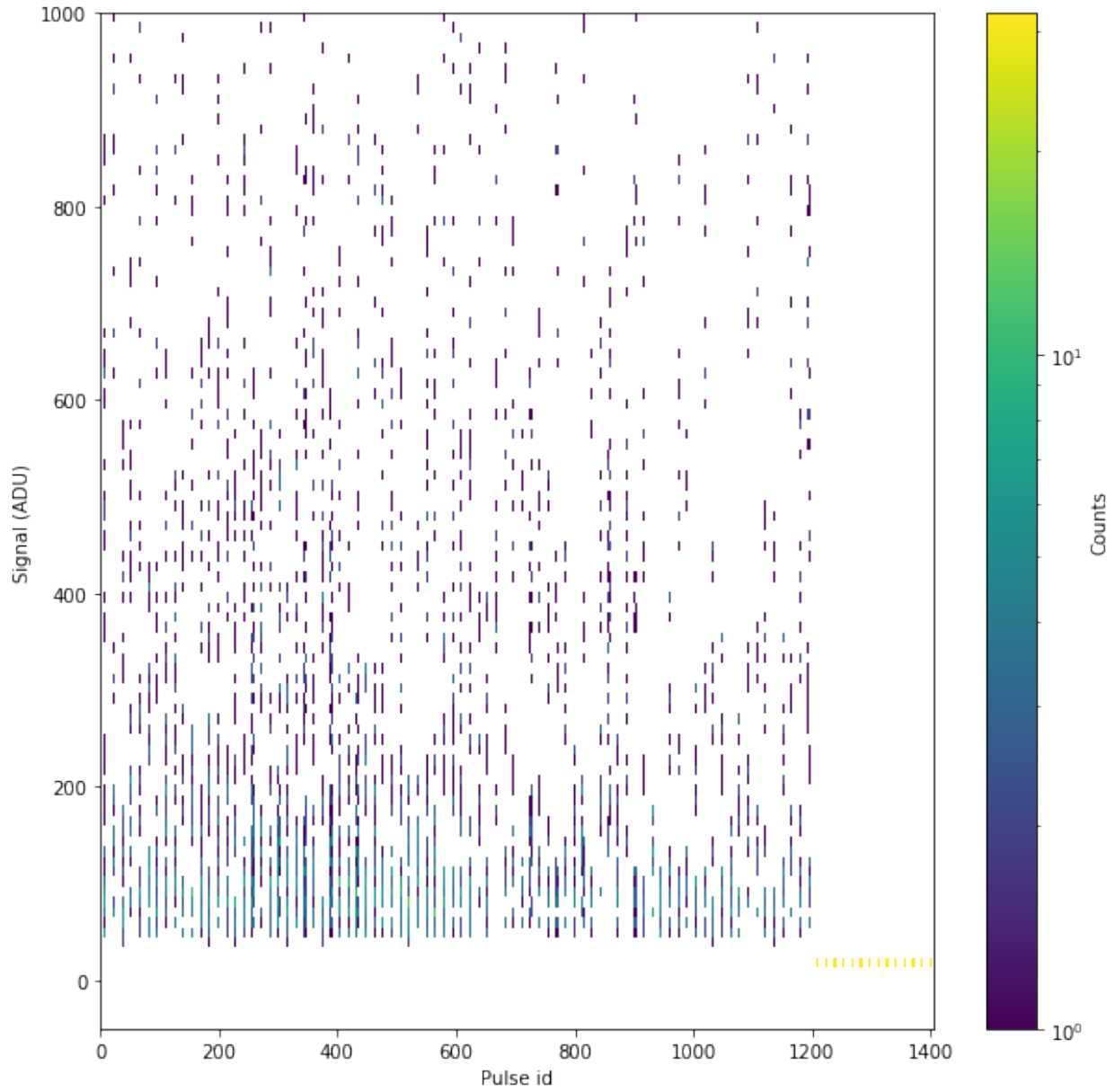


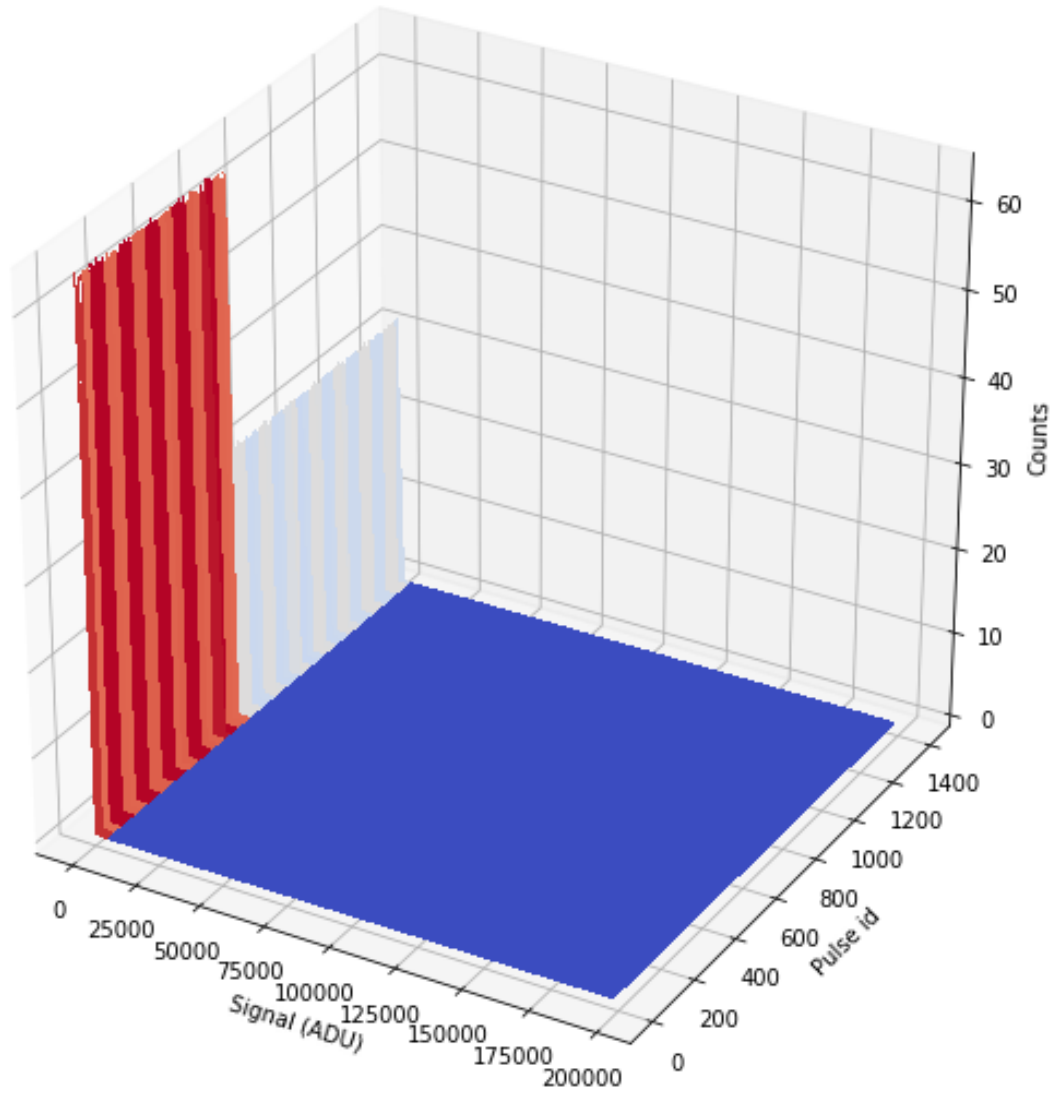


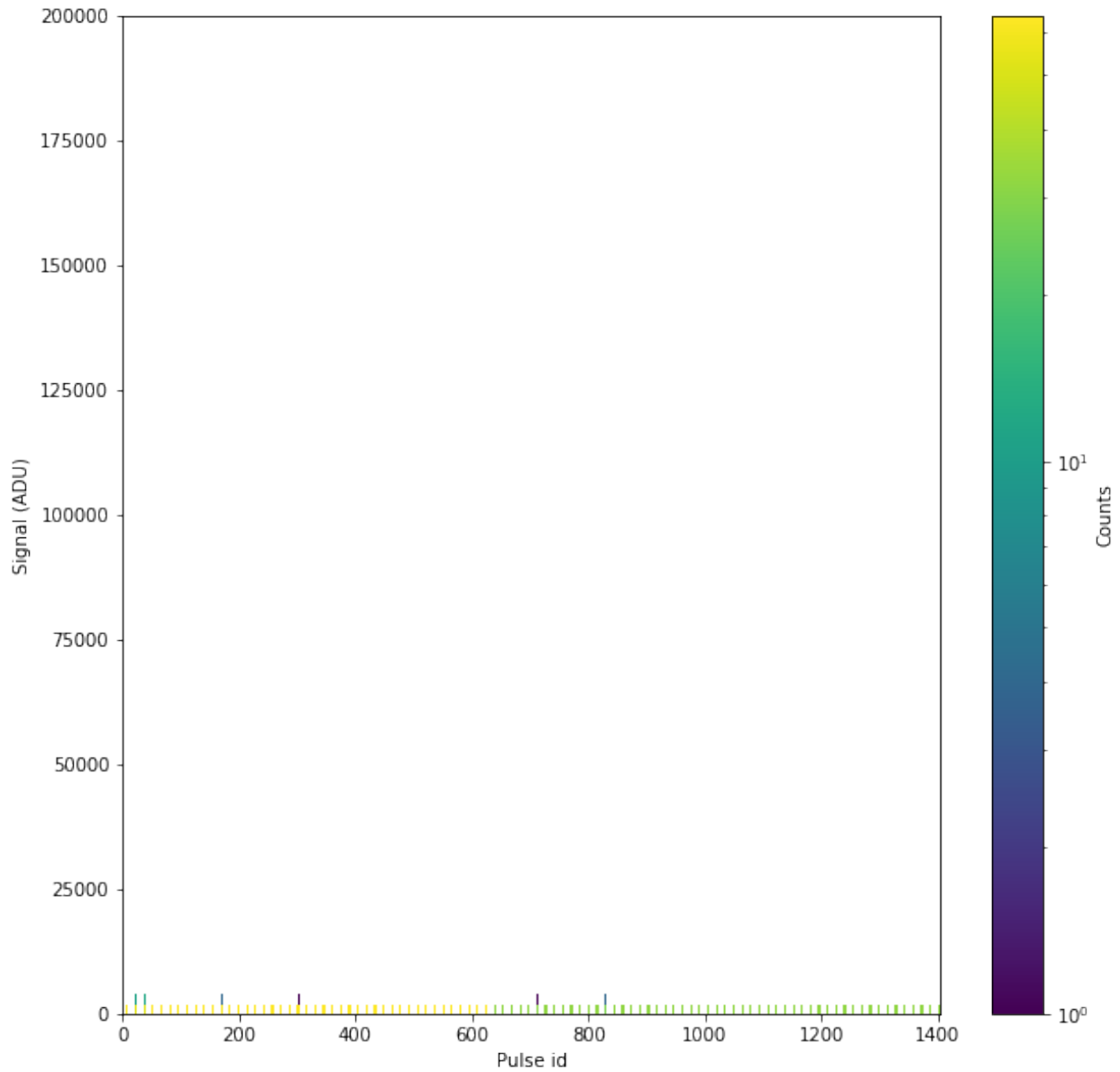
### 4.4 Mean Intensity per Pulse

The following plots show the mean signal for each pulse in a detailed and expanded intensity region.



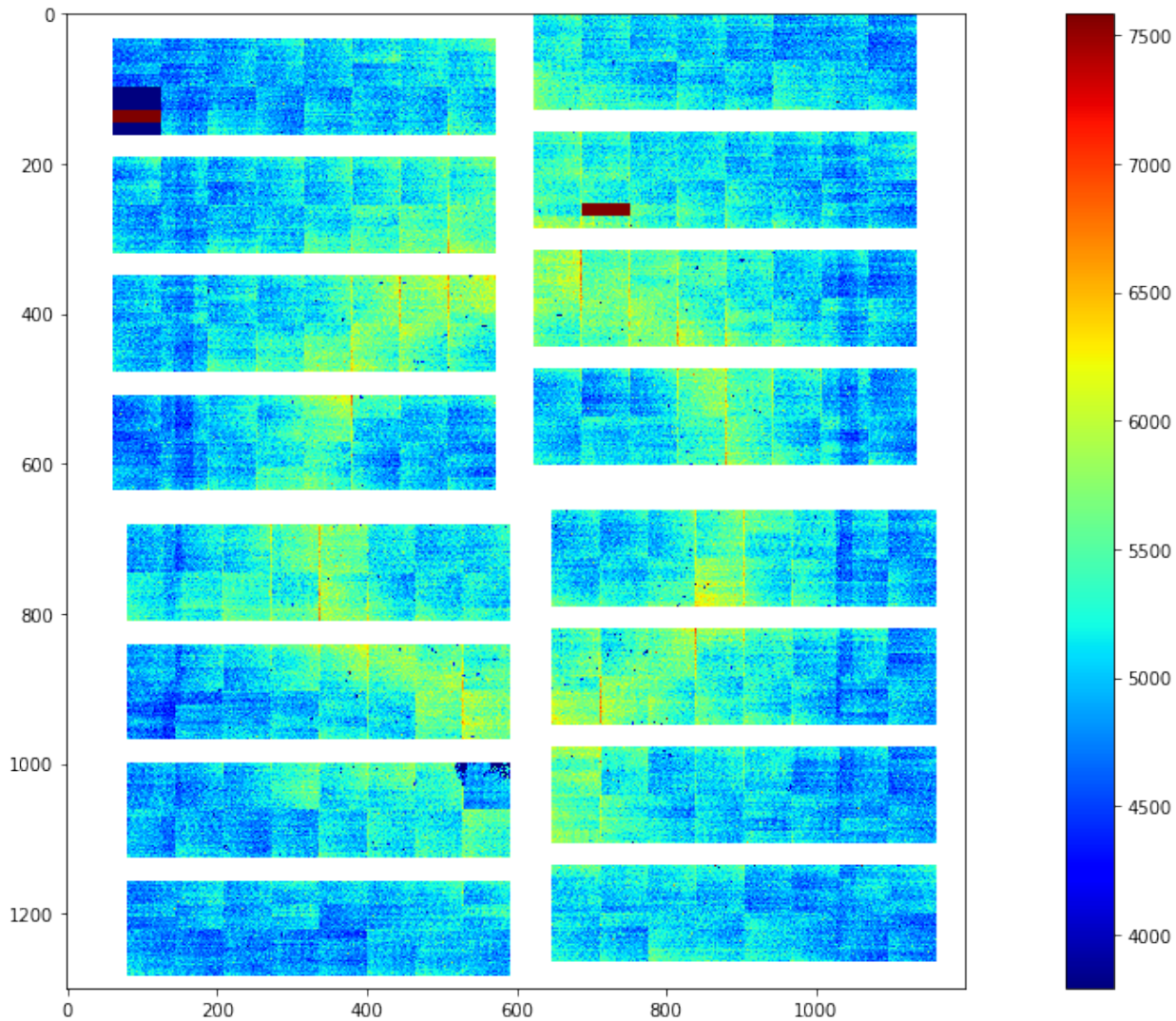






#### 4.4.1 Mean RAW Preview

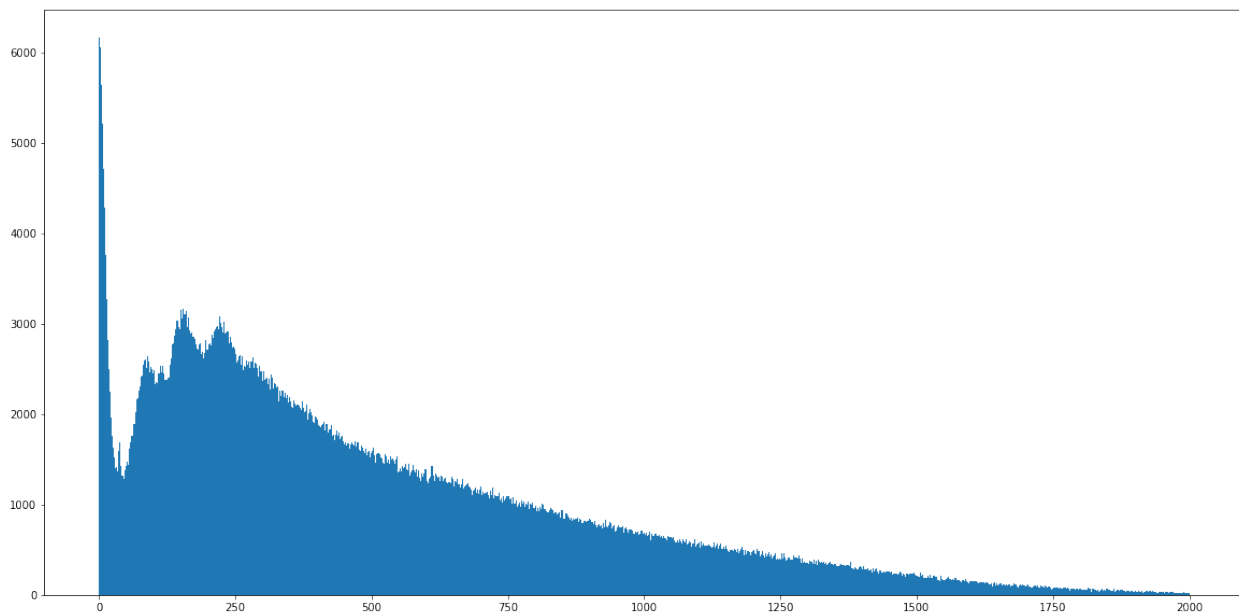
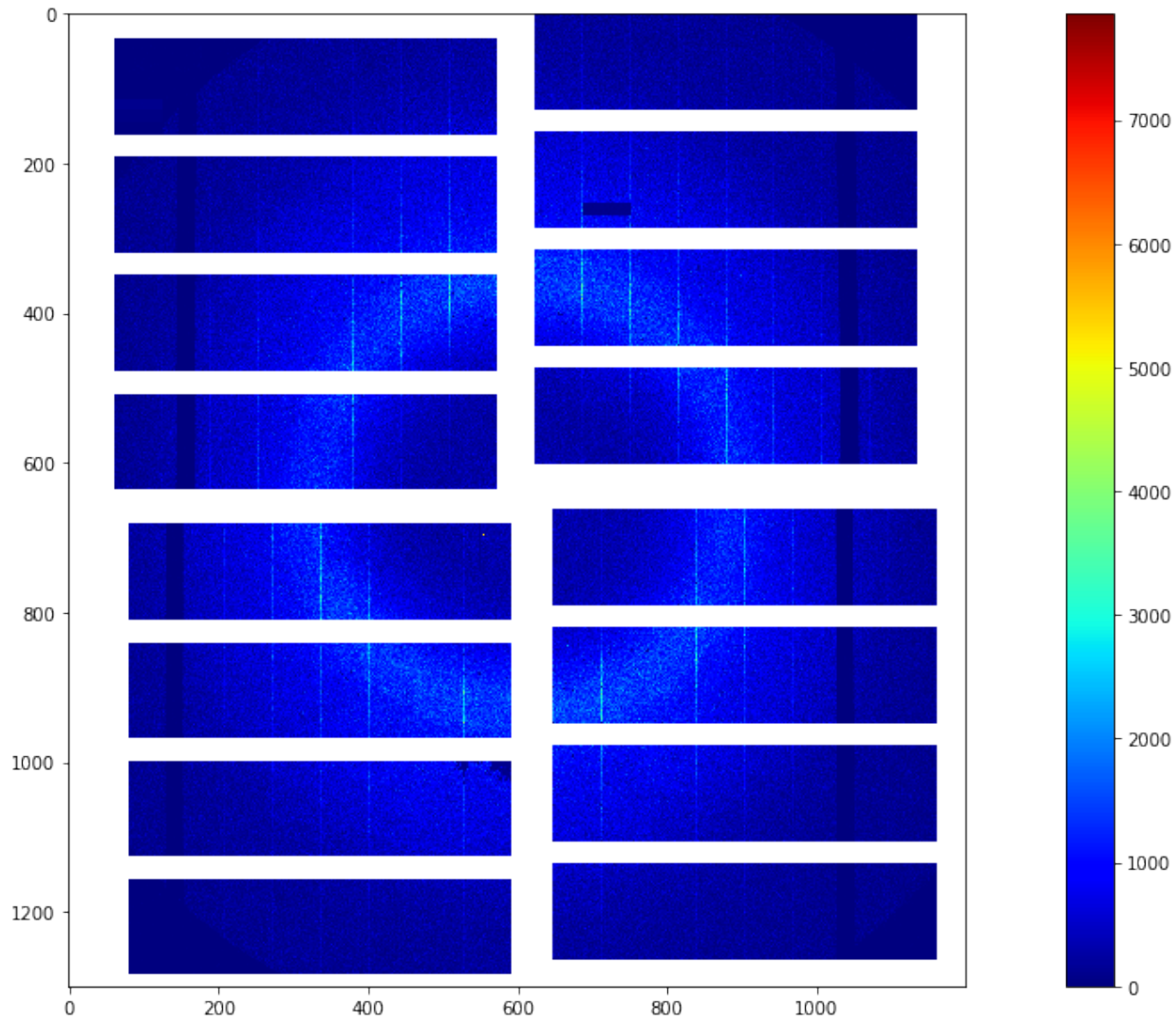
The per pixel mean of the first 128 images of the RAW data



### 4.4.2 Single Shot Preview

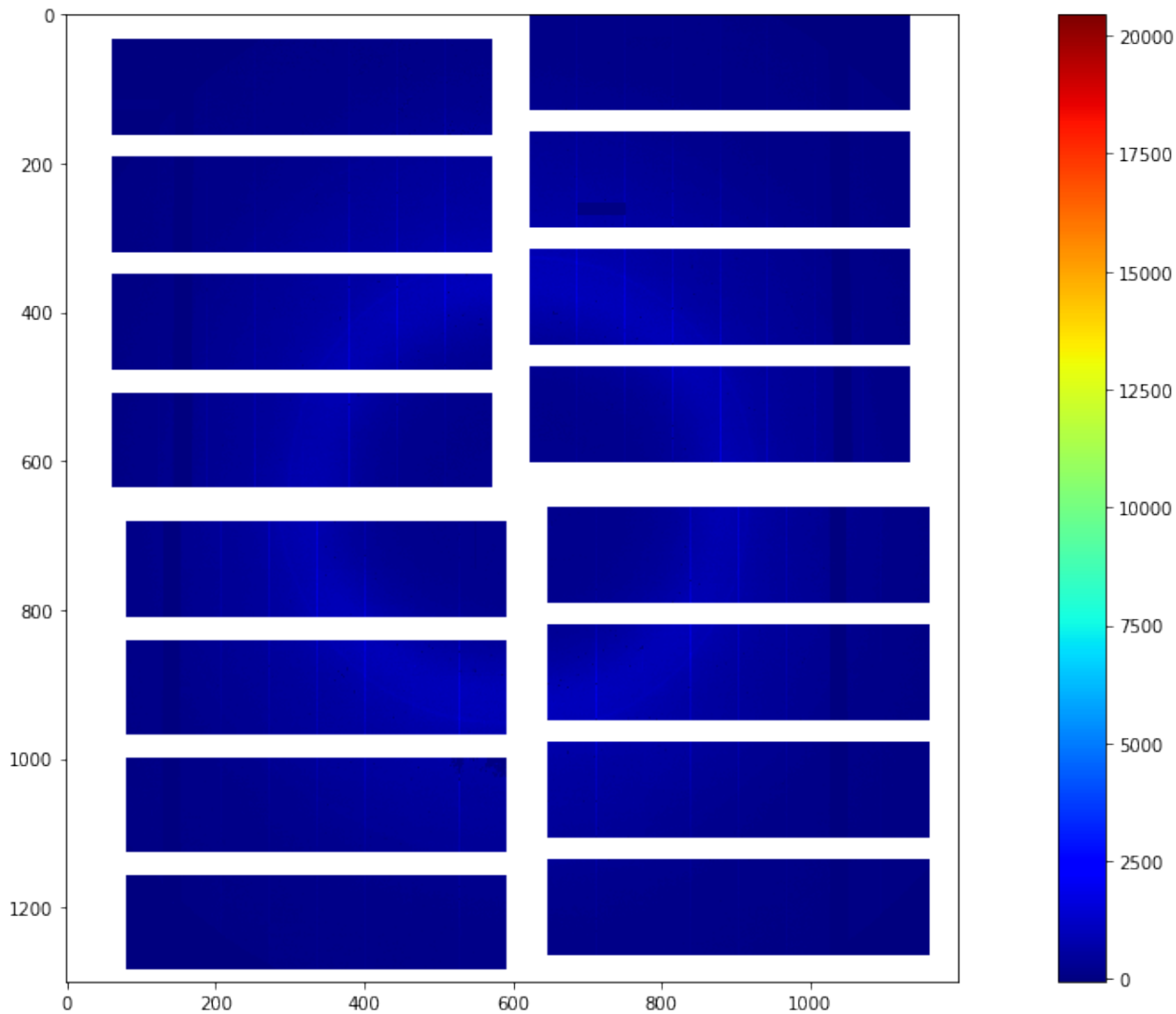
A single shot image from cell 12 of the first train

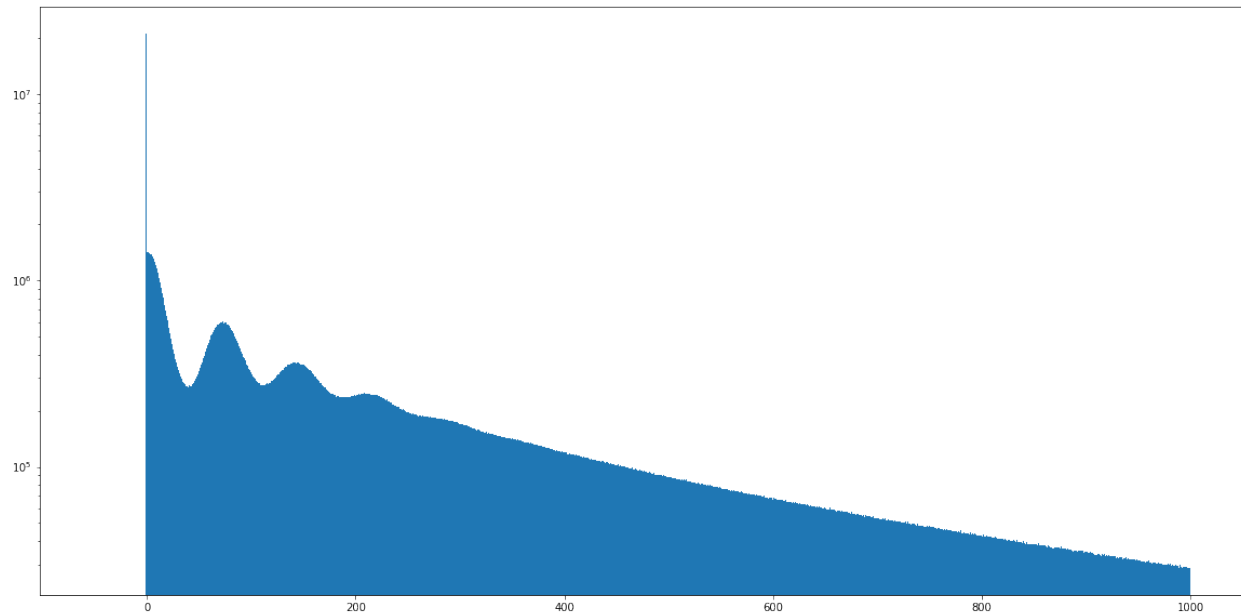




### 4.4.3 Mean CORRECTED Preview

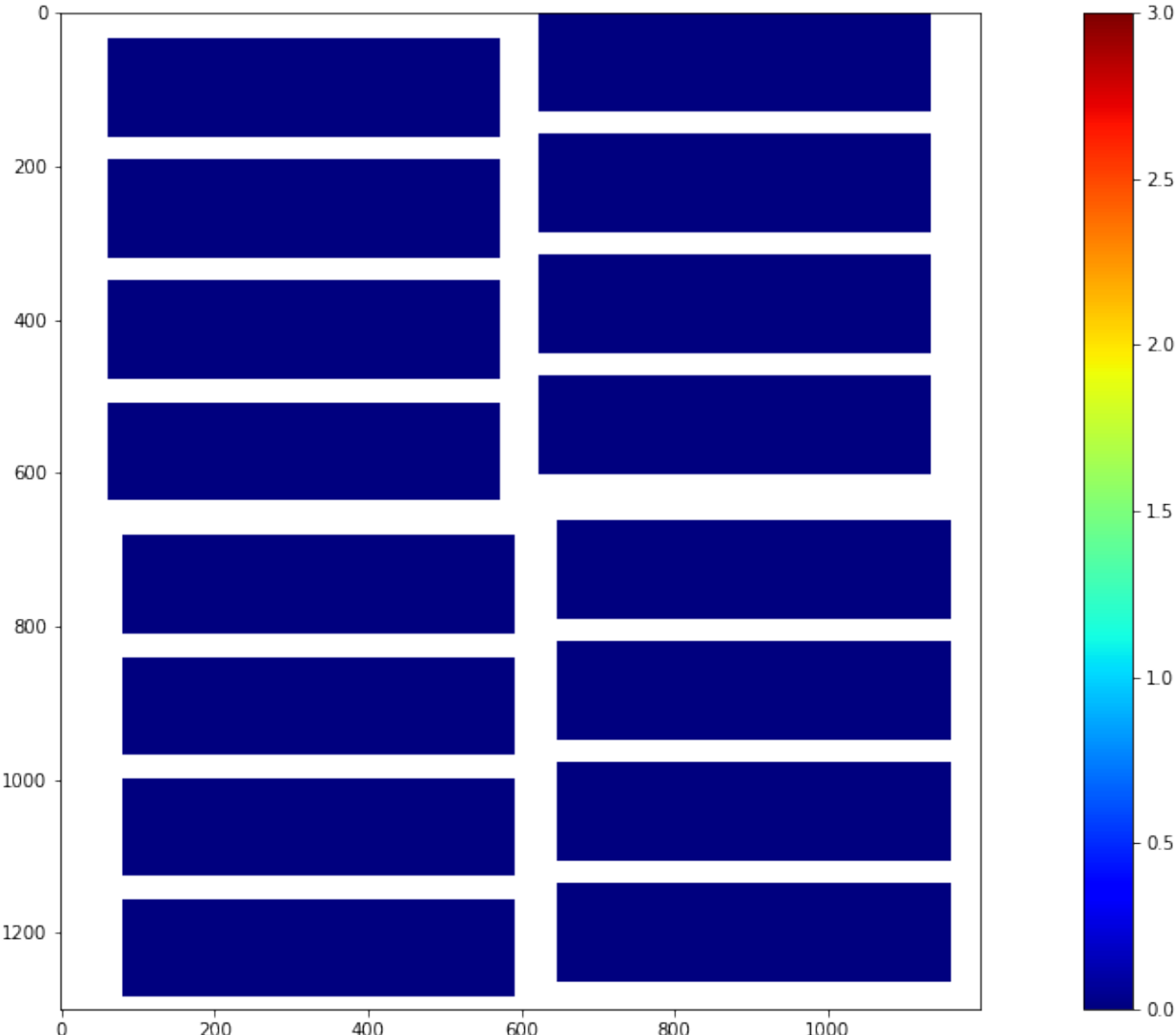
The per pixel mean of the first 128 images of the CORRECTED data





#### 4.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data



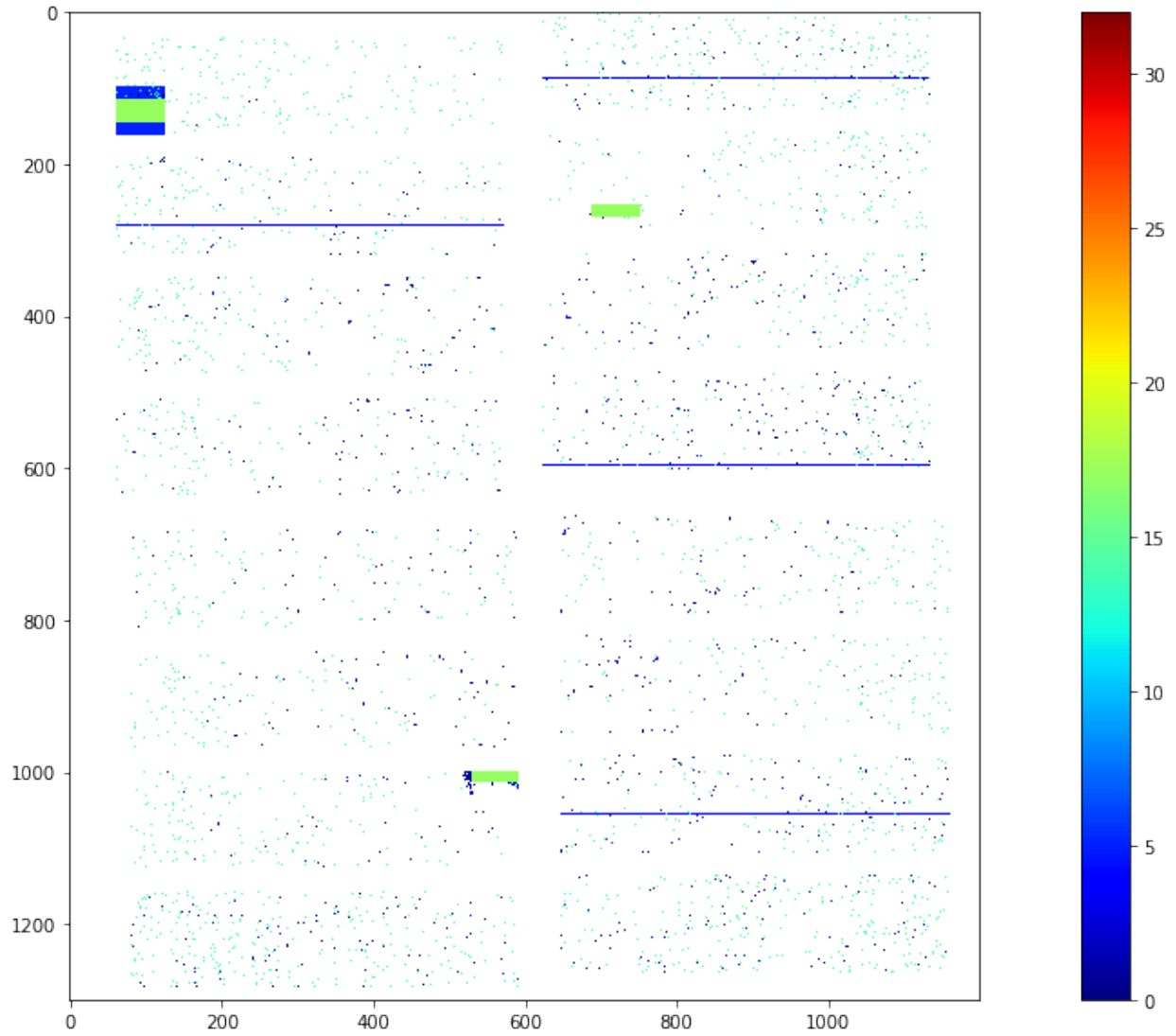
## 4.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

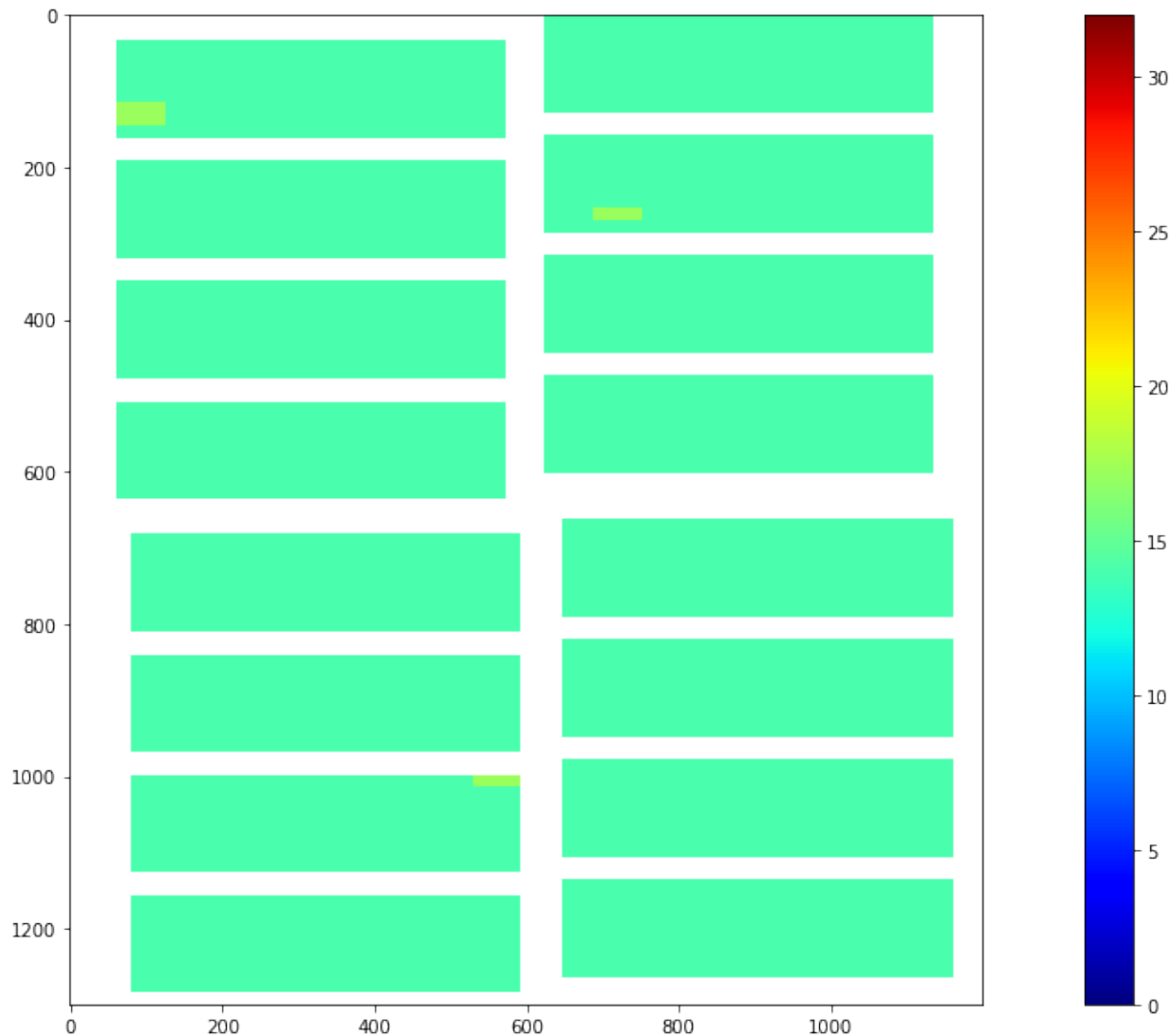
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 4.5.1 Single Shot Bad Pixels

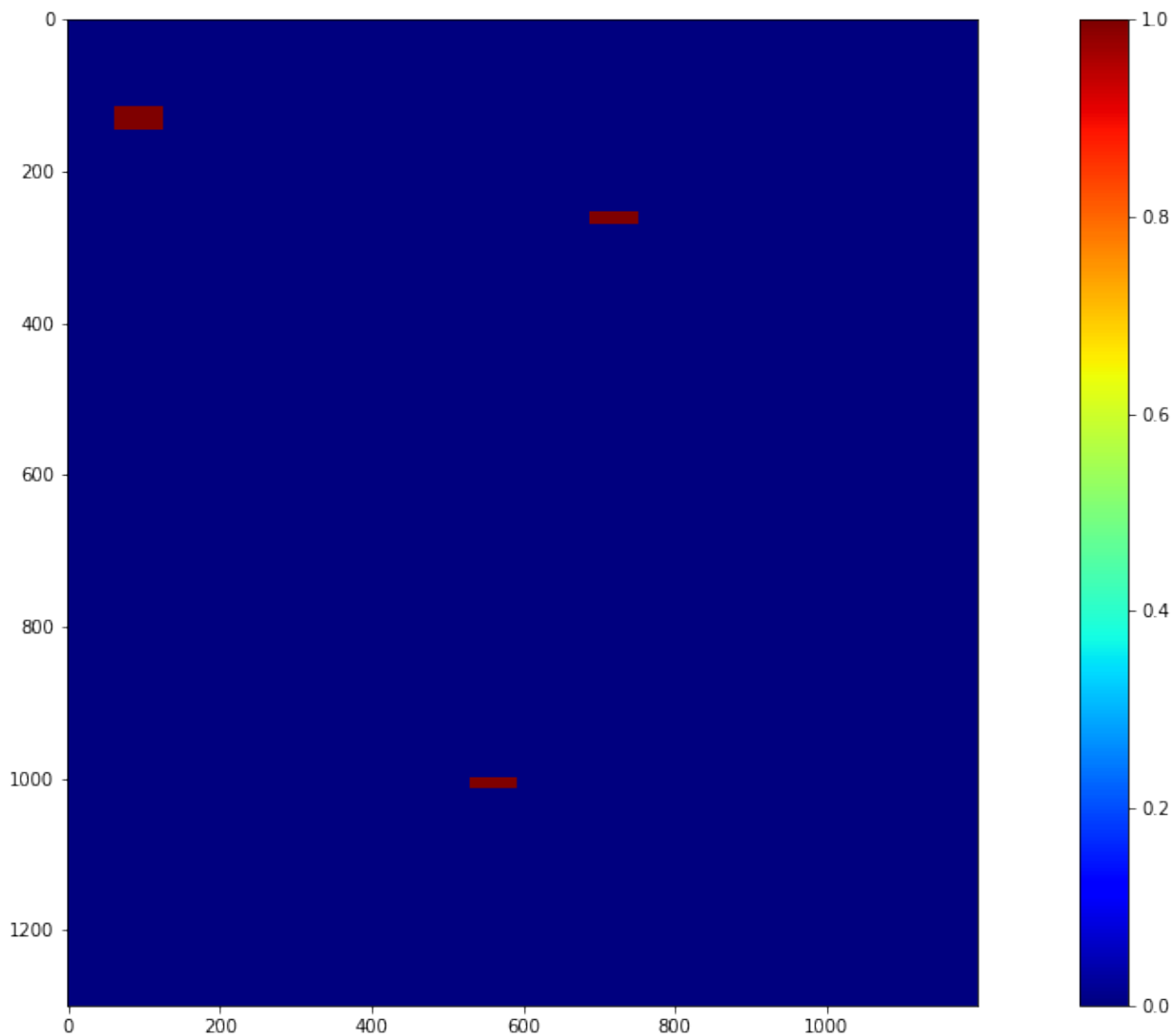
A single shot bad pixel map from cell 4 of the first train



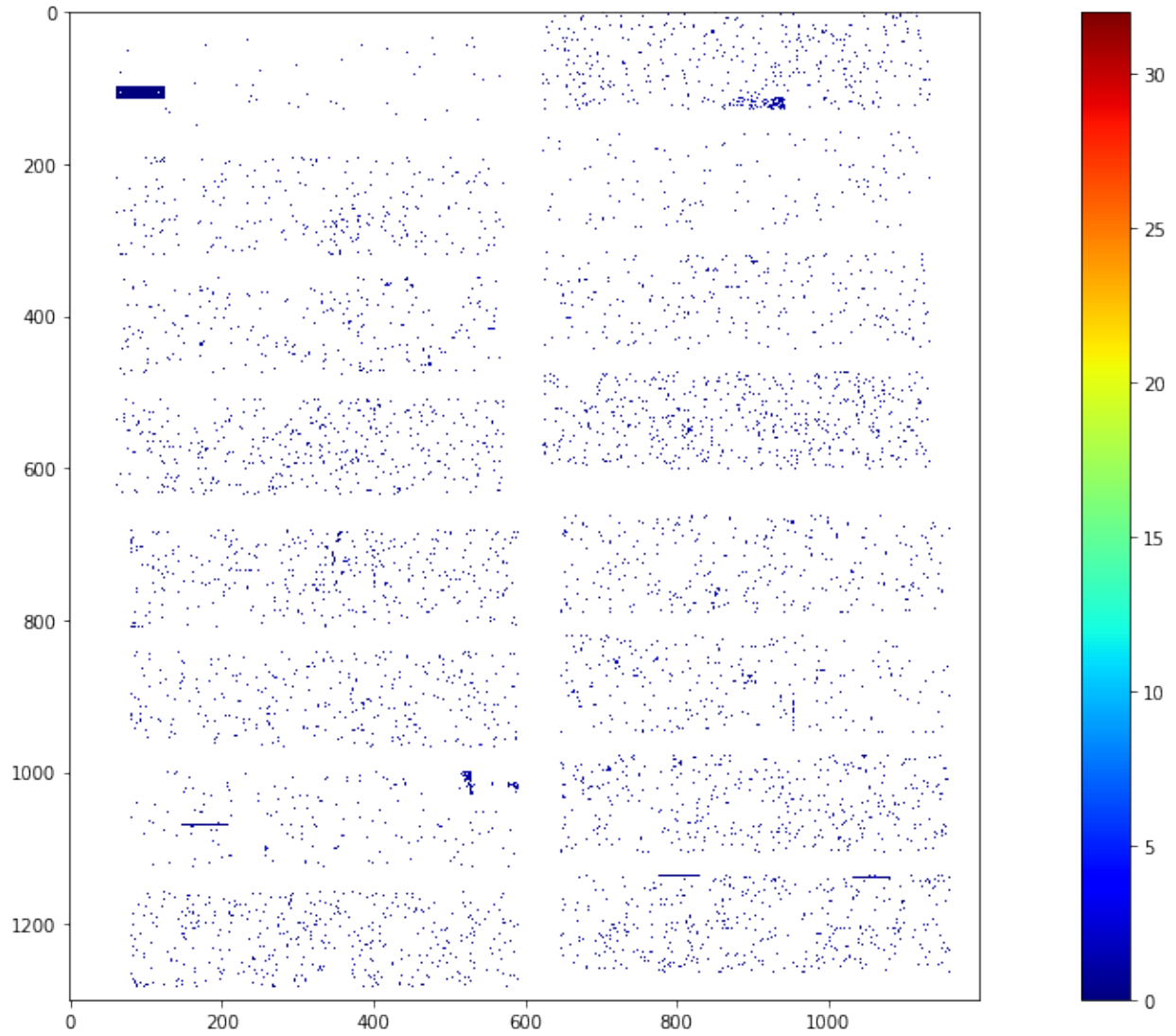
### 4.5.2 Full Train Bad Pixels



### 4.5.3 Full Train Bad Pixels - Only Dark Char. Related







## AGIPD OFFLINE CORRECTION, SEQUENCES = 12-14

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_12-14
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 5.1 Processed Files

```
Processing a total of 48 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00012.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00013.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00014.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00012.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00013.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00014.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00012.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00013.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00014.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00012.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00013.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00014.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00012.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00013.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00014.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00012.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00013.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00014.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00012.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00013.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00014.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00012.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00013.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00014.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00012.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00013.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00014.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00012.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00013.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00014.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00012.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00013.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00014.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00012.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00013.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00014.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00012.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00013.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00014.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00012.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00013.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00014.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00012.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00013.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00014.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00012.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00013.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00014.h5

```
A range of 500 pulse indices is selected: from 0 to 500 with a step of 1
Running 32 tasks parallel
Running 16 tasks parallel
```

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```

```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

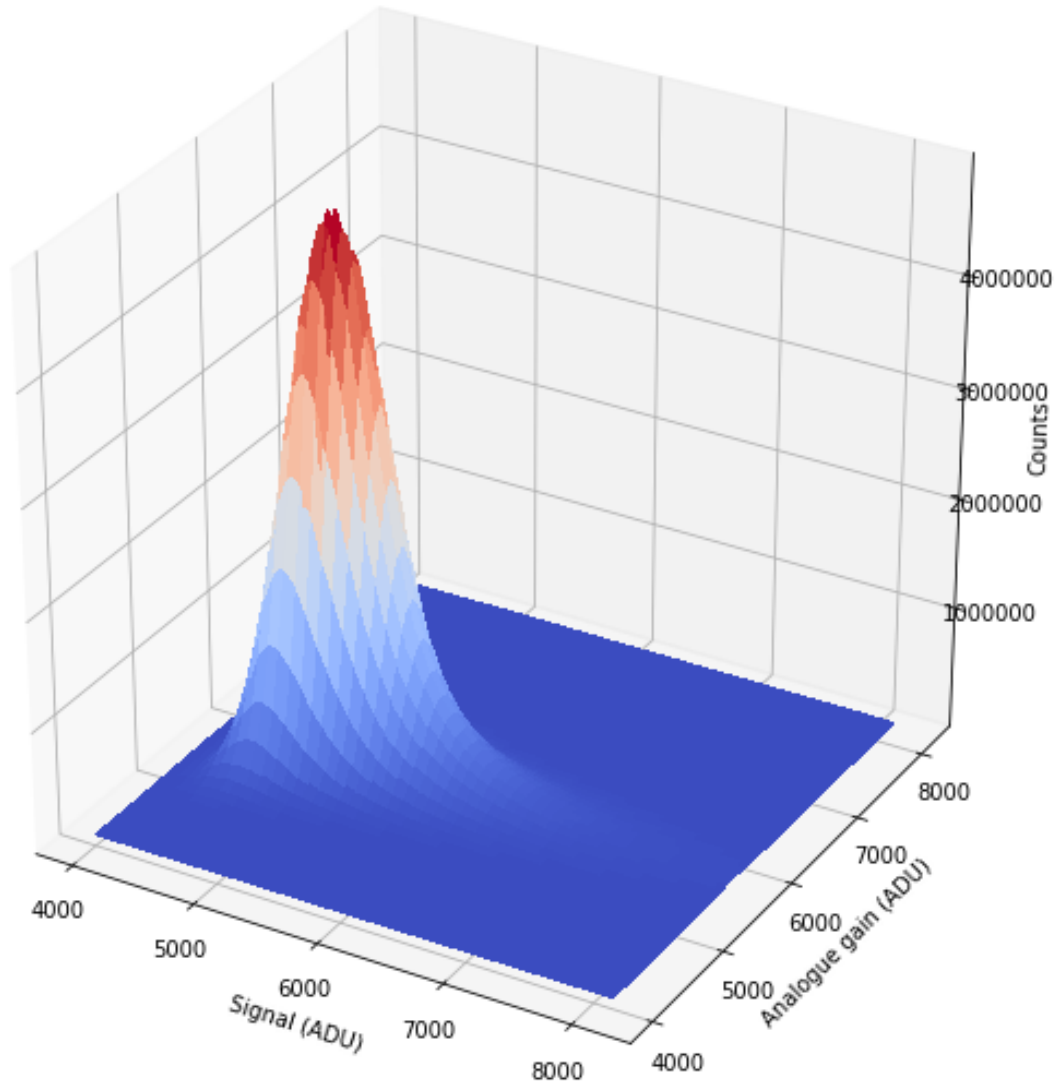
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

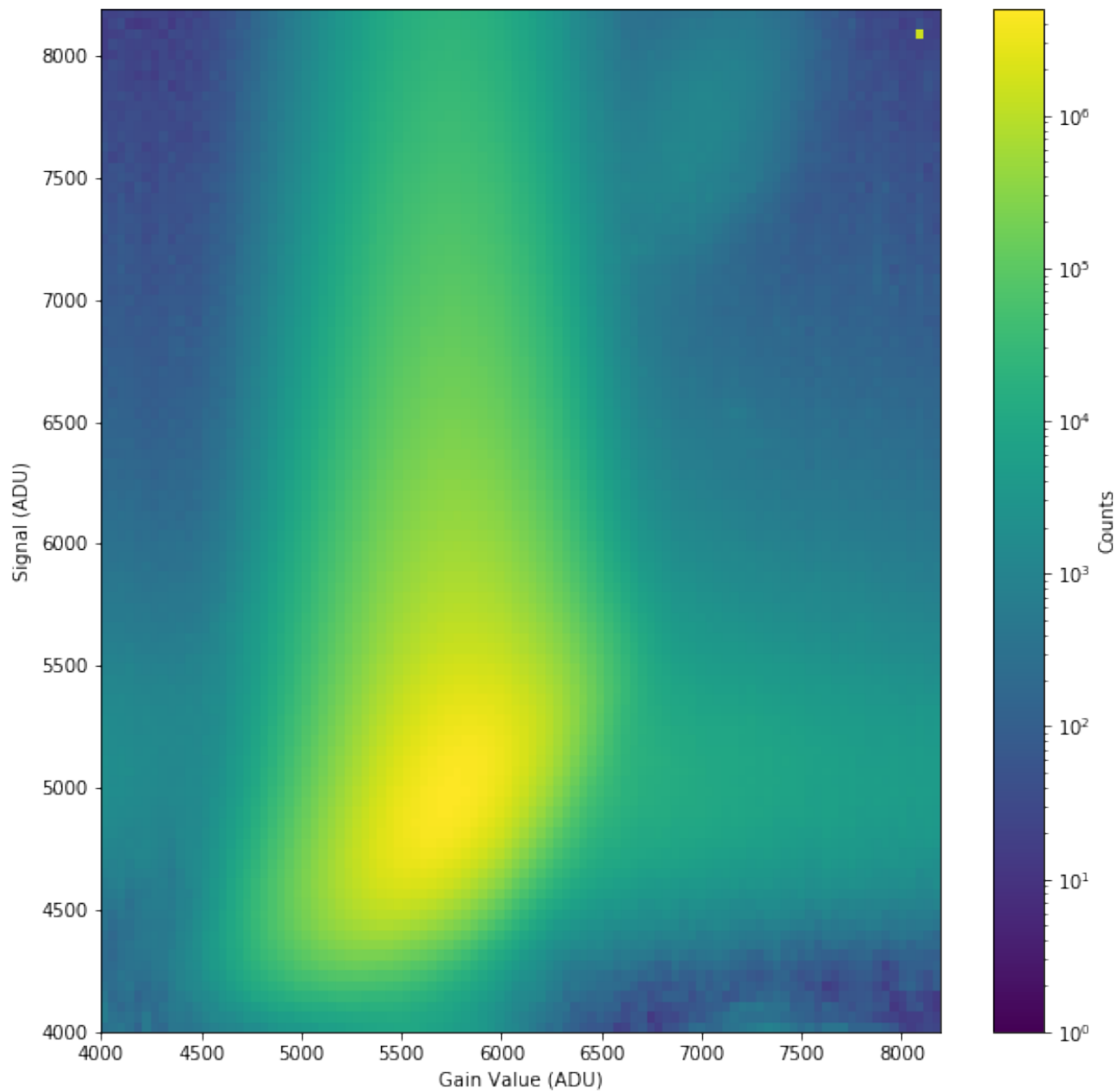


```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 5.2 Signal vs. Analogue Gain

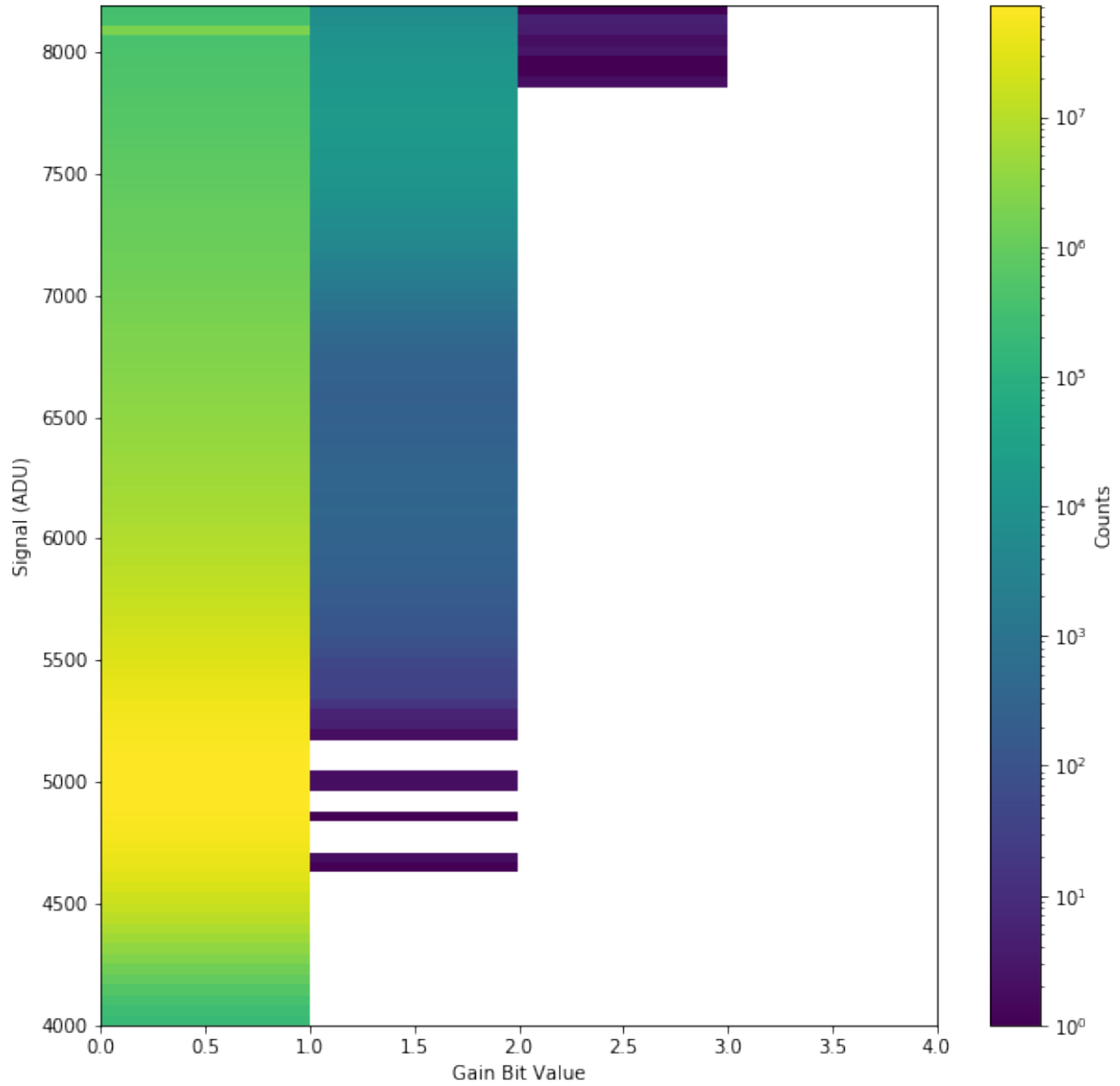
The following plot shows plots signal vs. gain for the first 128 images.

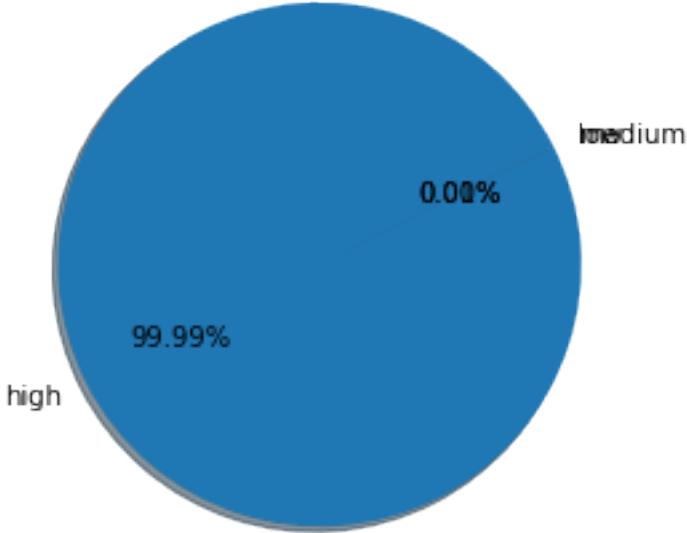




### 5.3 Signal vs. Digitized Gain

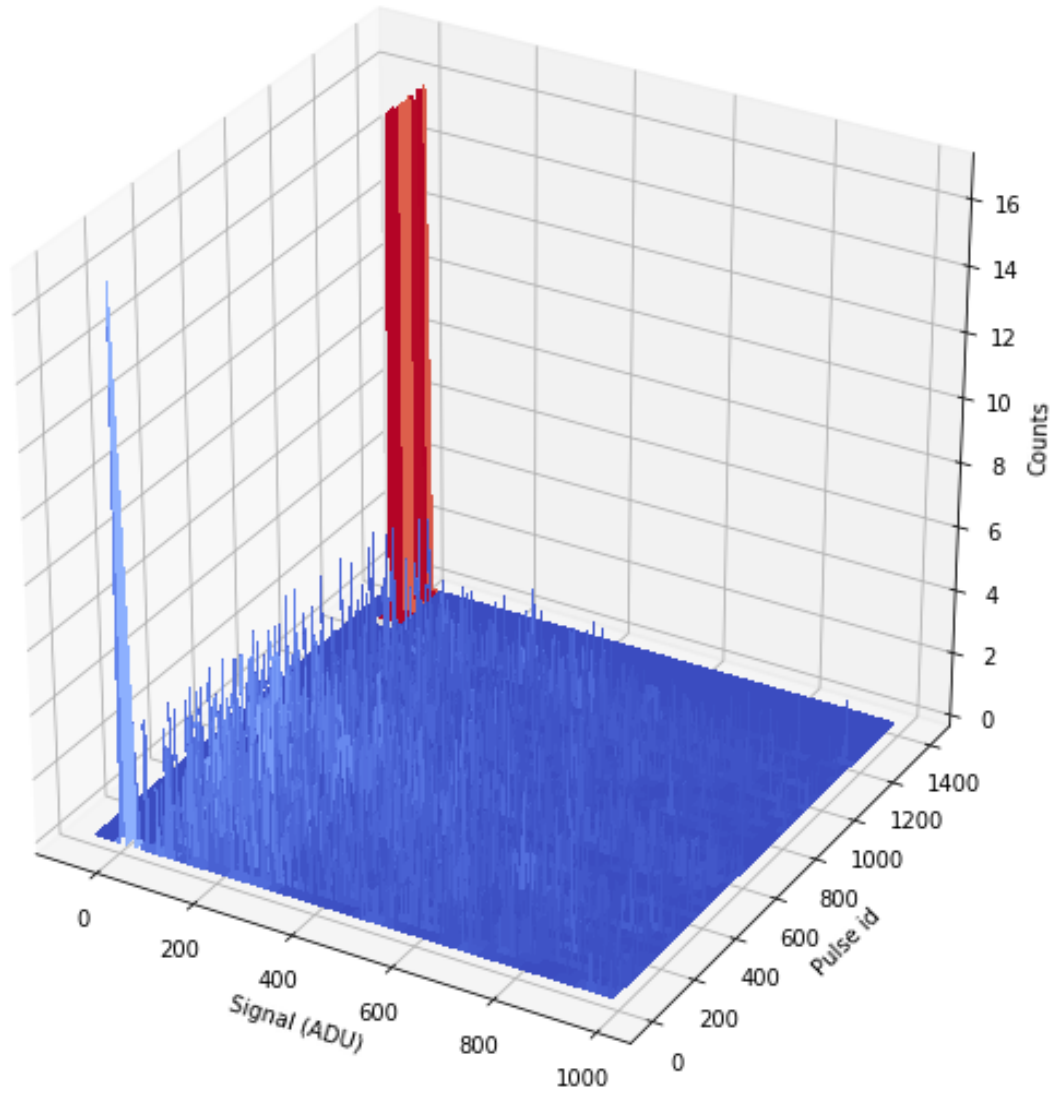
The following plot shows plots signal vs. digitized gain for the first 128 images.

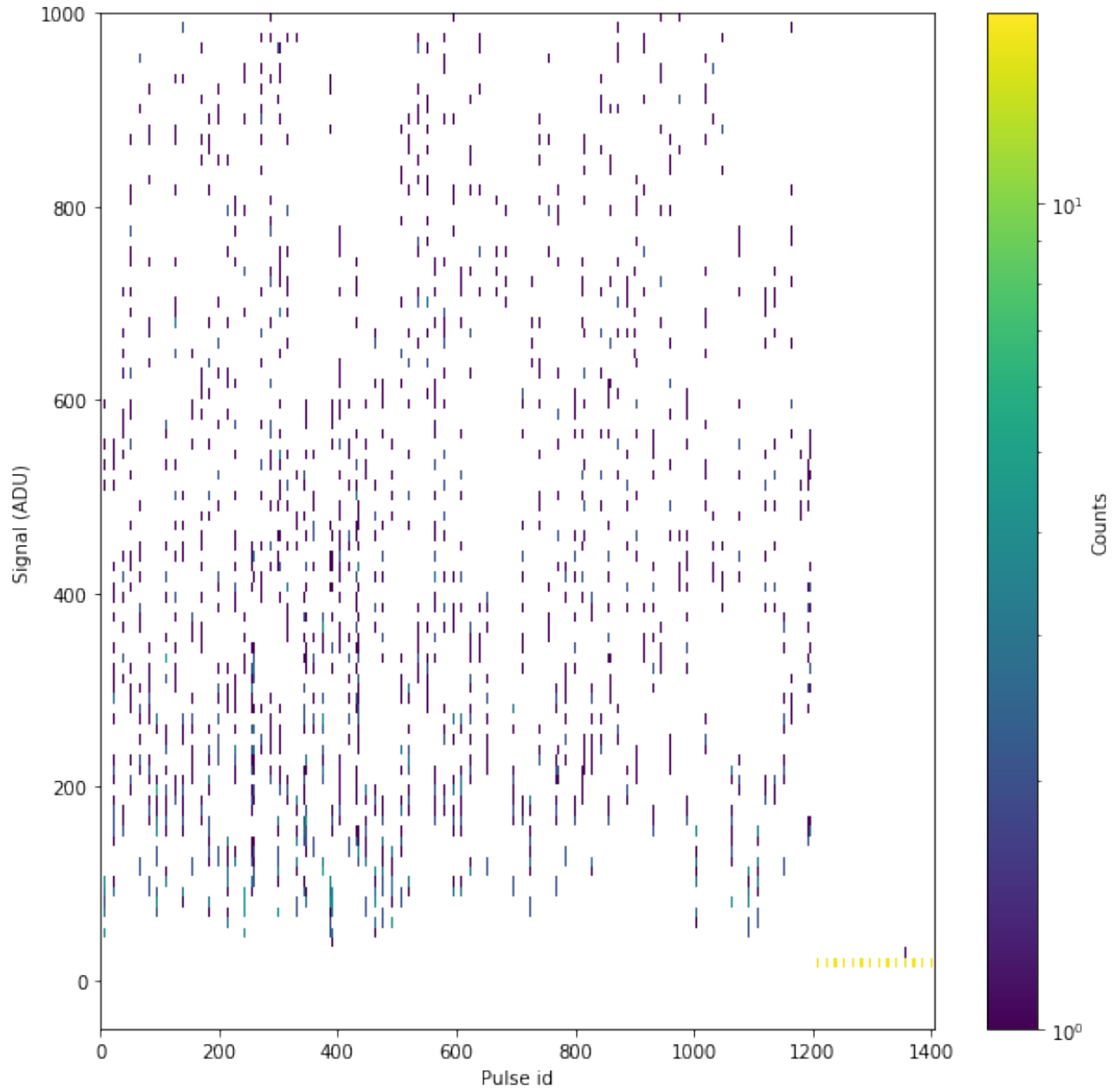


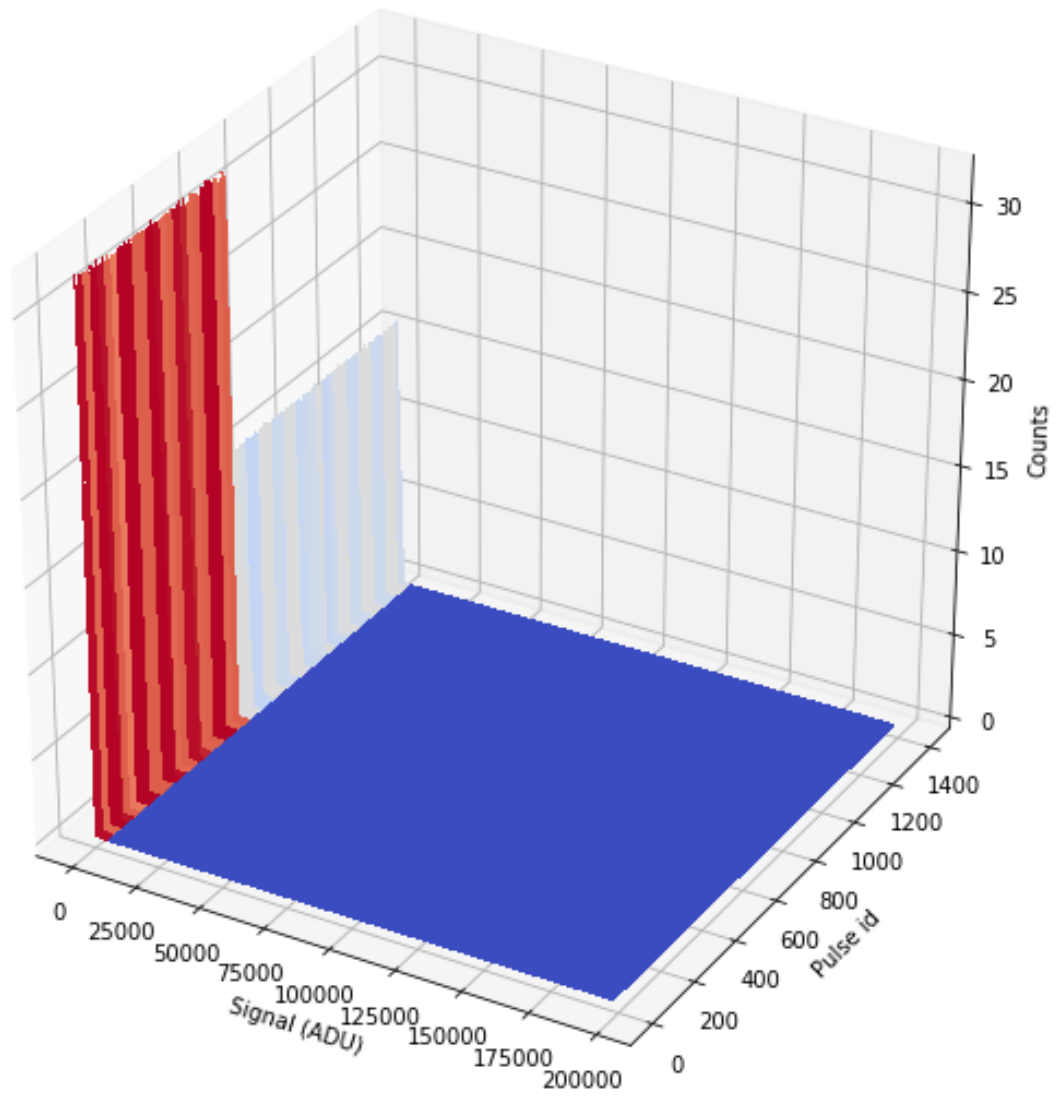


### 5.4 Mean Intensity per Pulse

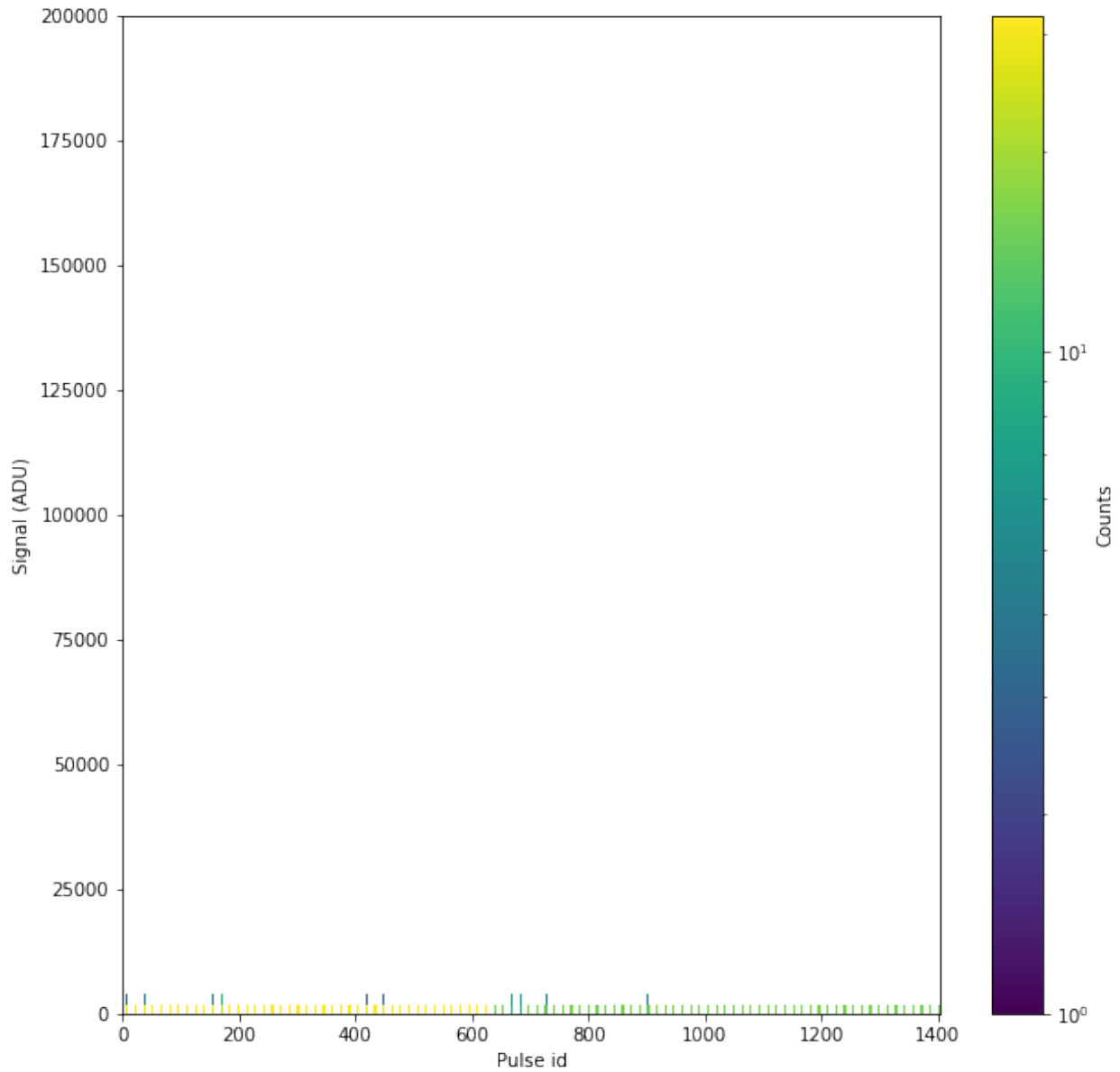
The following plots show the mean signal for each pulse in a detailed and expanded intensity region.





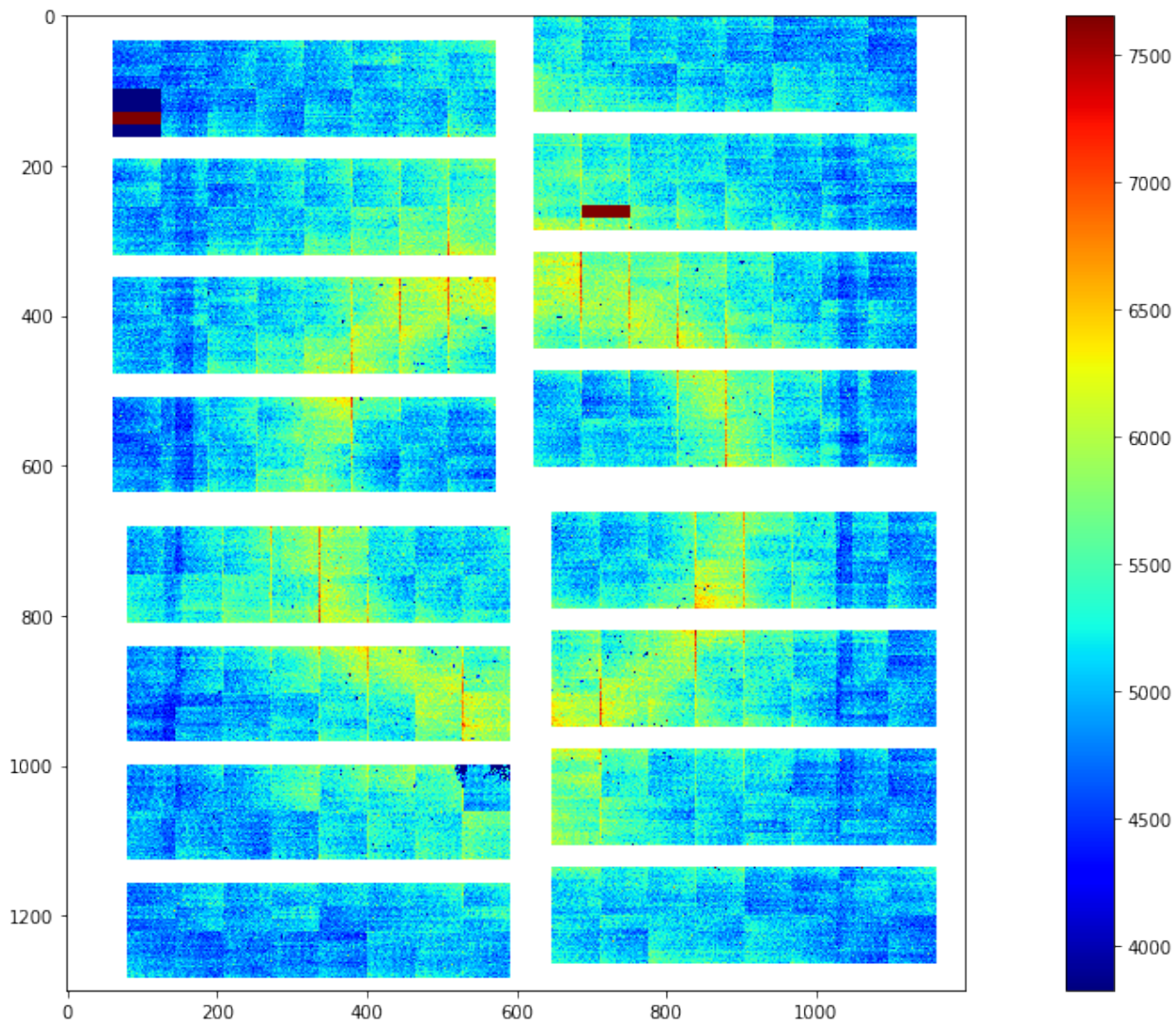






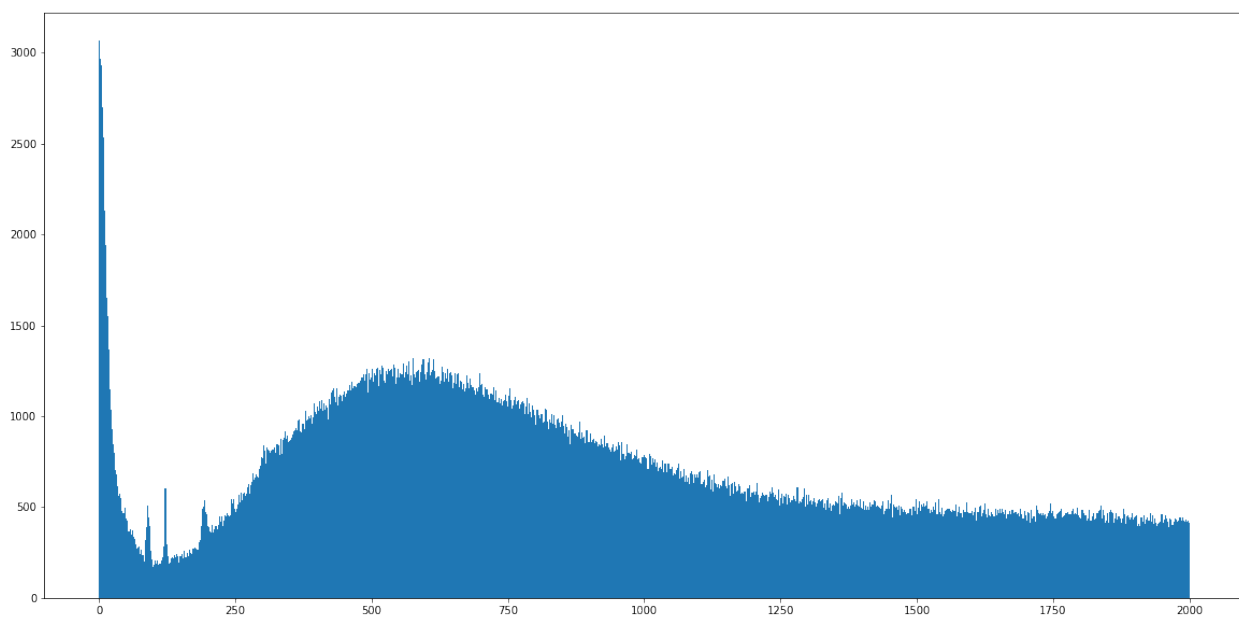
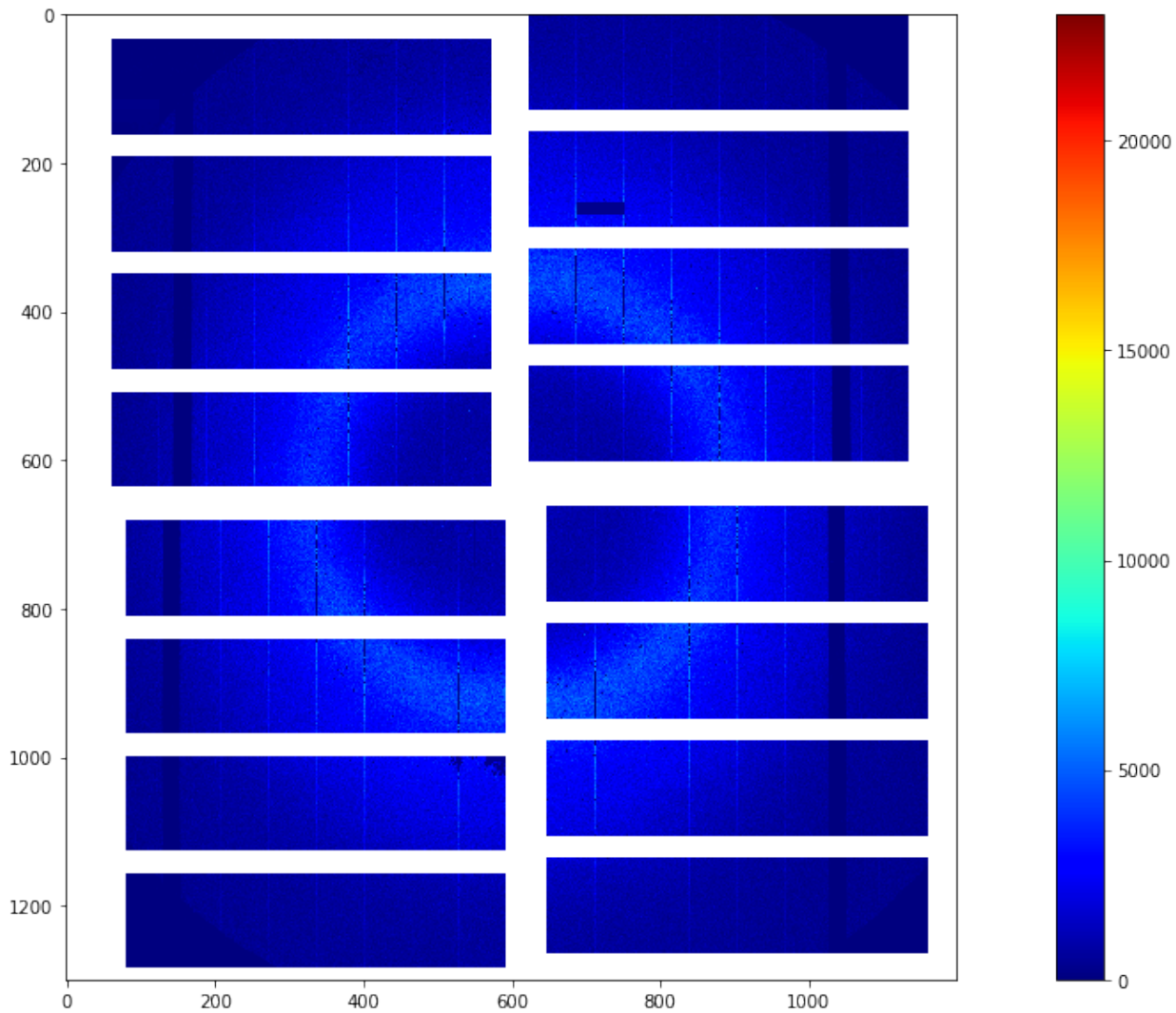
### 5.4.1 Mean RAW Preview

The per pixel mean of the first 128 images of the RAW data



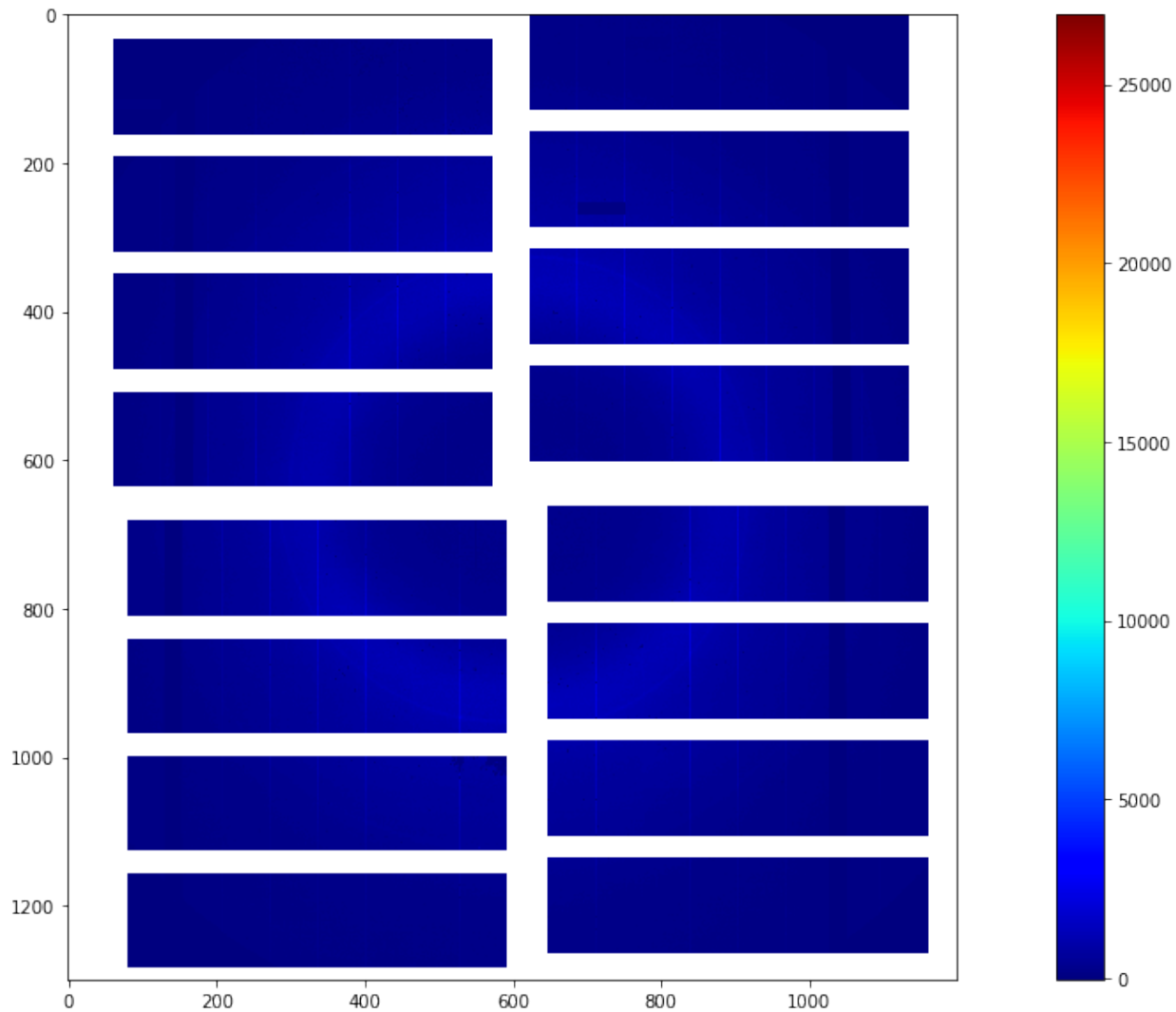
### 5.4.2 Single Shot Preview

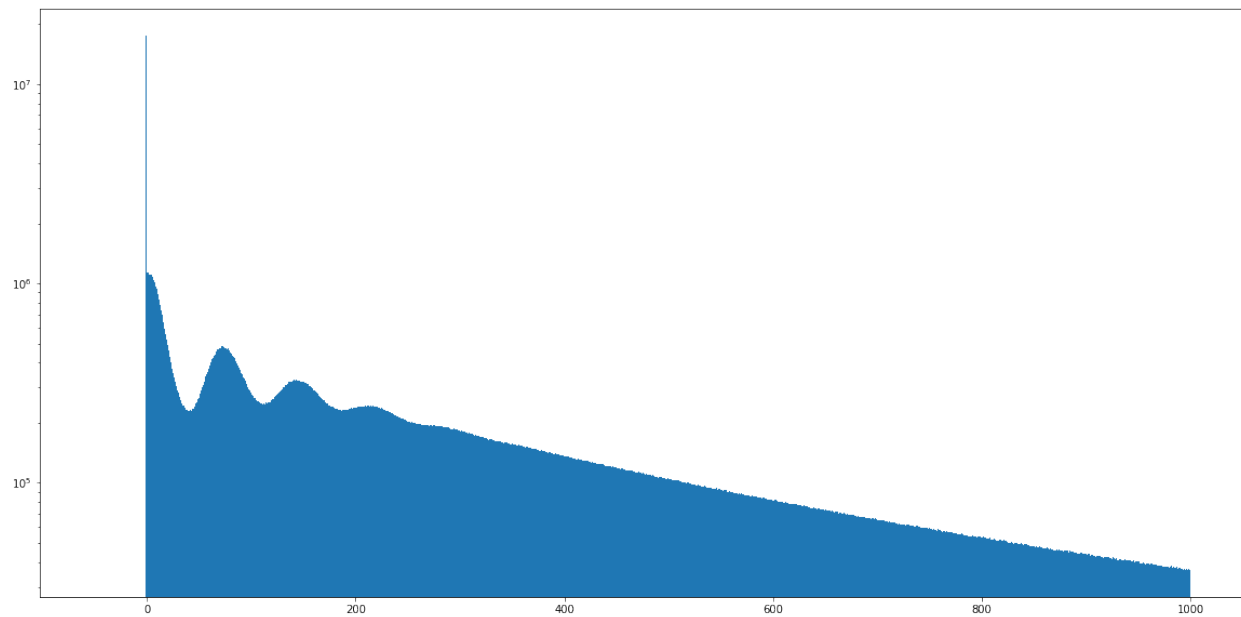
A single shot image from cell 12 of the first train



### 5.4.3 Mean CORRECTED Preview

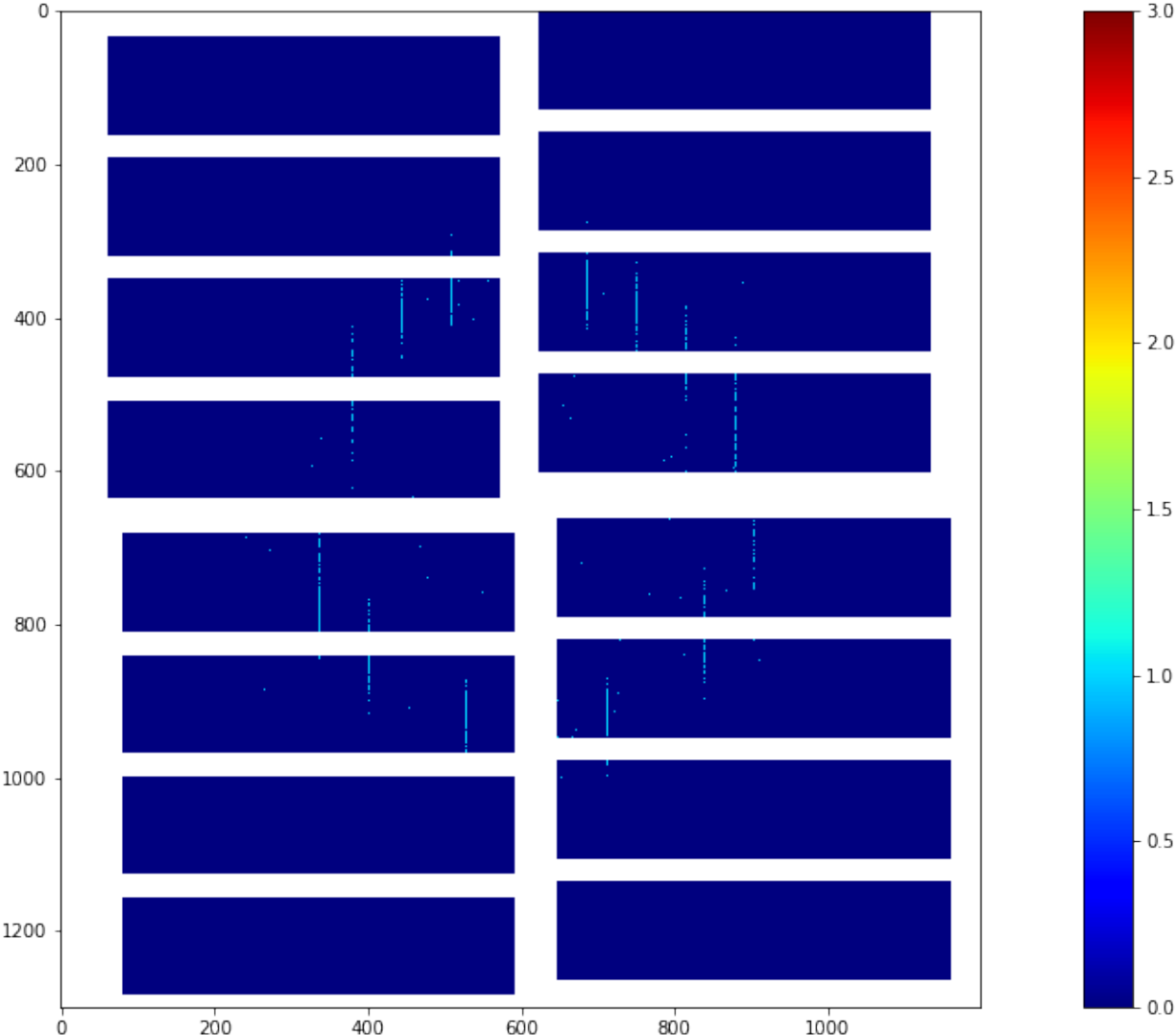
The per pixel mean of the first 128 images of the CORRECTED data





#### 5.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data



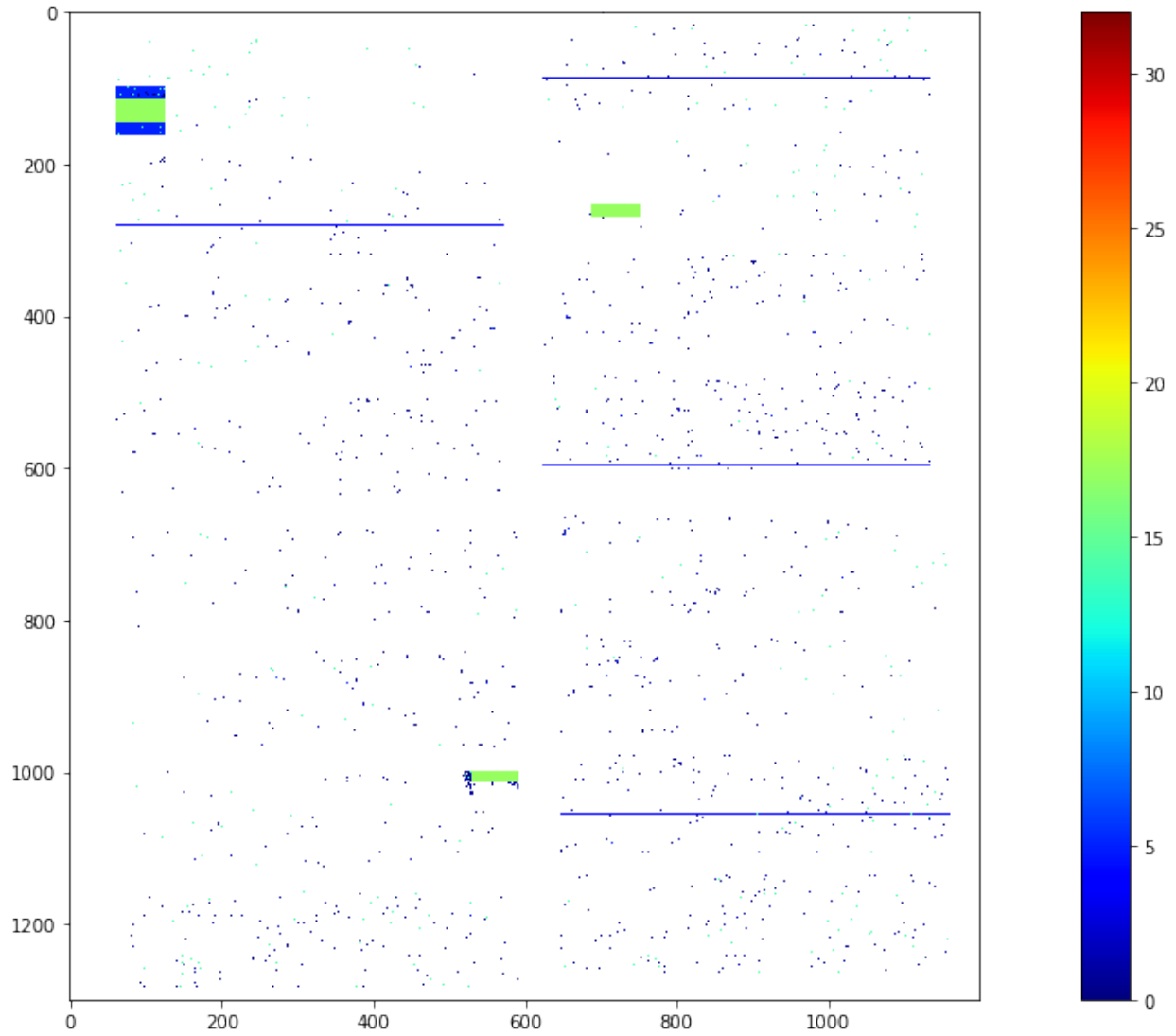
## 5.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

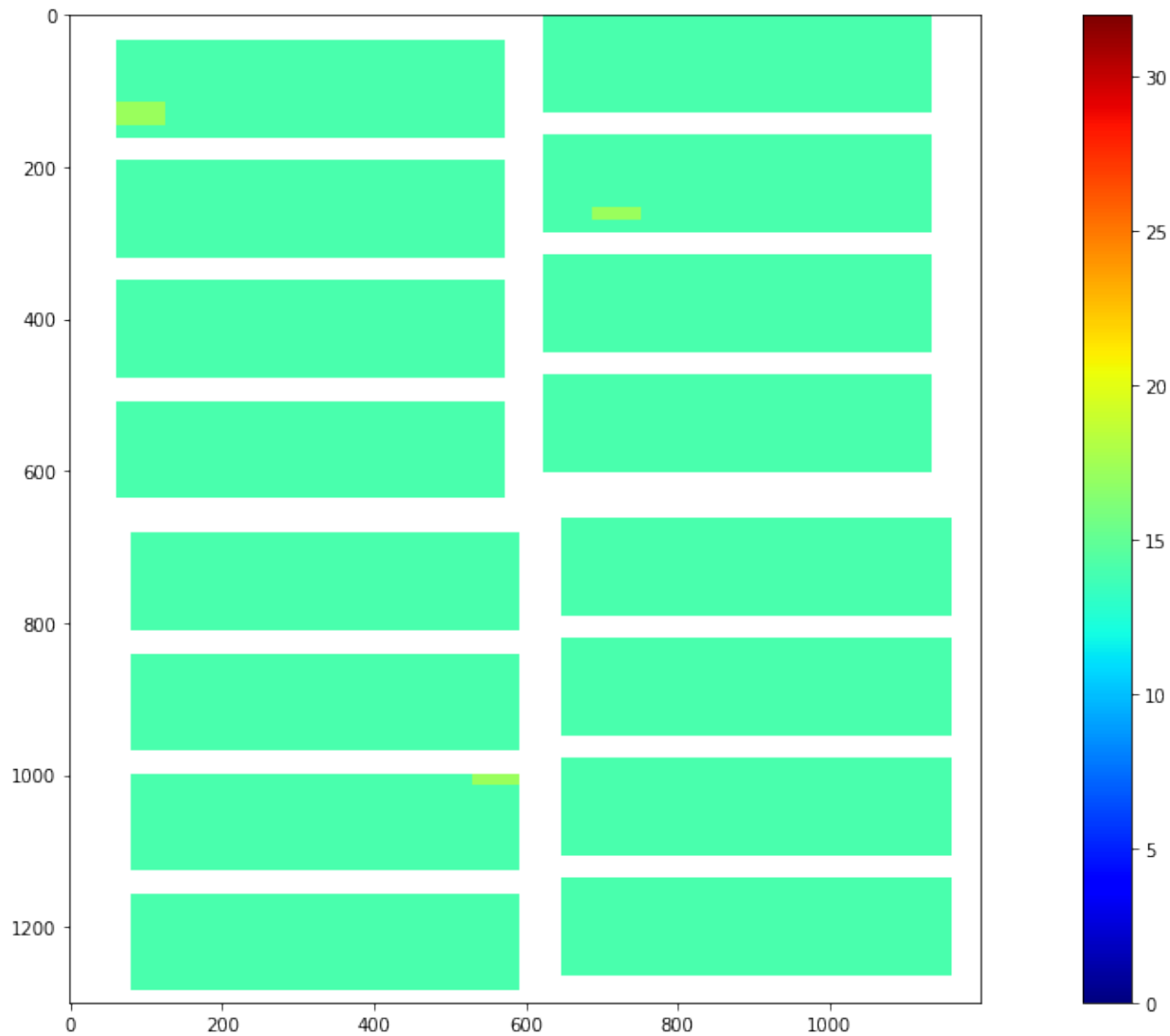
### 5.5.1 Single Shot Bad Pixels

A single shot bad pixel map from cell 4 of the first train

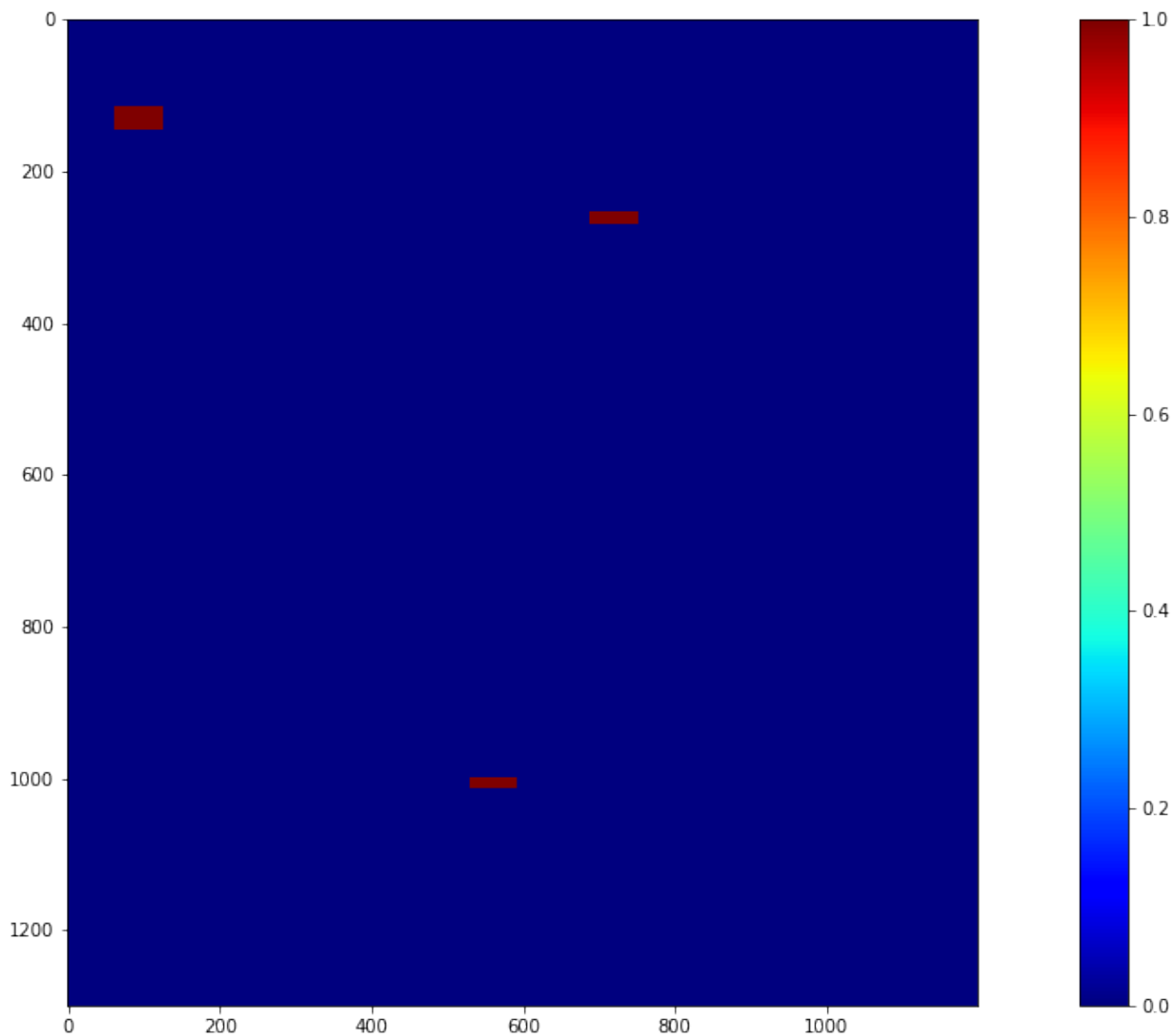


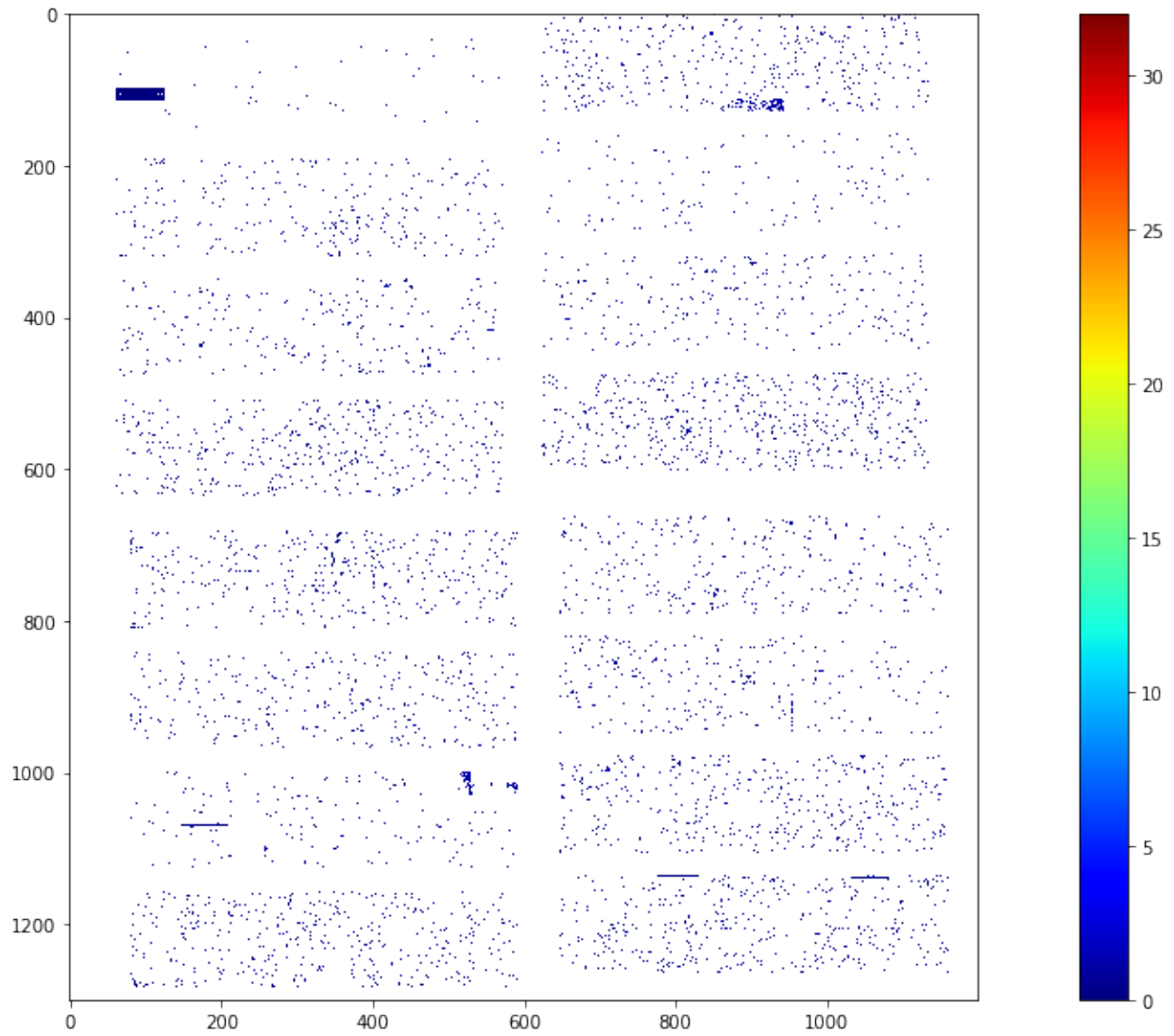


### 5.5.2 Full Train Bad Pixels



### 5.5.3 Full Train Bad Pixels - Only Dark Char. Related





## AGIPD OFFLINE CORRECTION, SEQUENCES = 15-17

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_15-17
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 6.1 Processed Files

```
Processing a total of 48 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00015.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00016.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00017.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00015.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00016.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00017.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00015.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00016.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00017.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00015.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00016.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00017.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00015.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00016.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00017.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00015.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00016.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00017.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00015.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00016.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00017.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00015.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00016.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00017.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00015.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00016.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00017.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00015.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00016.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00017.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00015.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00016.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00017.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00015.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00016.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00017.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00015.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00016.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00017.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00015.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00016.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00017.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00015.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00016.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00017.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00015.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00016.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00017.h5

```
A range of 500 pulse indices is selected: from 0 to 500 with a step of 1
Running 32 tasks parallel
Running 16 tasks parallel
```

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```



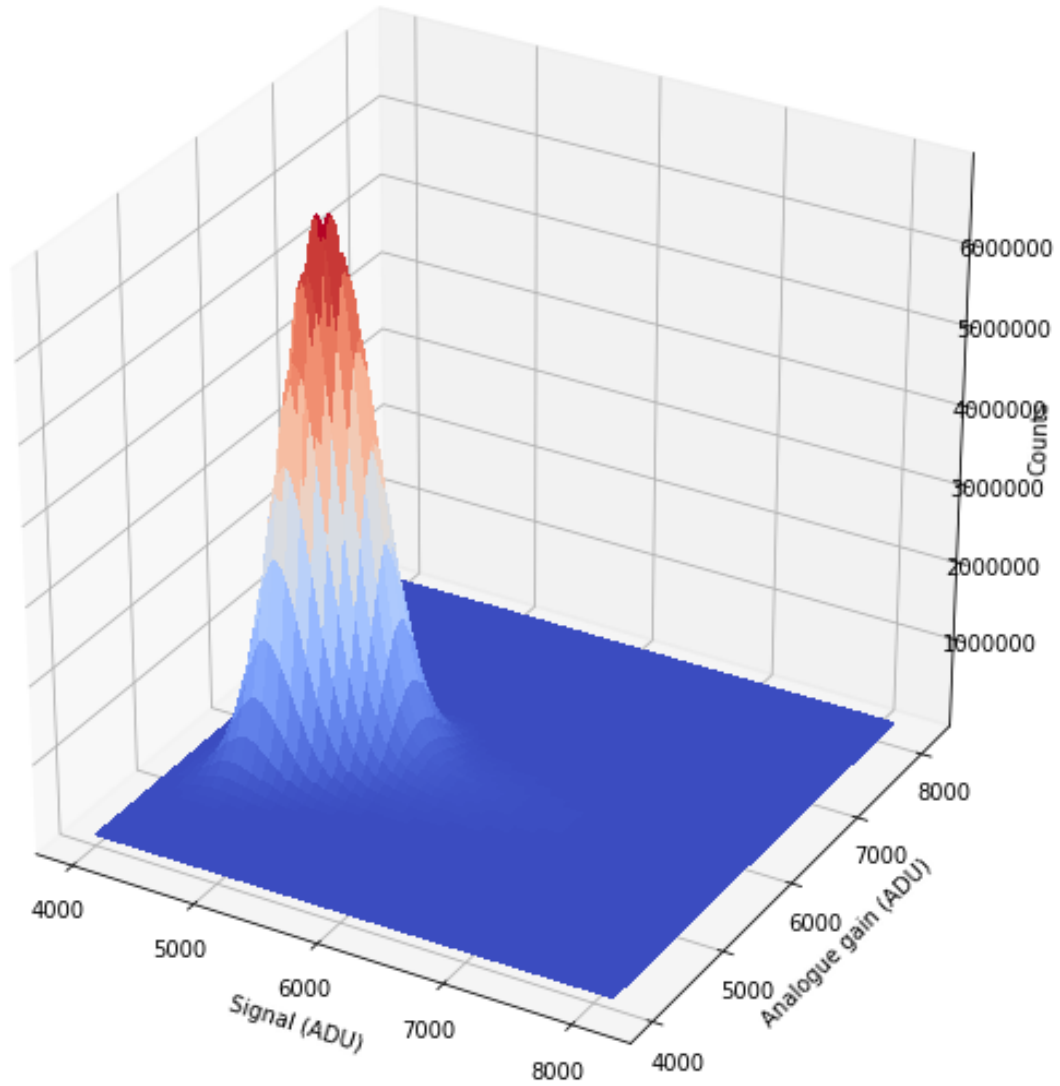
```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

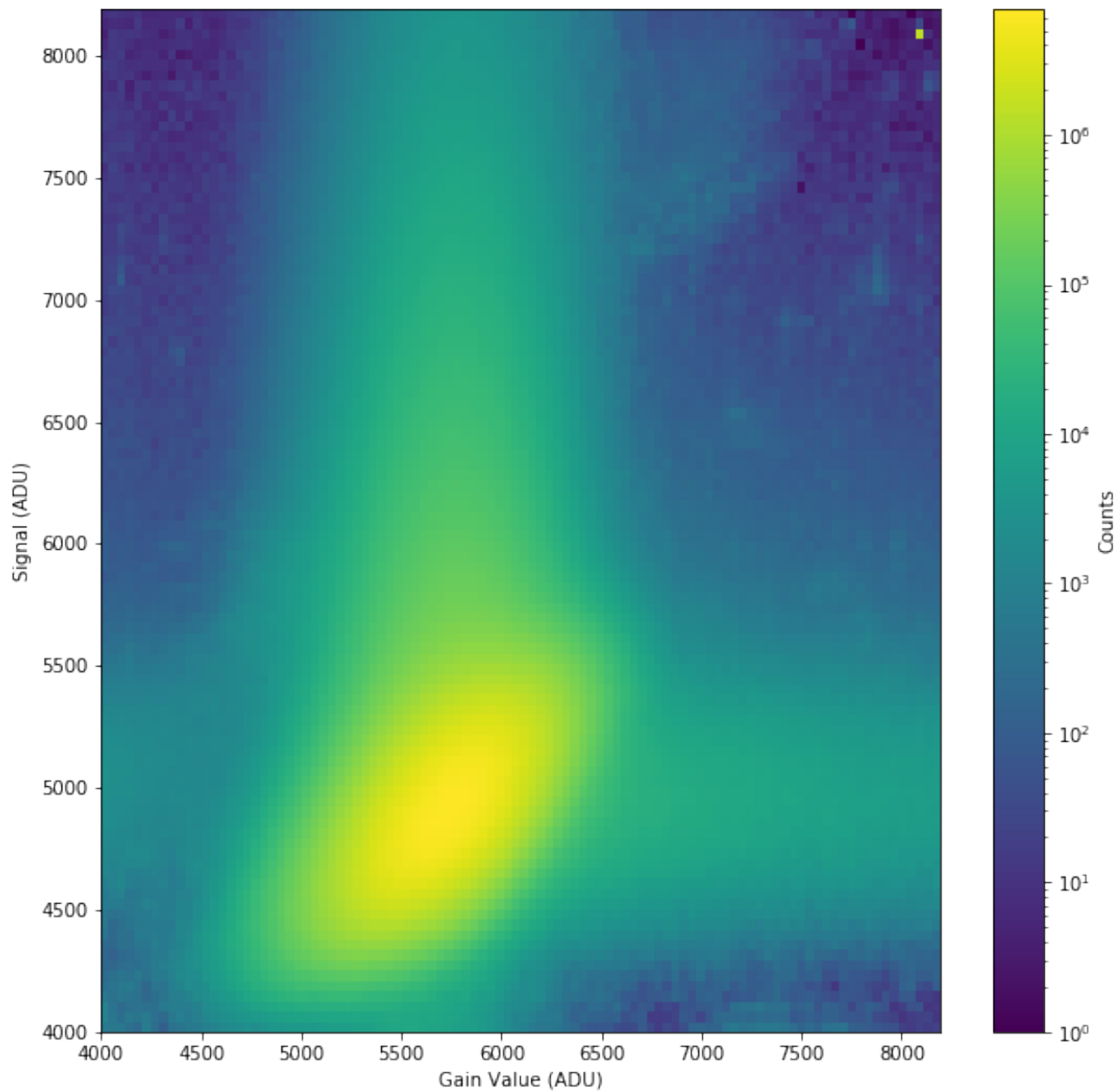
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 6.2 Signal vs. Analogue Gain

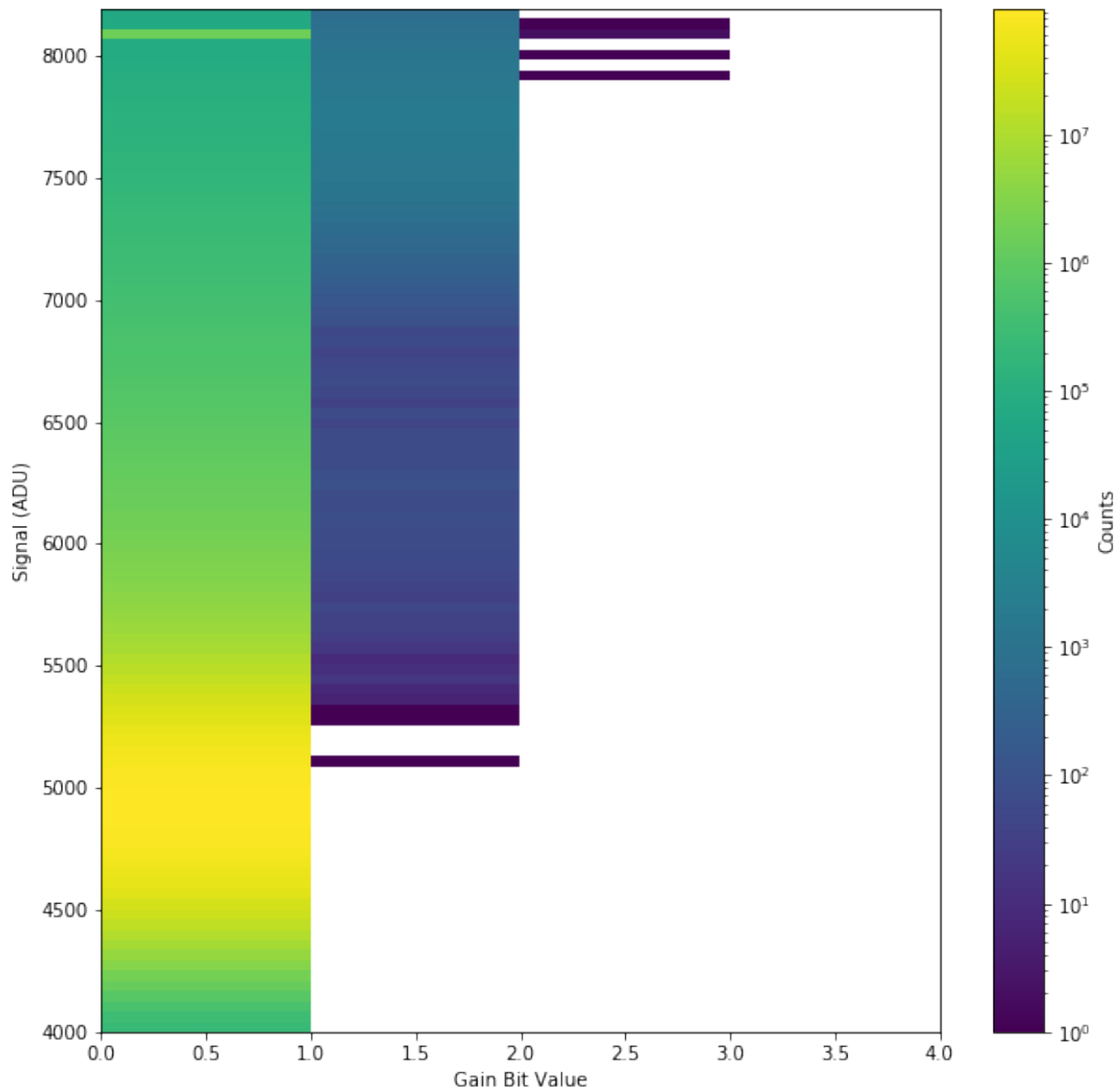
The following plot shows plots signal vs. gain for the first 128 images.

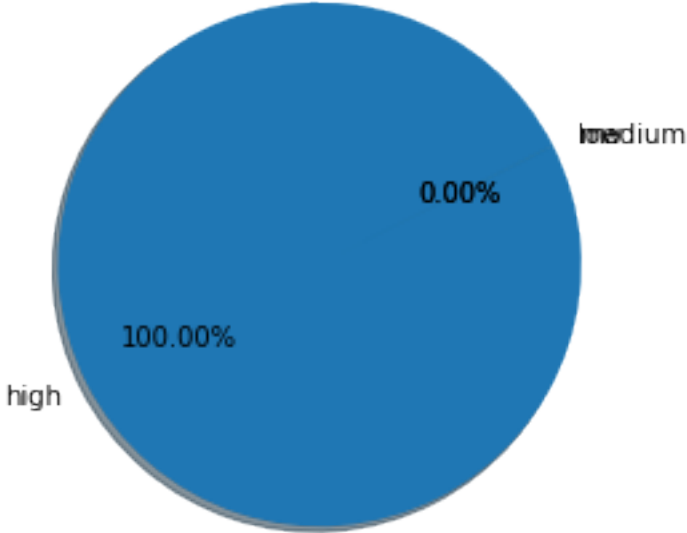




### 6.3 Signal vs. Digitized Gain

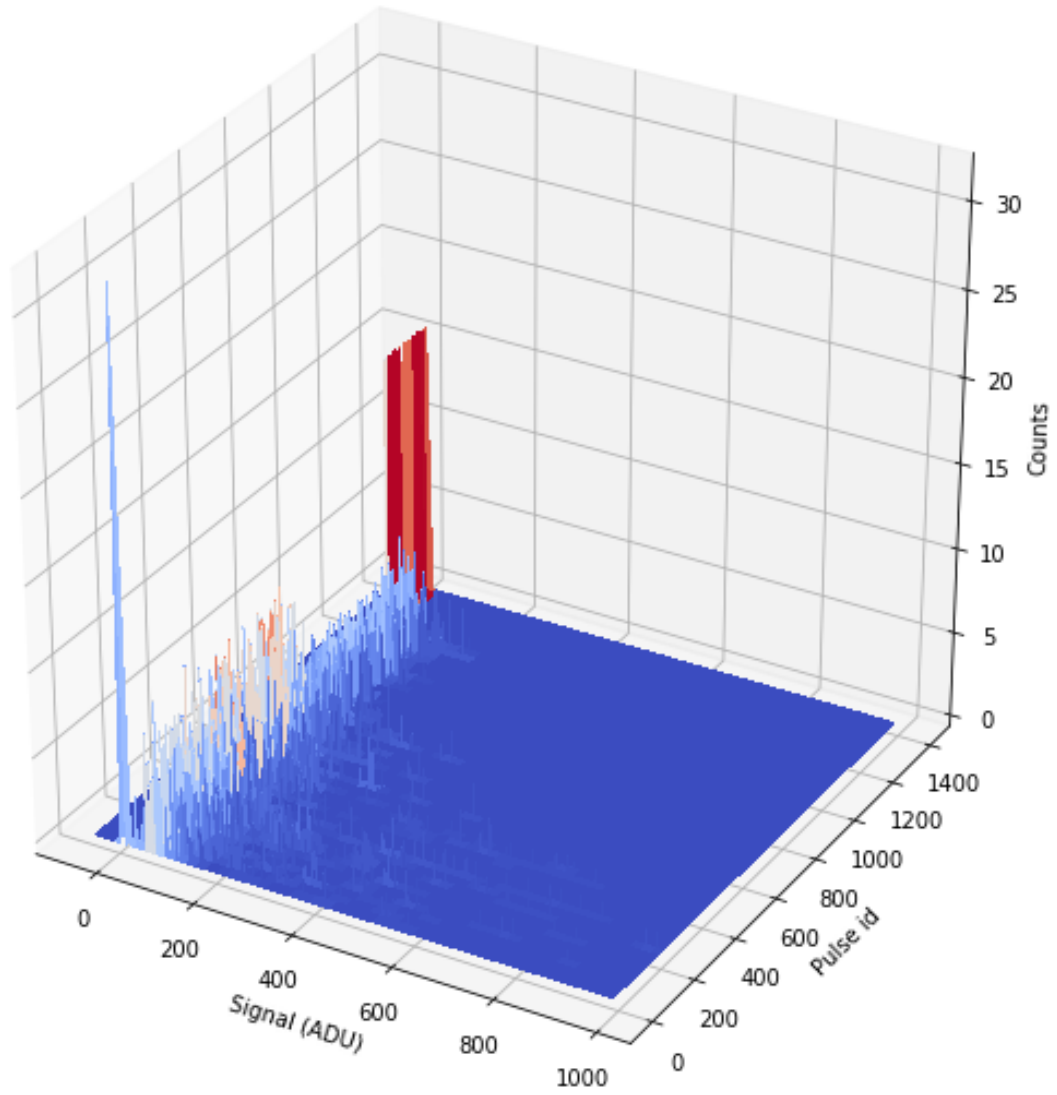
The following plot shows plots signal vs. digitized gain for the first 128 images.



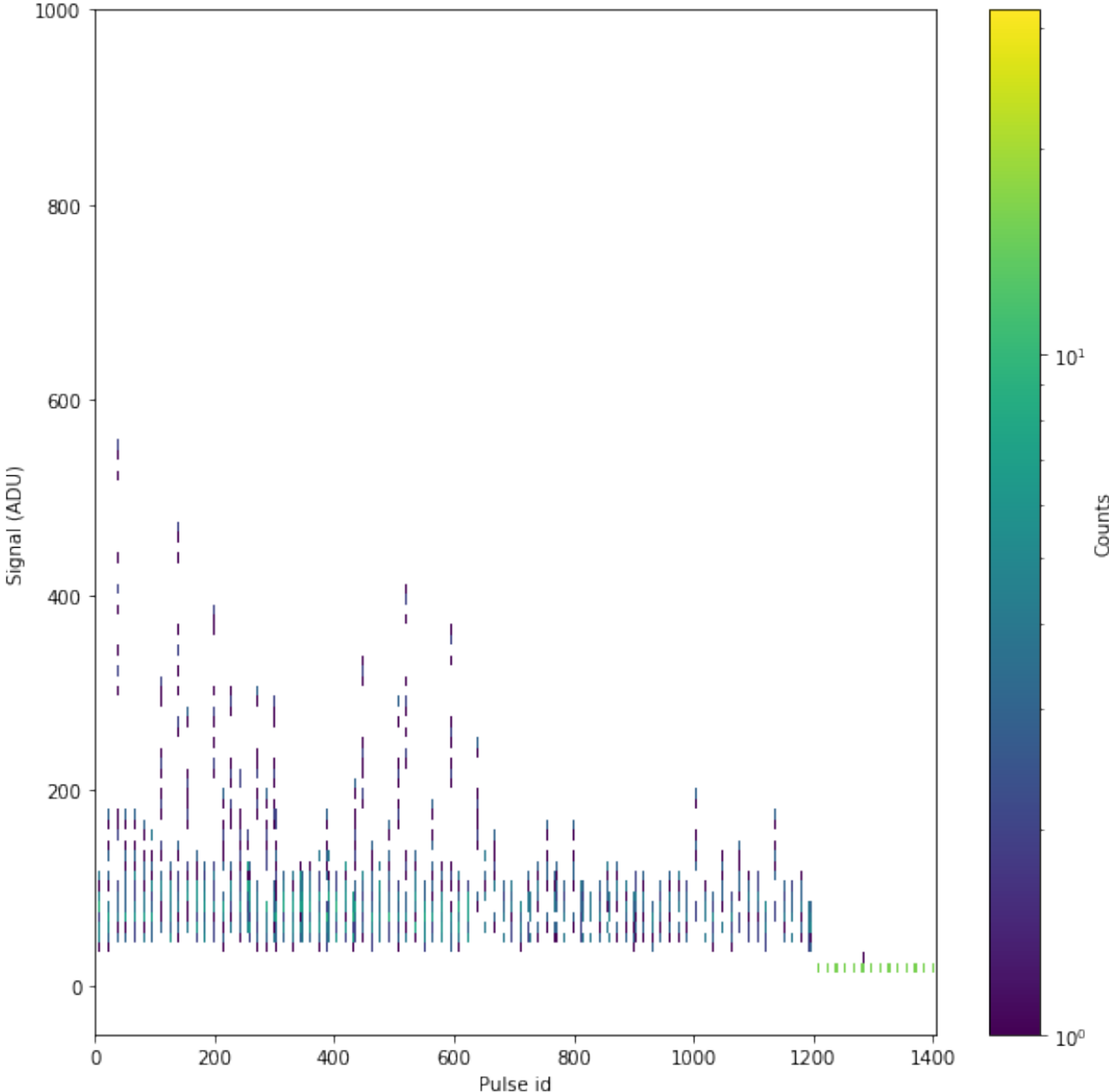


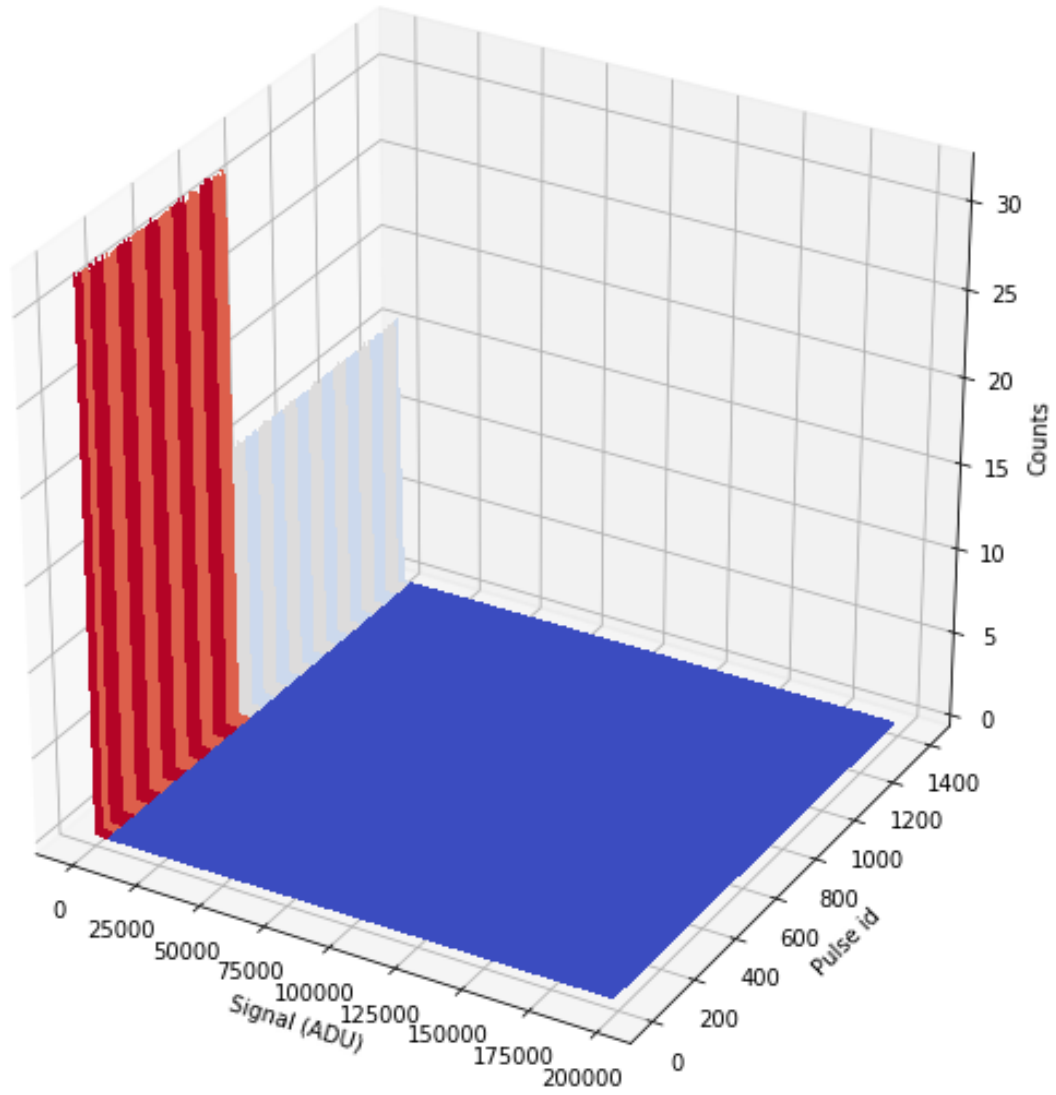
### 6.4 Mean Intensity per Pulse

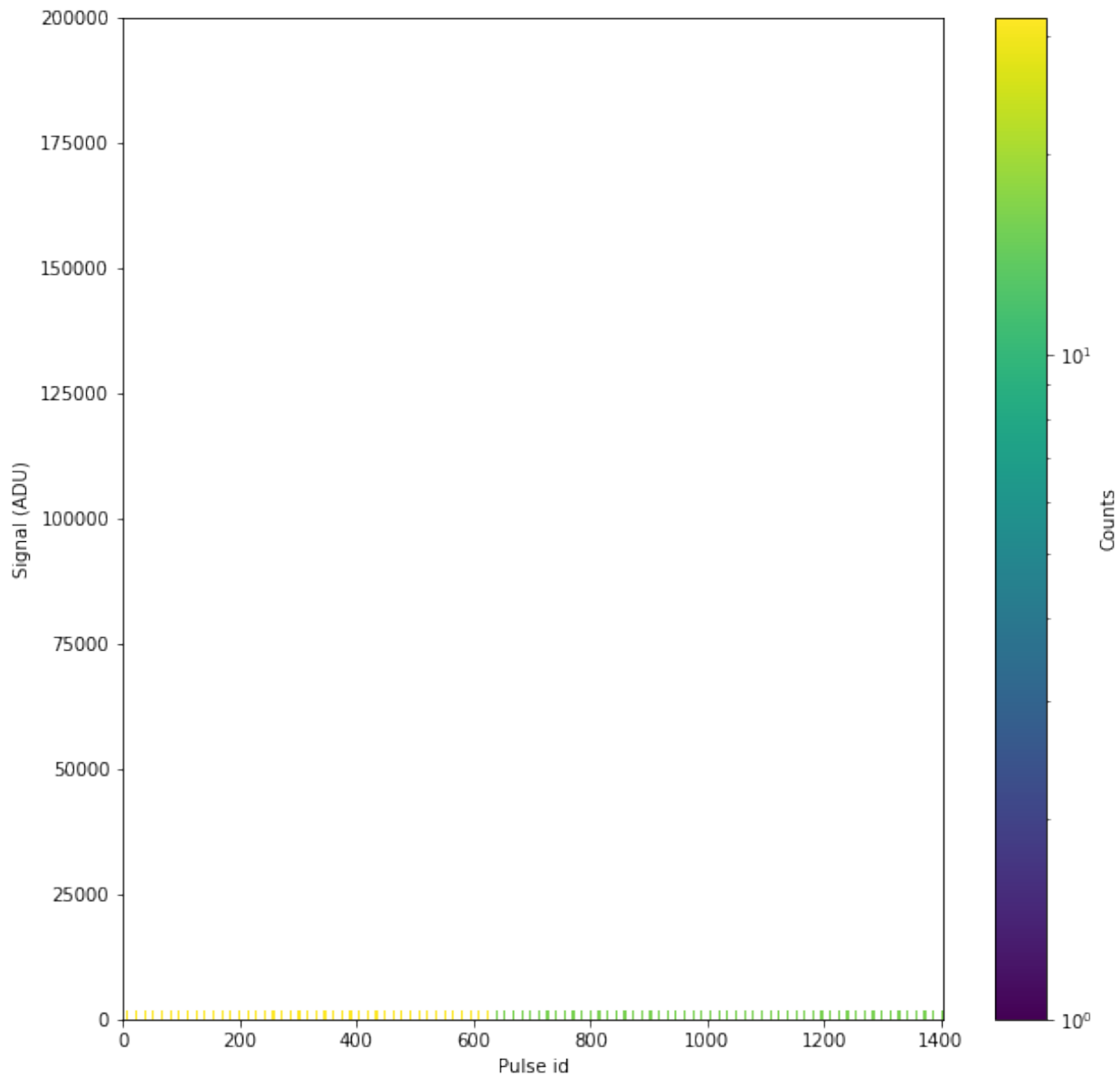
The following plots show the mean signal for each pulse in a detailed and expanded intensity region.





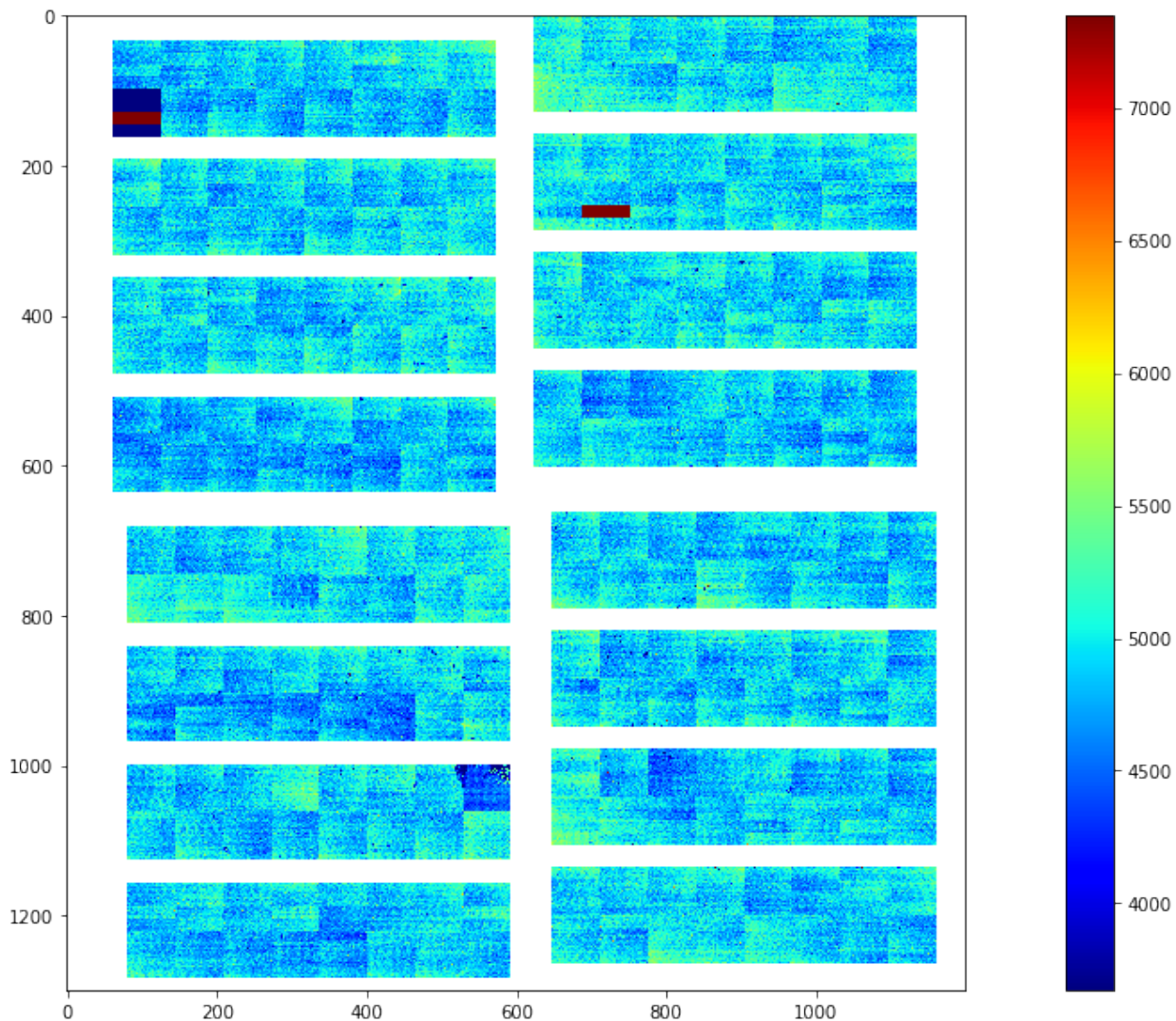






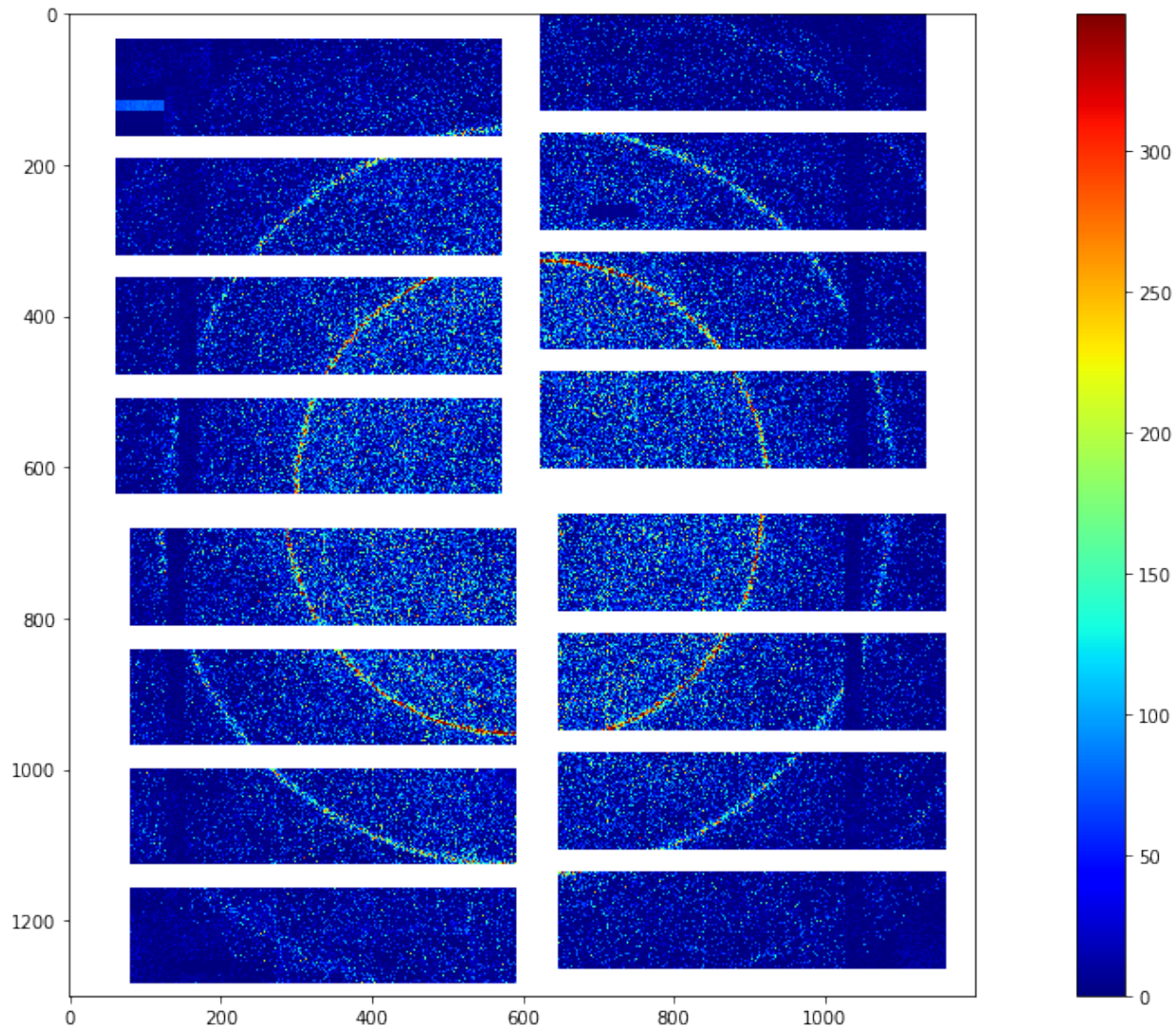
### 6.4.1 Mean RAW Preview

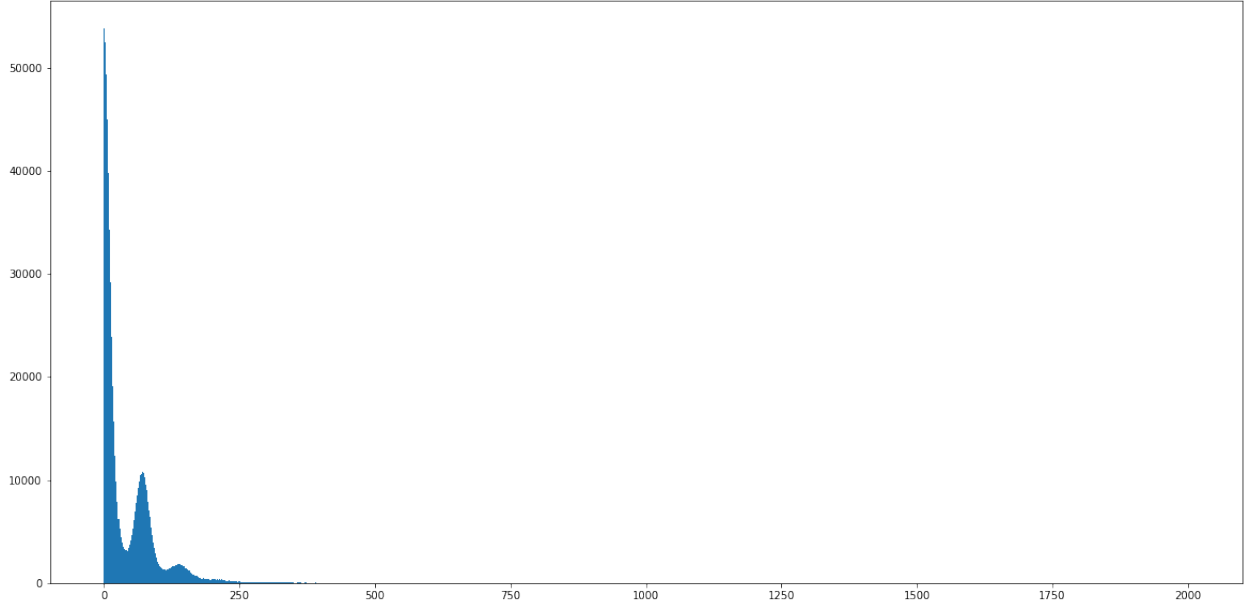
The per pixel mean of the first 128 images of the RAW data



### 6.4.2 Single Shot Preview

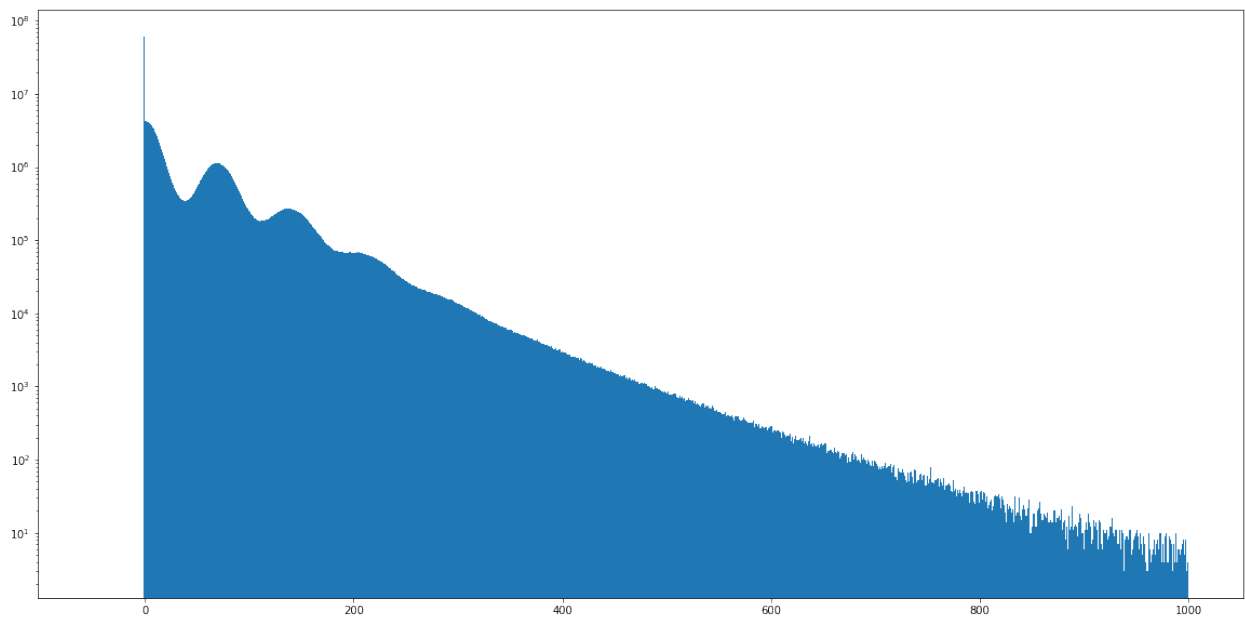
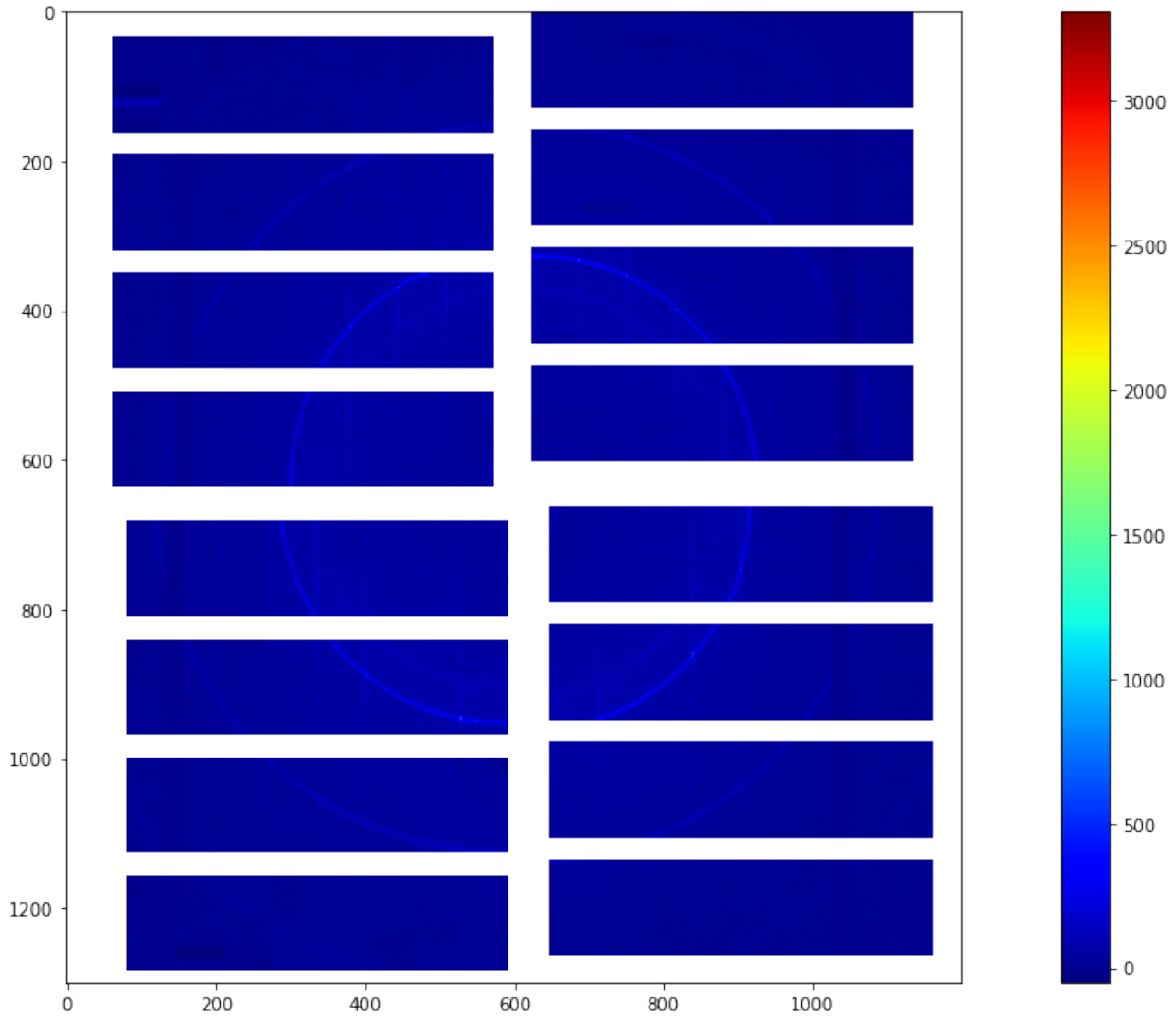
A single shot image from cell 12 of the first train





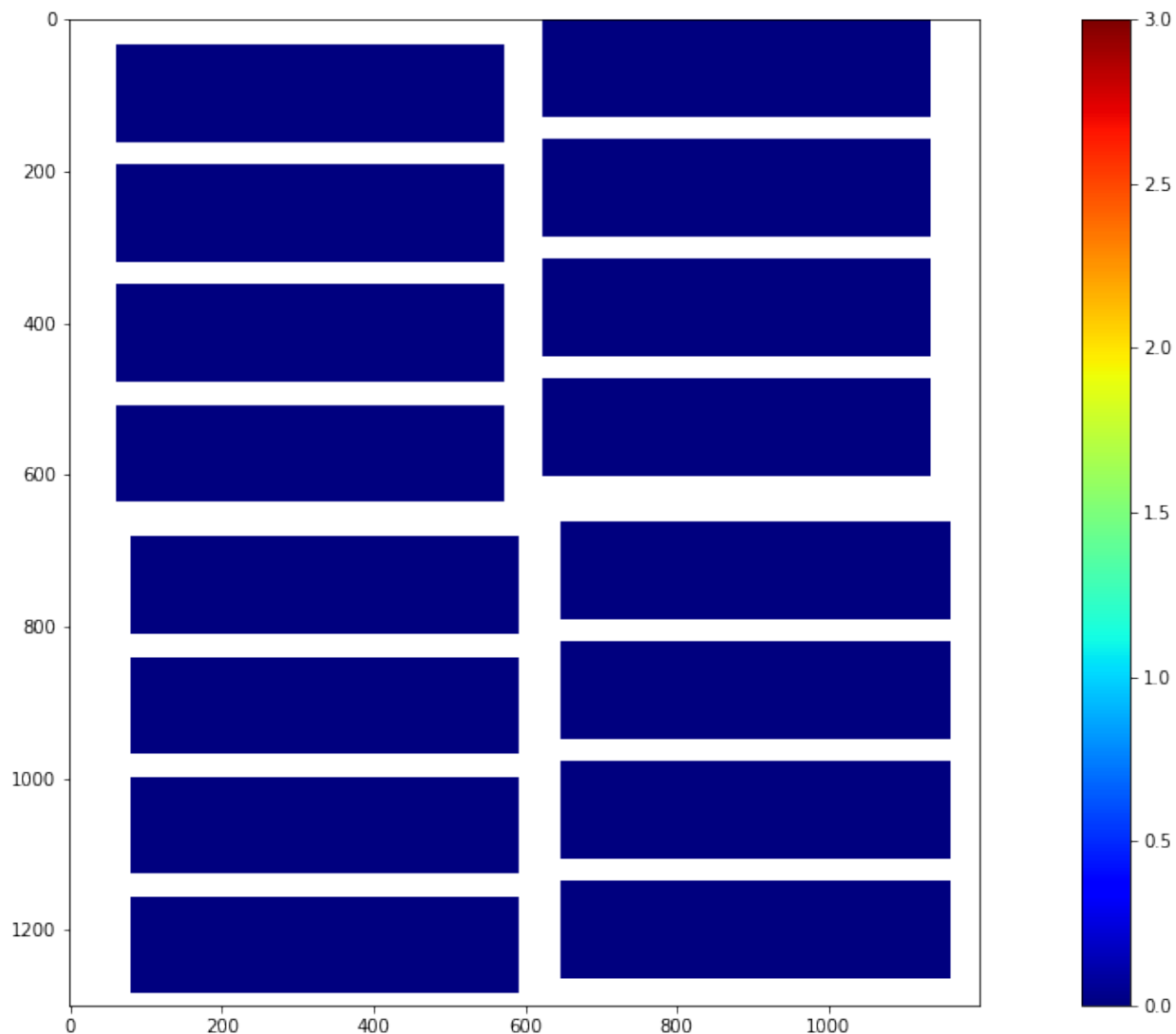
### 6.4.3 Mean CORRECTED Preview

The per pixel mean of the first 128 images of the CORRECTED data



### 6.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data





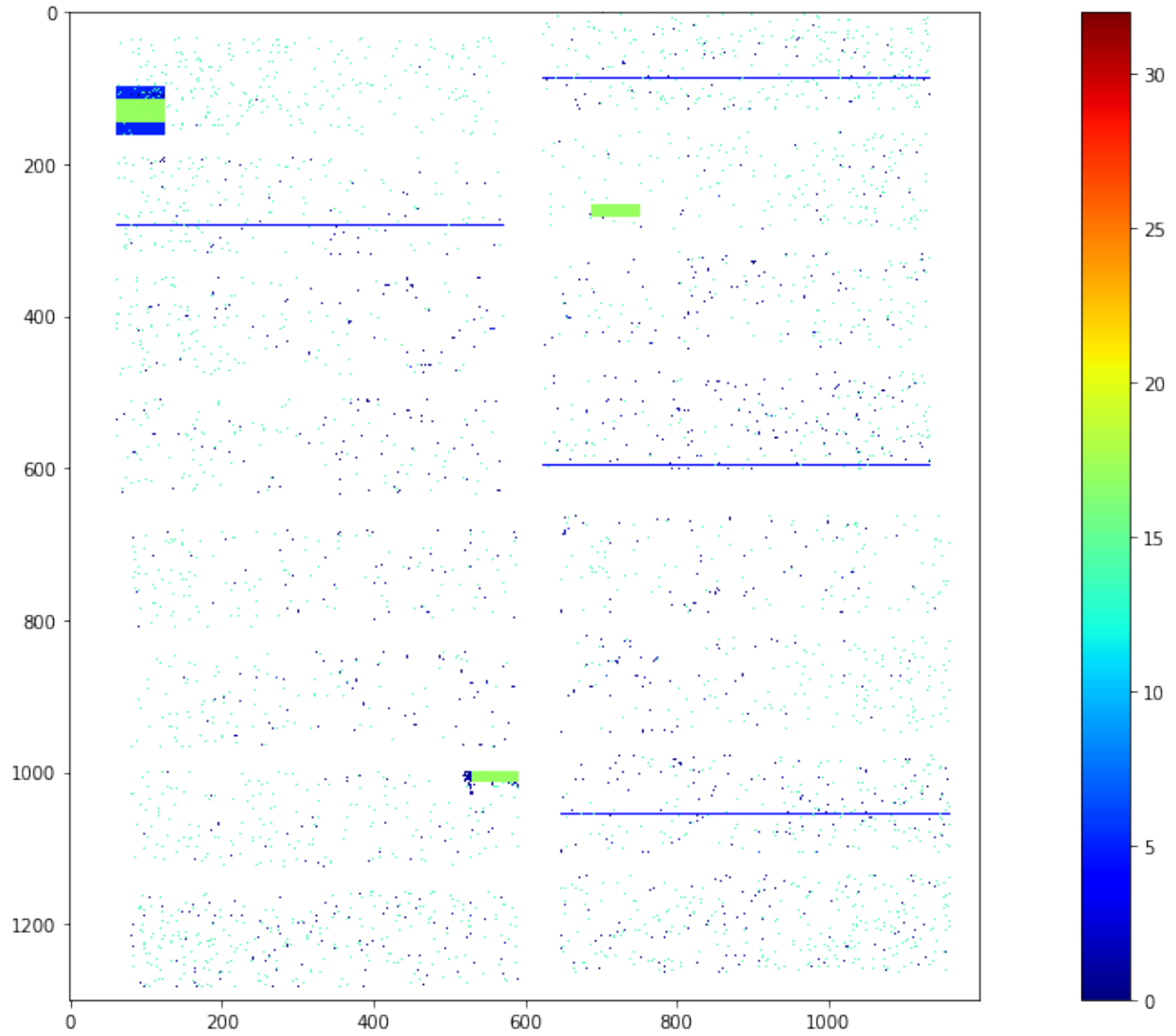
## 6.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

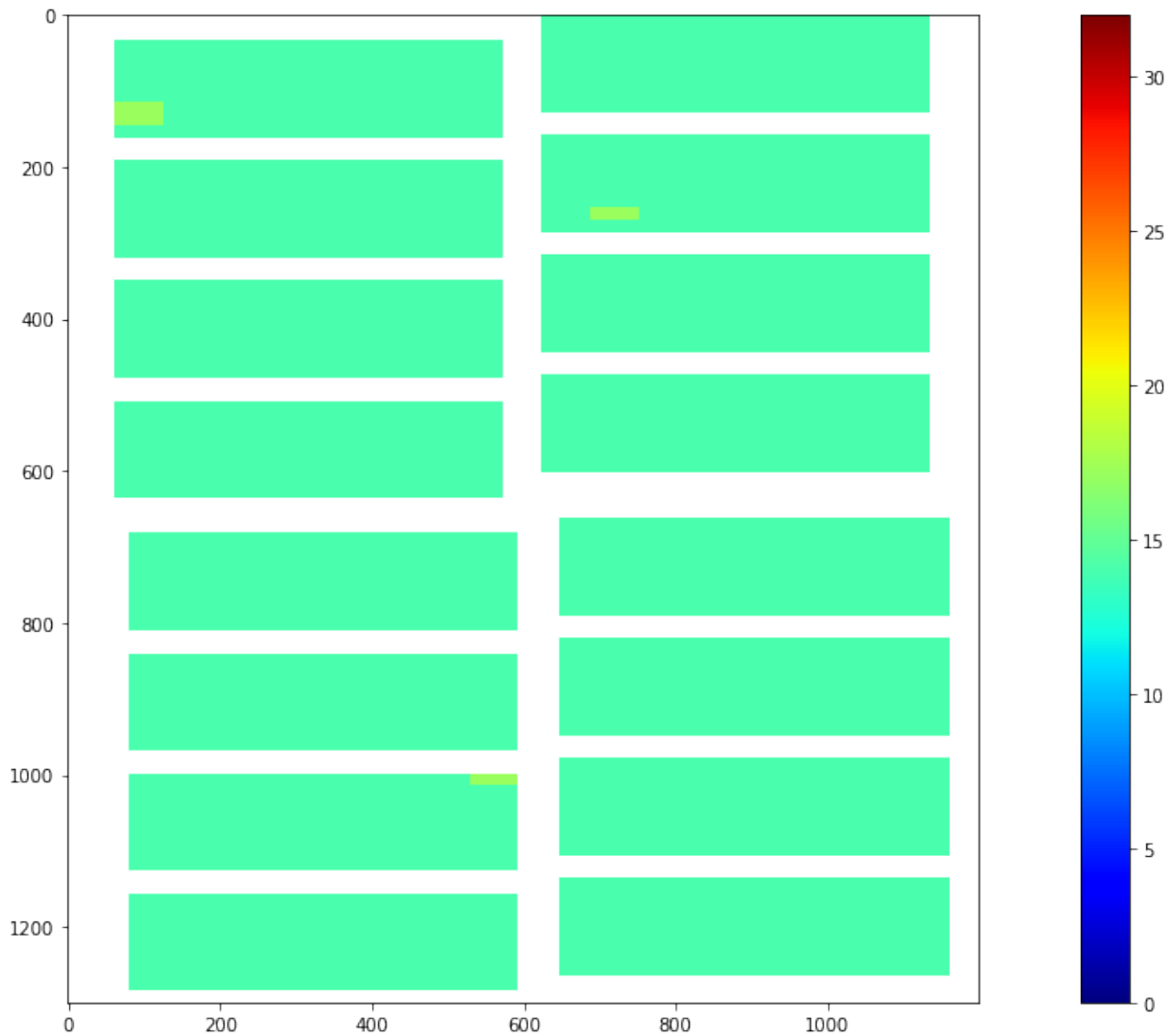
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 6.5.1 Single Shot Bad Pixels

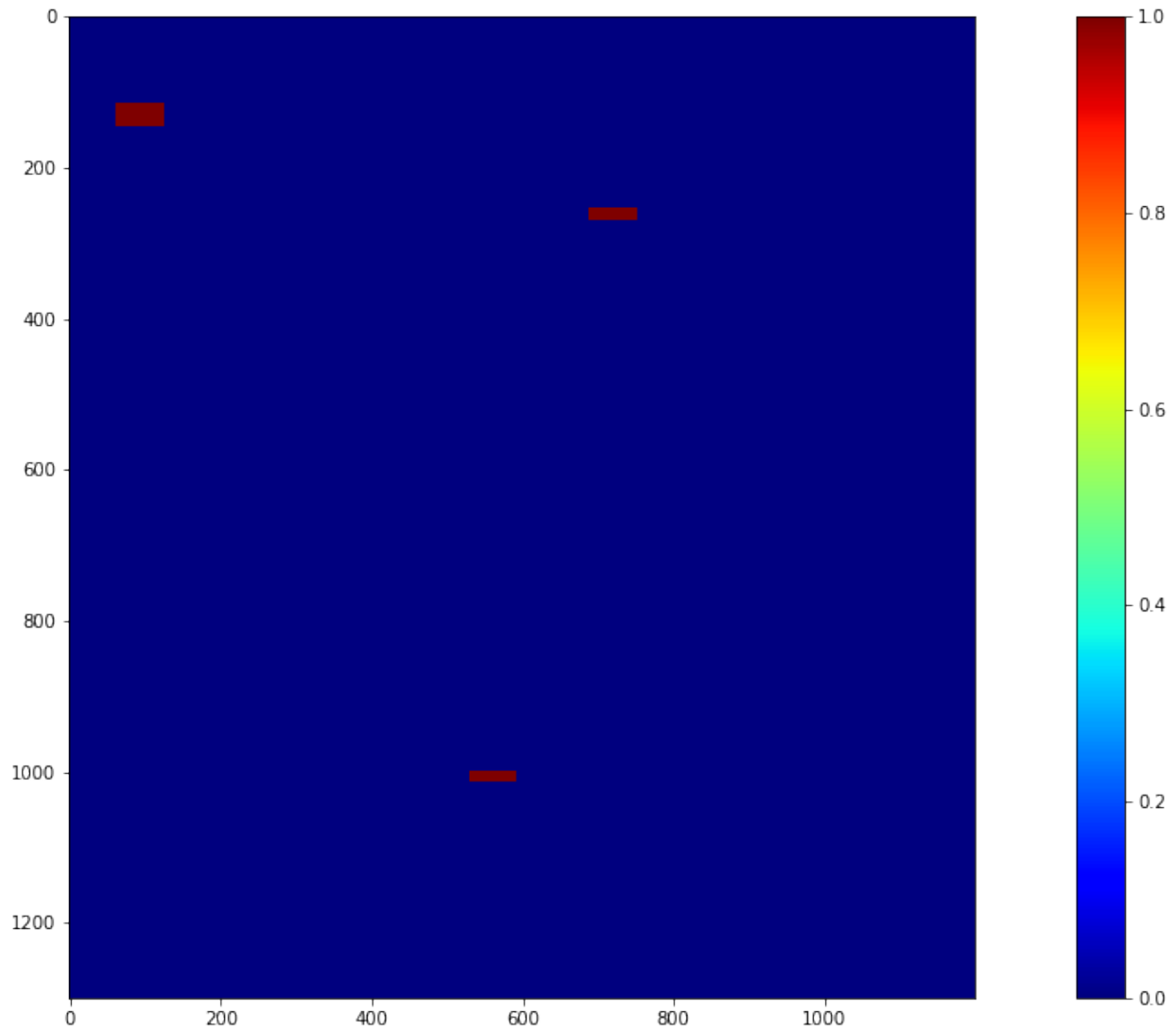
A single shot bad pixel map from cell 4 of the first train

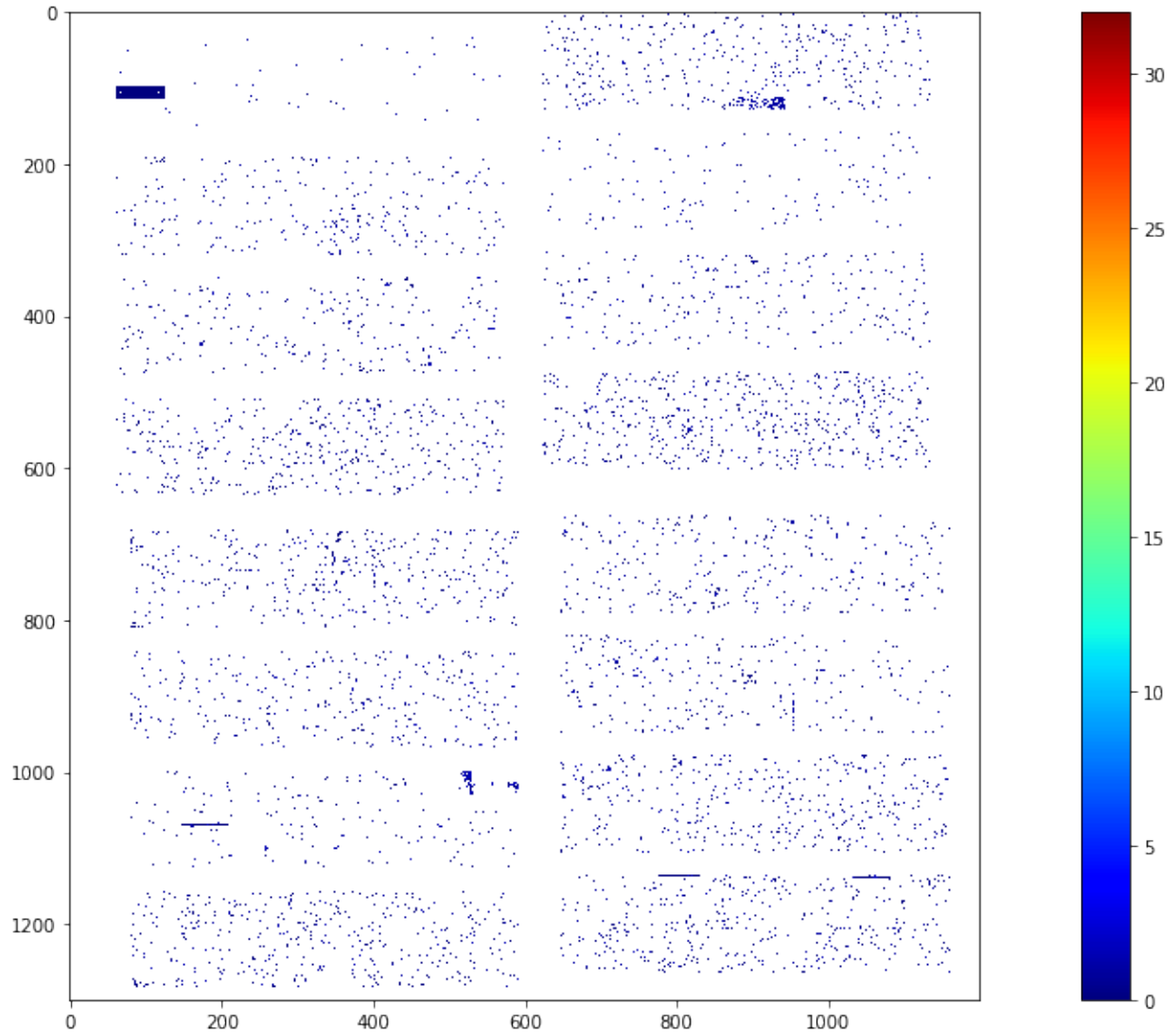


### 6.5.2 Full Train Bad Pixels



### 6.5.3 Full Train Bad Pixels - Only Dark Char. Related





## AGIPD OFFLINE CORRECTION, SEQUENCES = 18-20

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_18-20
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 7.1 Processed Files

```
Processing a total of 48 sequence files in chunks of 32
```

#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00018.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00019.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00020.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00018.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00019.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00020.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00018.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00019.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00020.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00018.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00019.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00020.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00018.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00019.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00020.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00018.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00019.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00020.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00018.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00019.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00020.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00018.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00019.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00020.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00018.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00019.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00020.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00018.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00019.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00020.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00018.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00019.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00020.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00018.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00019.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00020.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00018.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00019.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00020.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00018.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00019.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00020.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00018.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00019.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00020.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00018.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00019.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00020.h5

```
A range of 500 pulse indices is selected: from 0 to 500 with a step of 1
Running 32 tasks parallel
Running 16 tasks parallel
```

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```



```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```

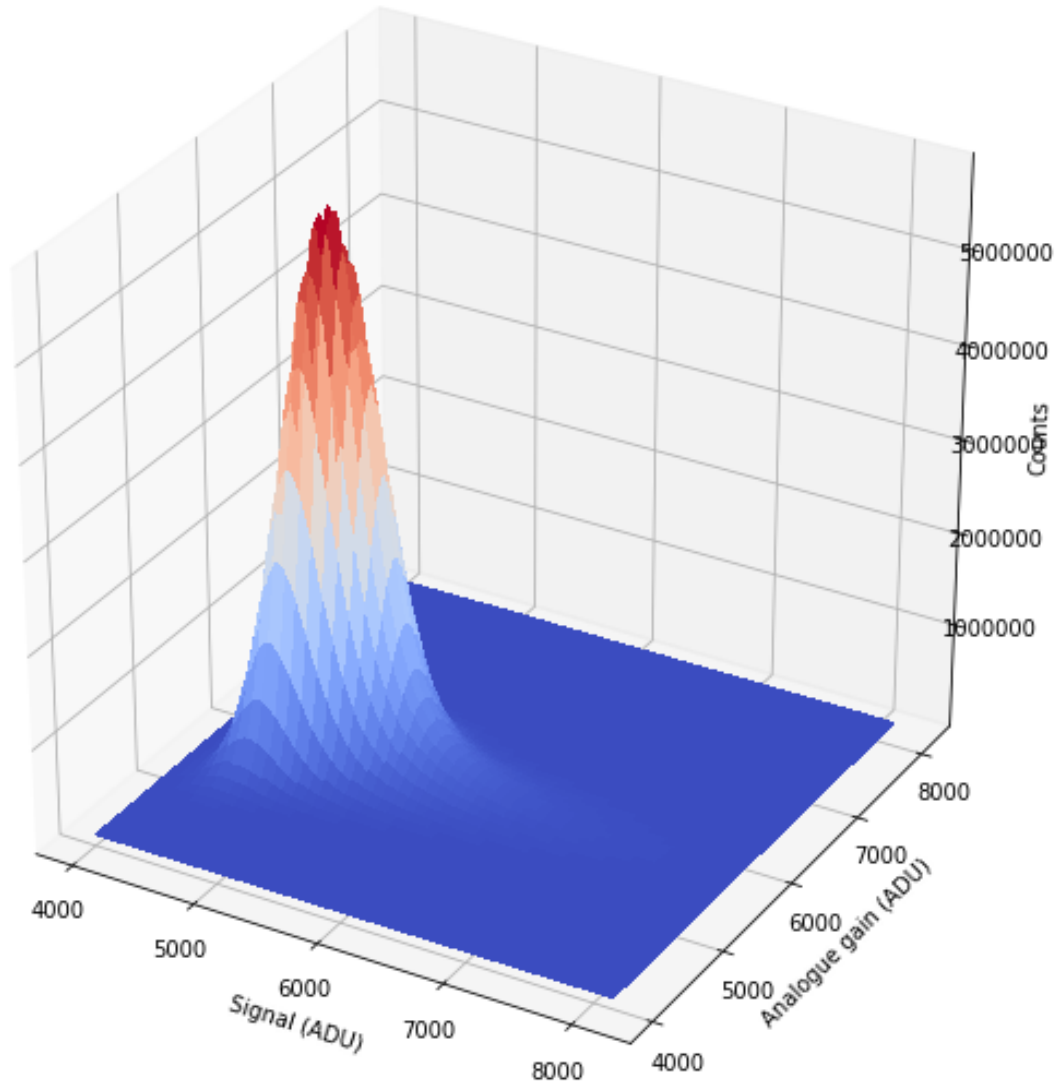
```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

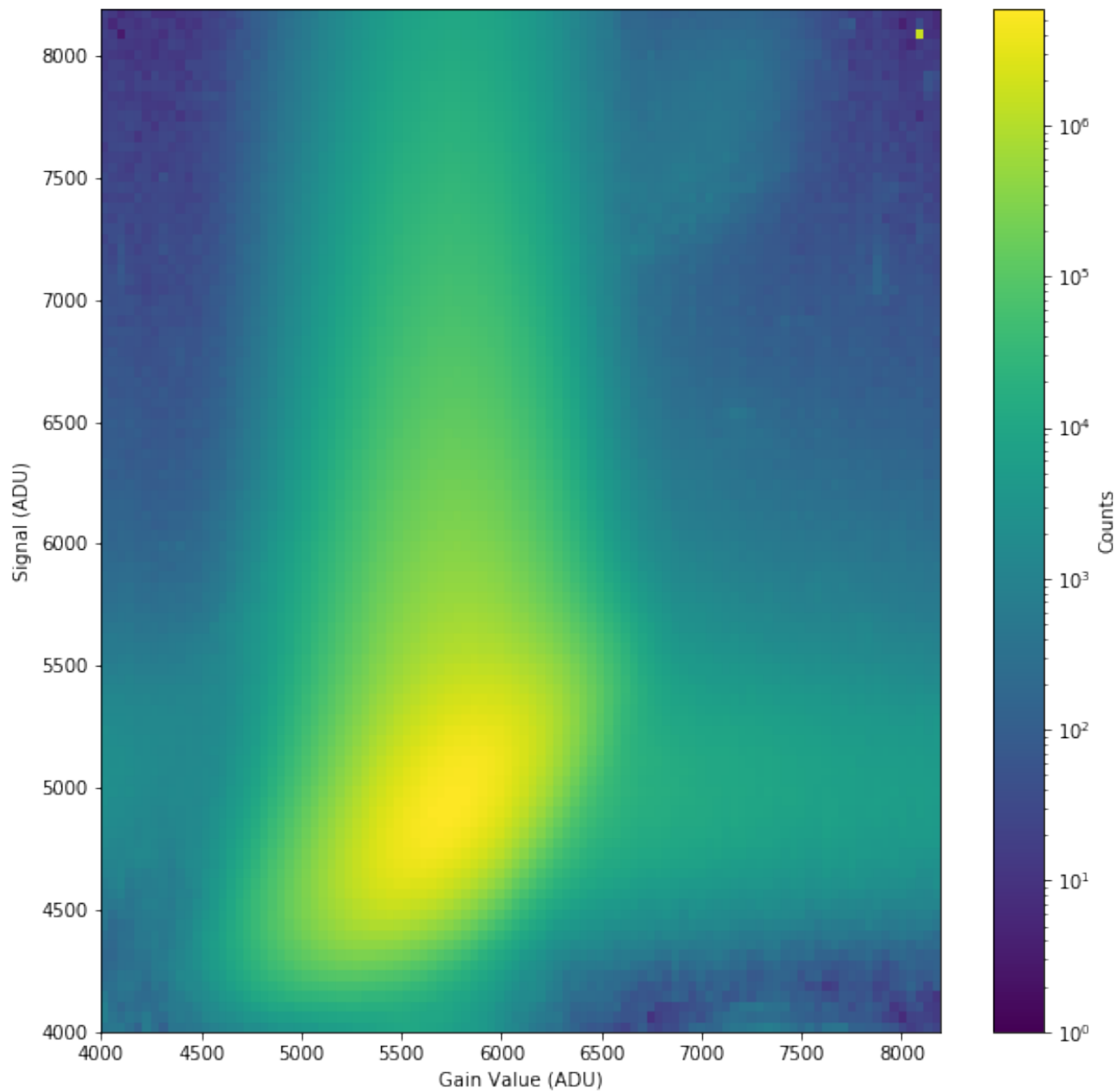
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 7.2 Signal vs. Analogue Gain

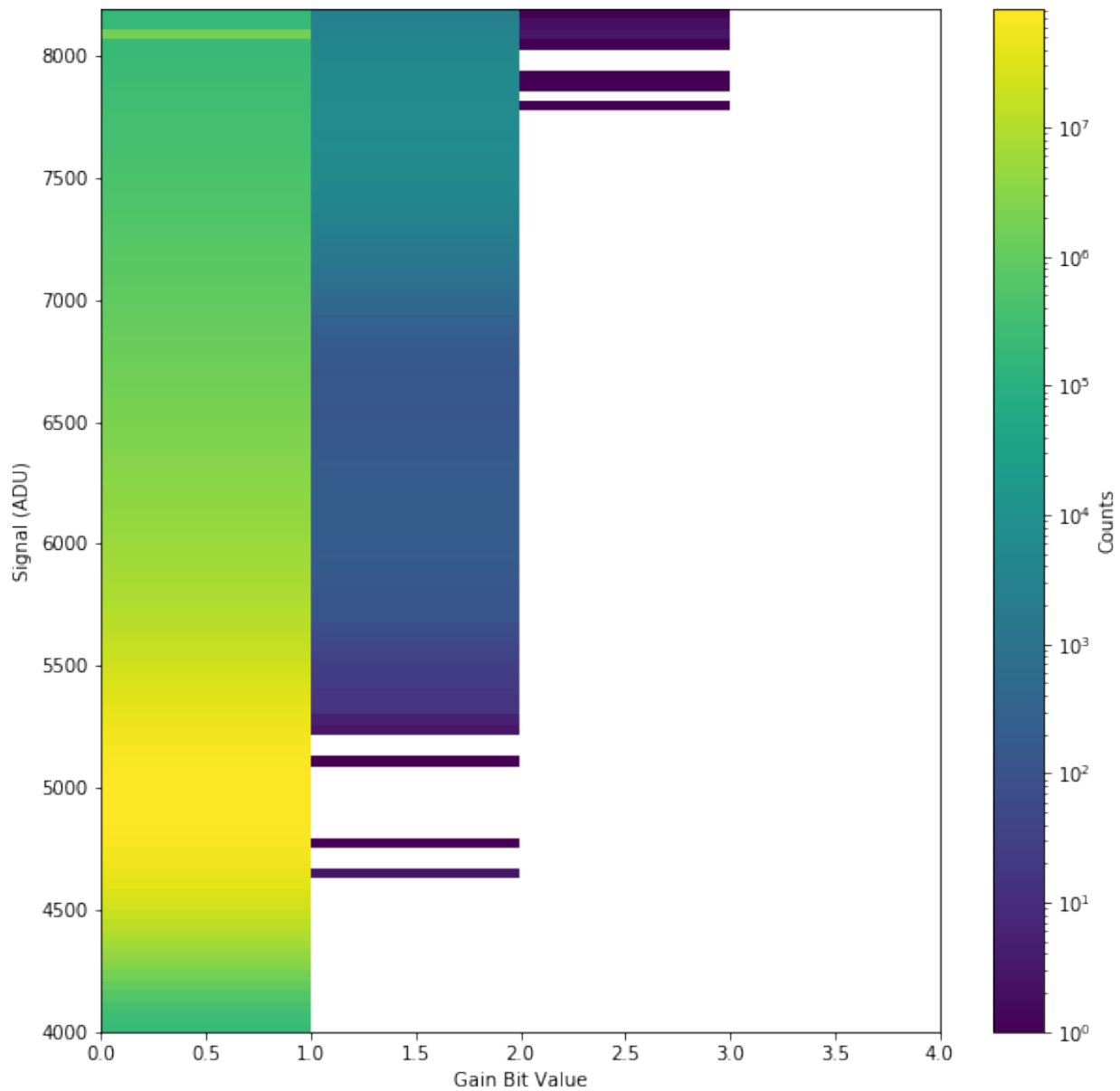
The following plot shows plots signal vs. gain for the first 128 images.



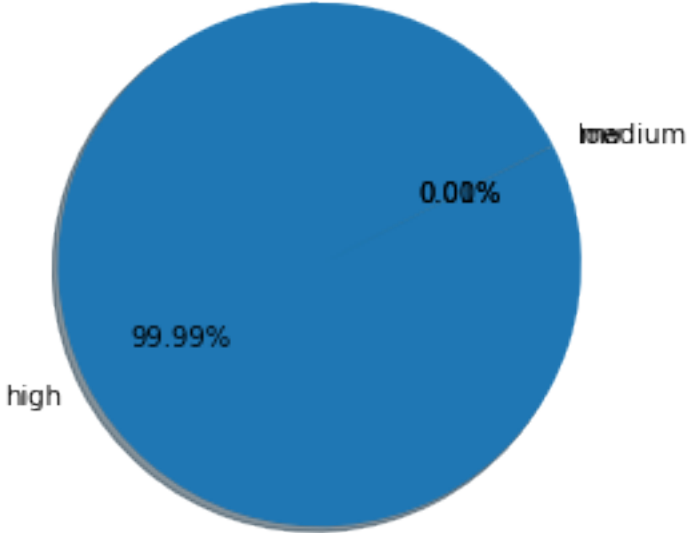


### 7.3 Signal vs. Digitized Gain

The following plot shows plots signal vs. digitized gain for the first 128 images.

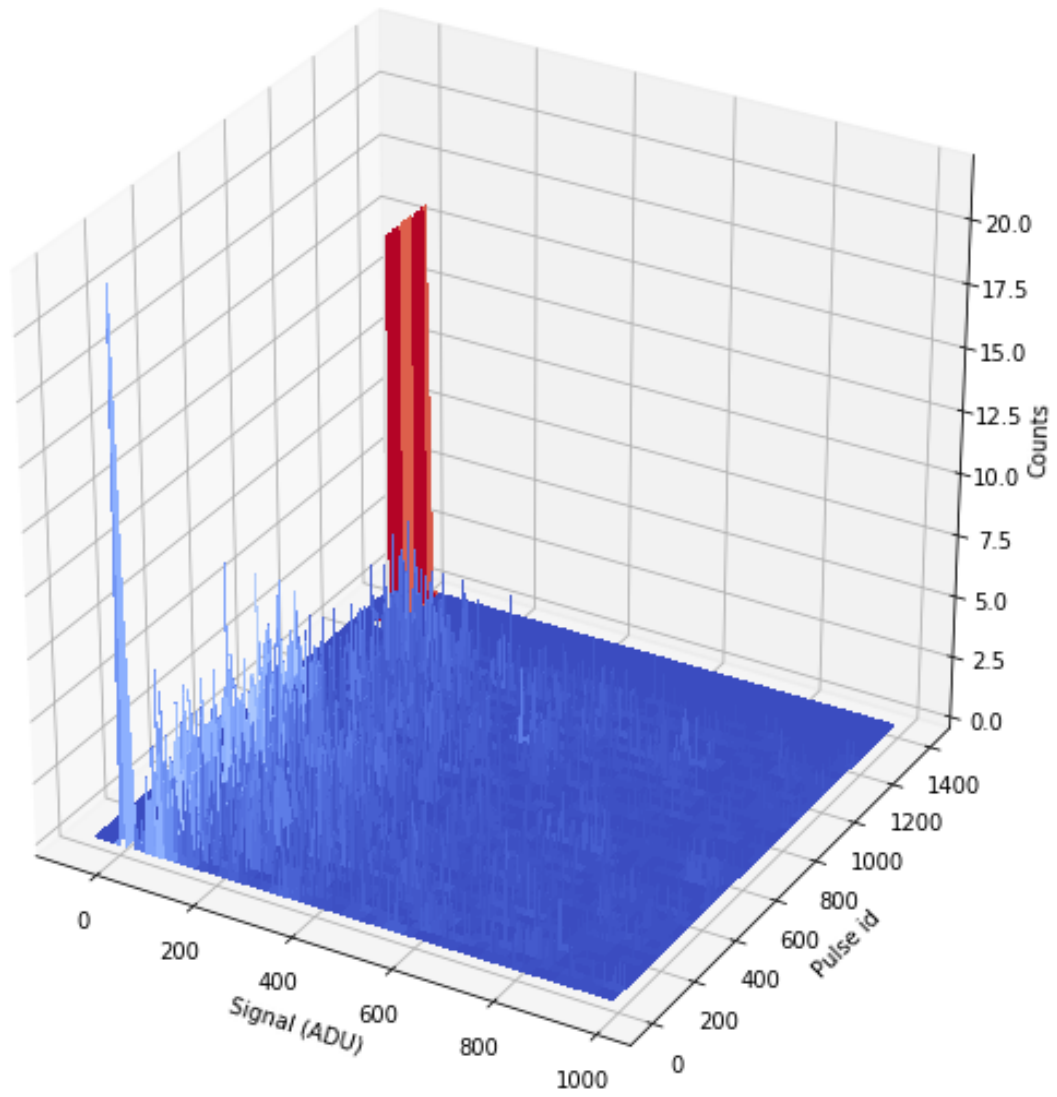


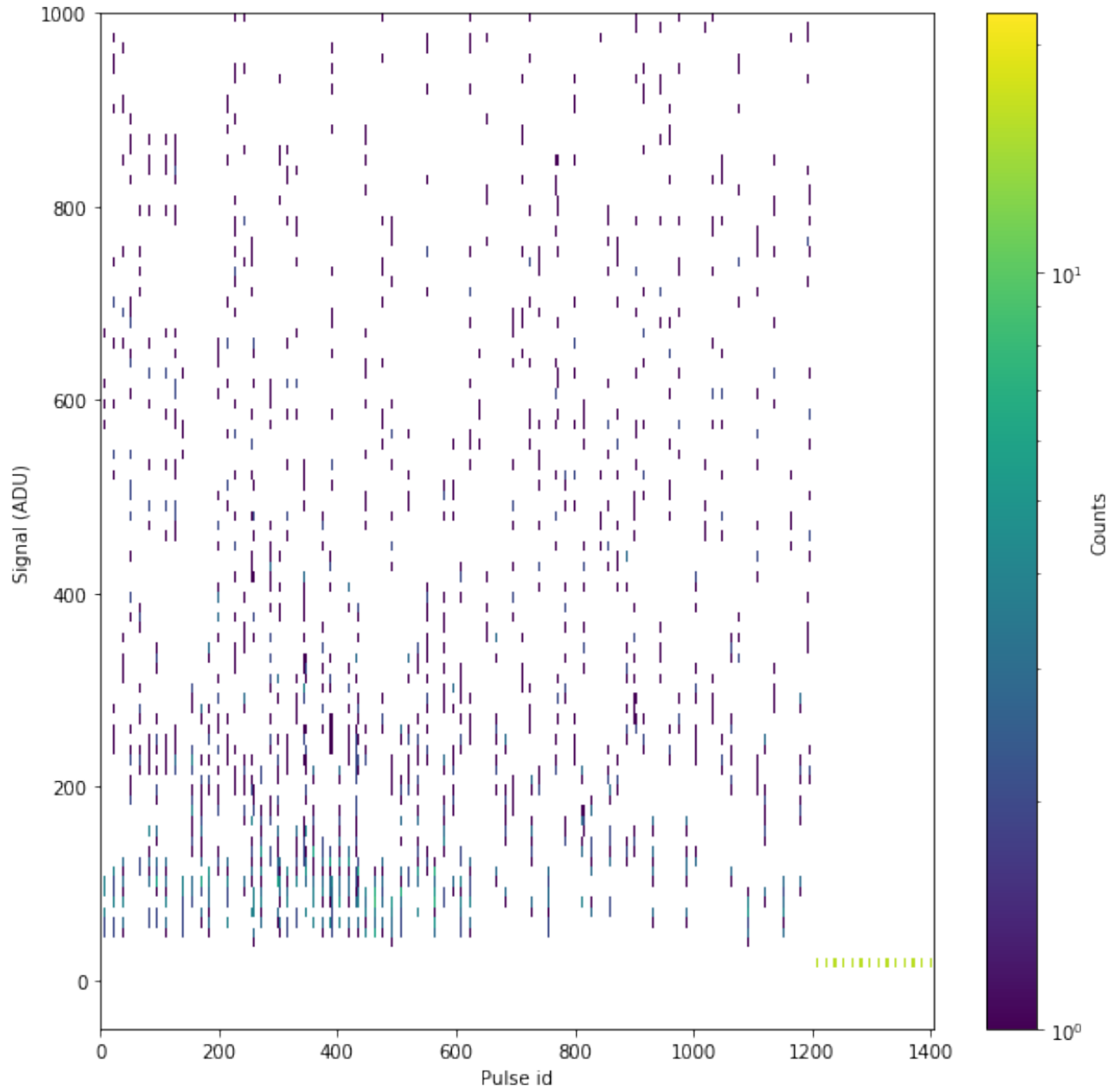


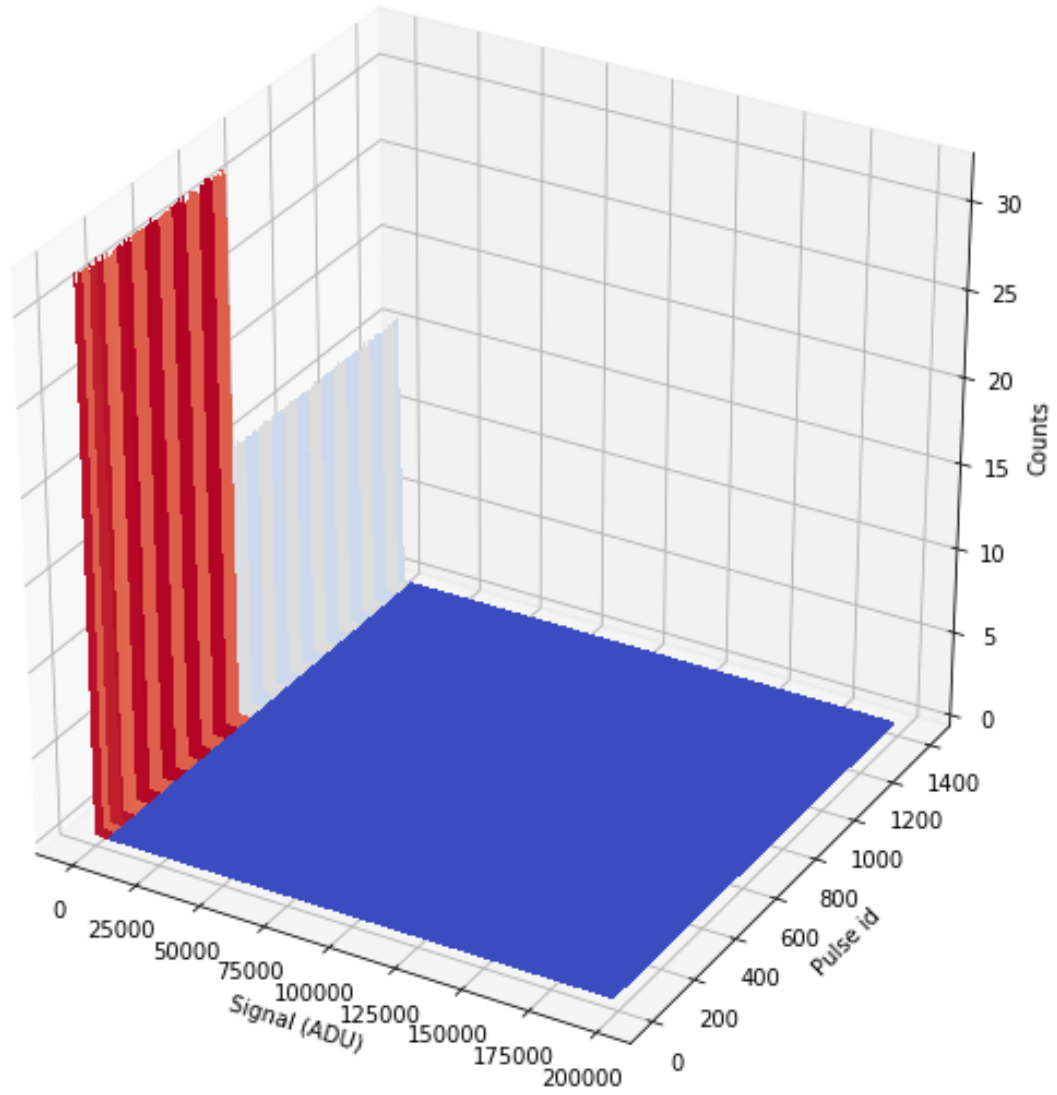


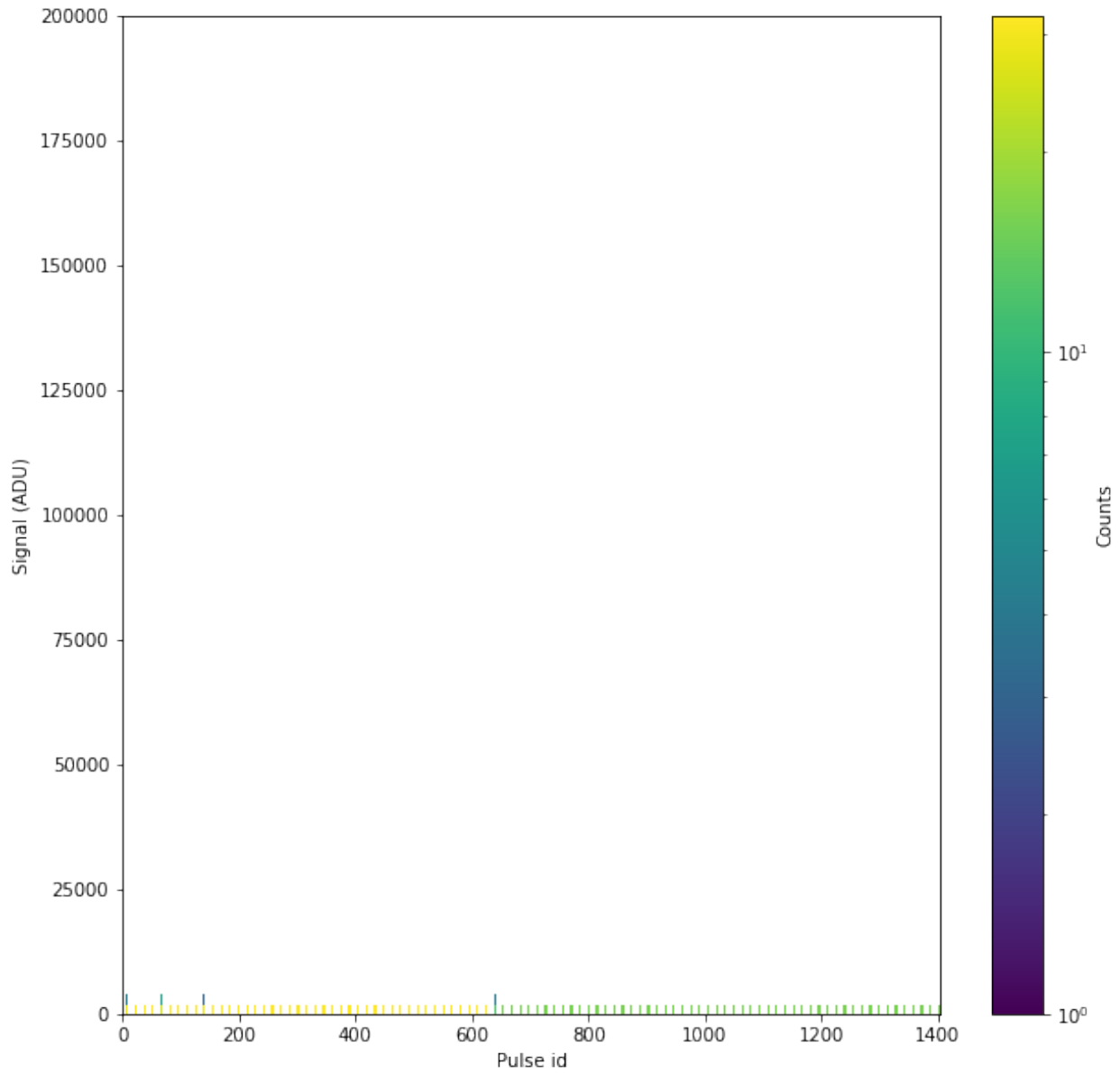
### 7.4 Mean Intensity per Pulse

The following plots show the mean signal for each pulse in a detailed and expanded intensity region.



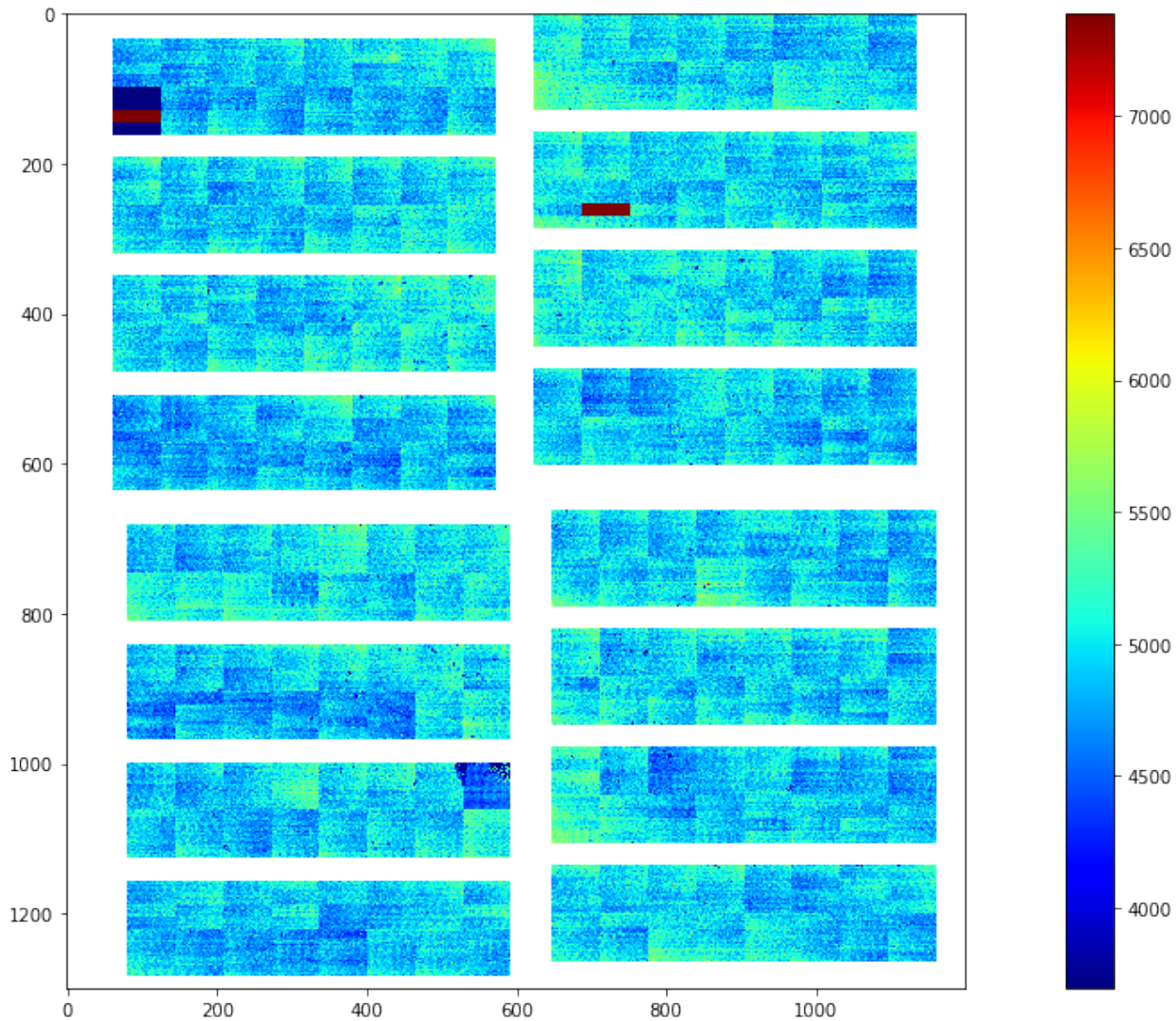






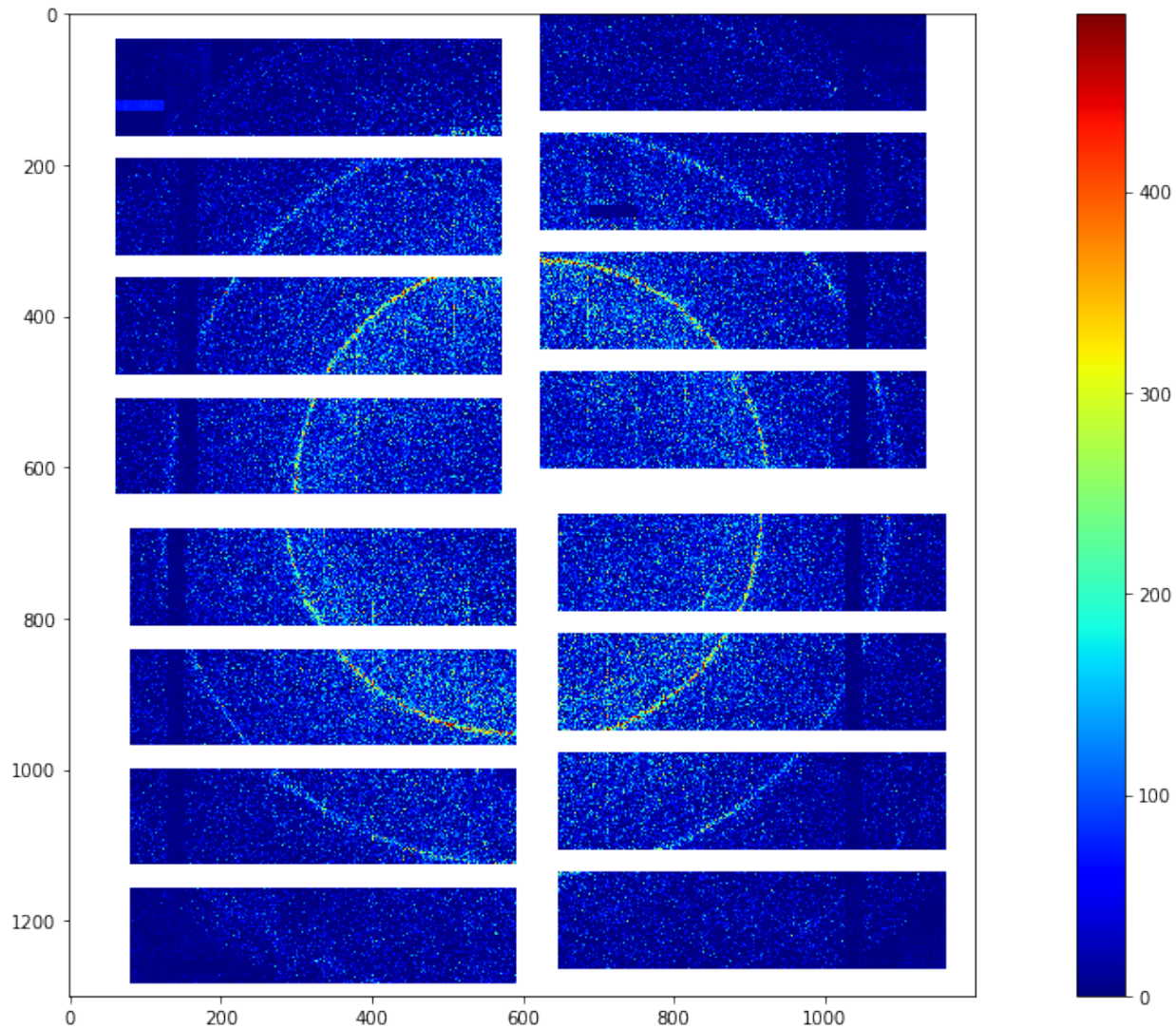
### 7.4.1 Mean RAW Preview

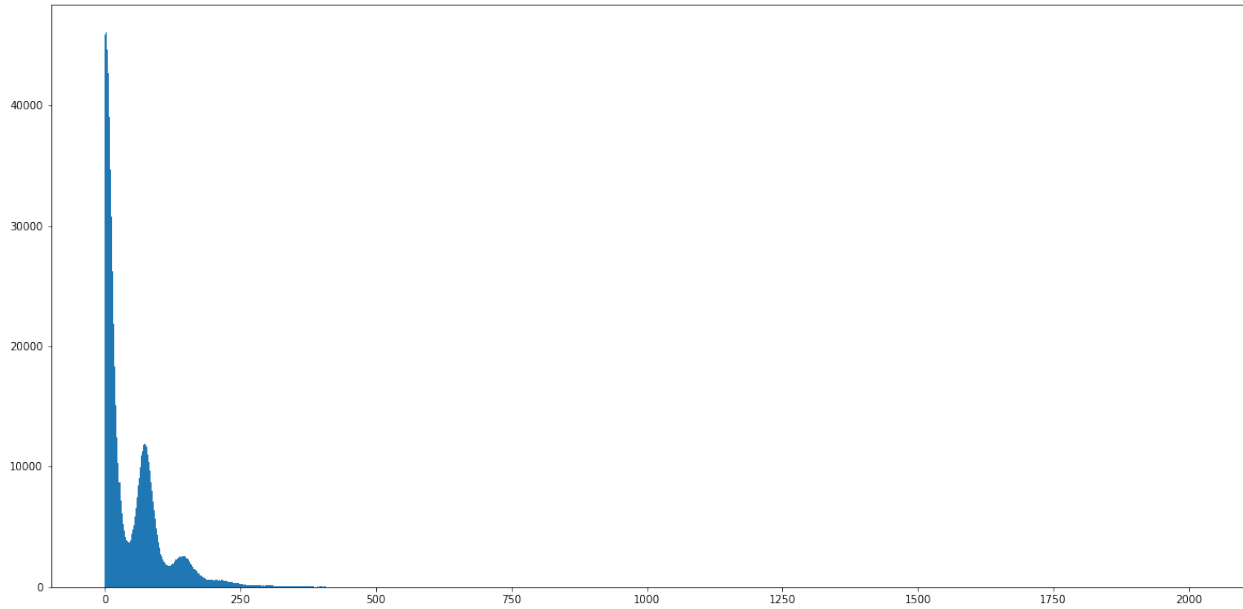
The per pixel mean of the first 128 images of the RAW data



### 7.4.2 Single Shot Preview

A single shot image from cell 12 of the first train

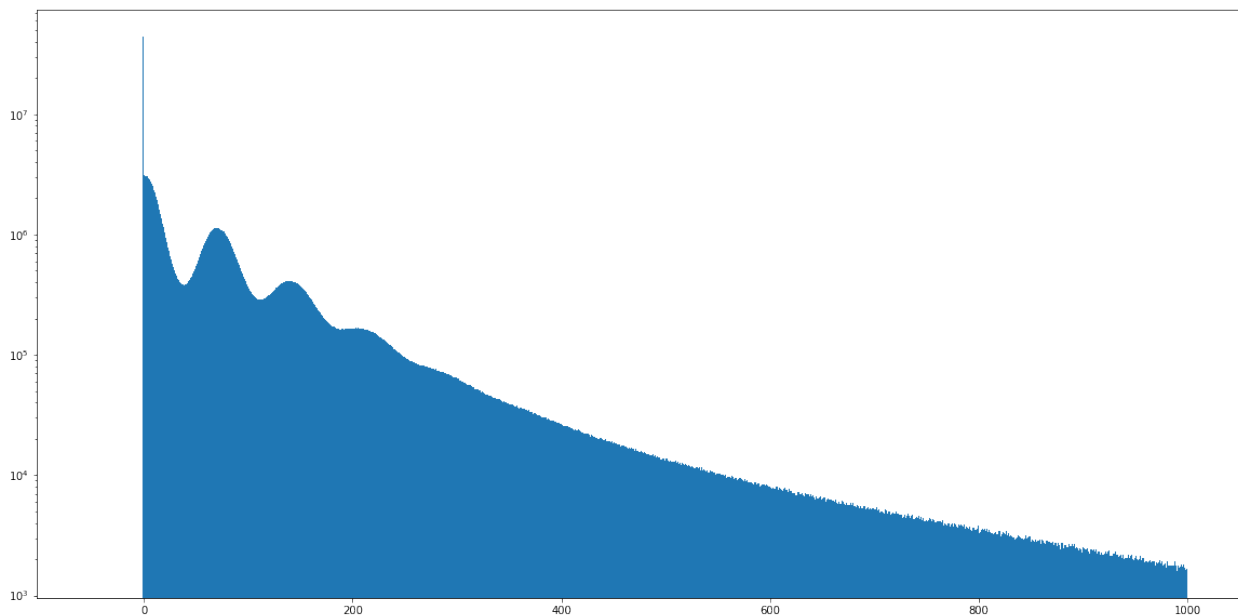
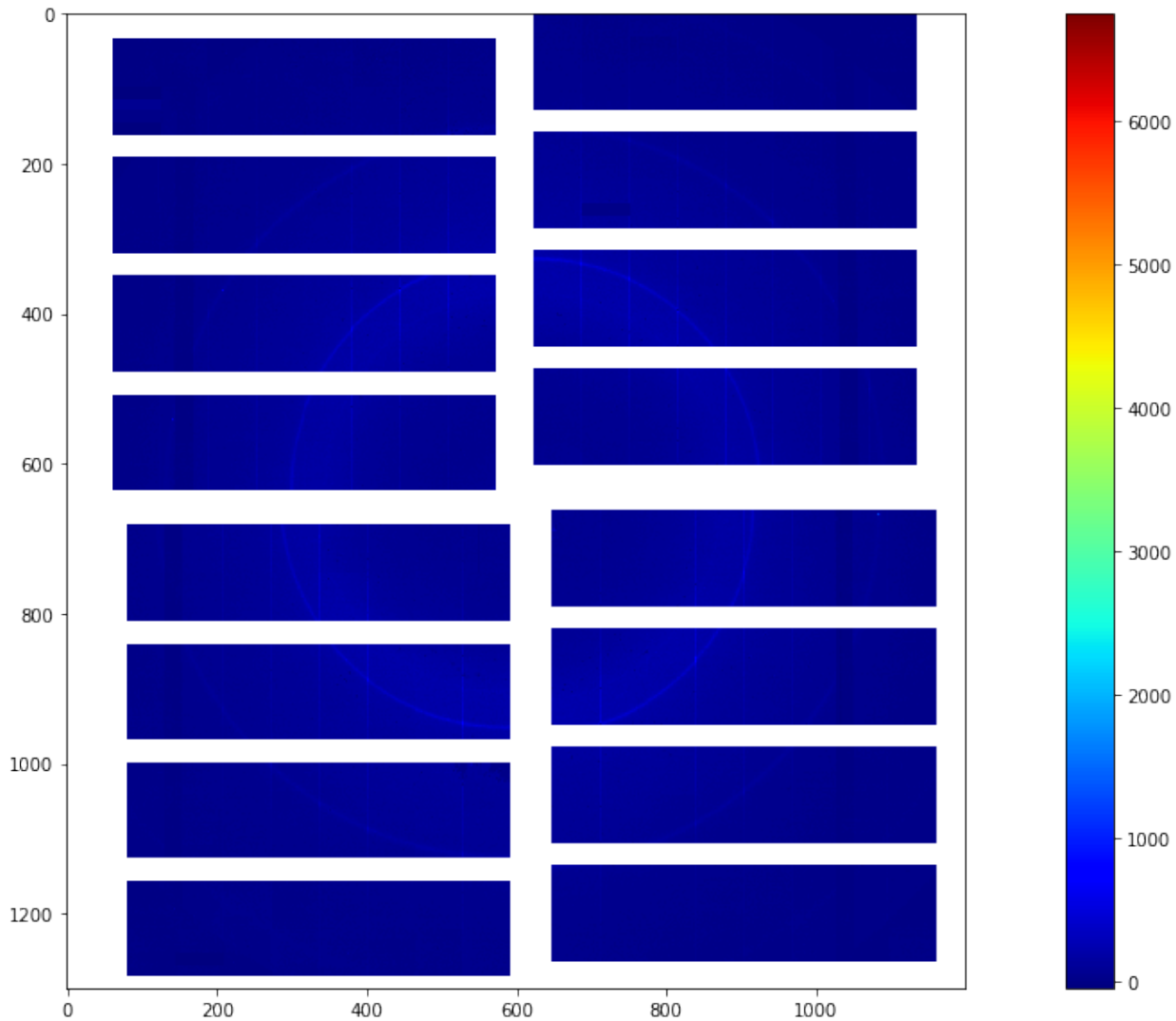




### 7.4.3 Mean CORRECTED Preview

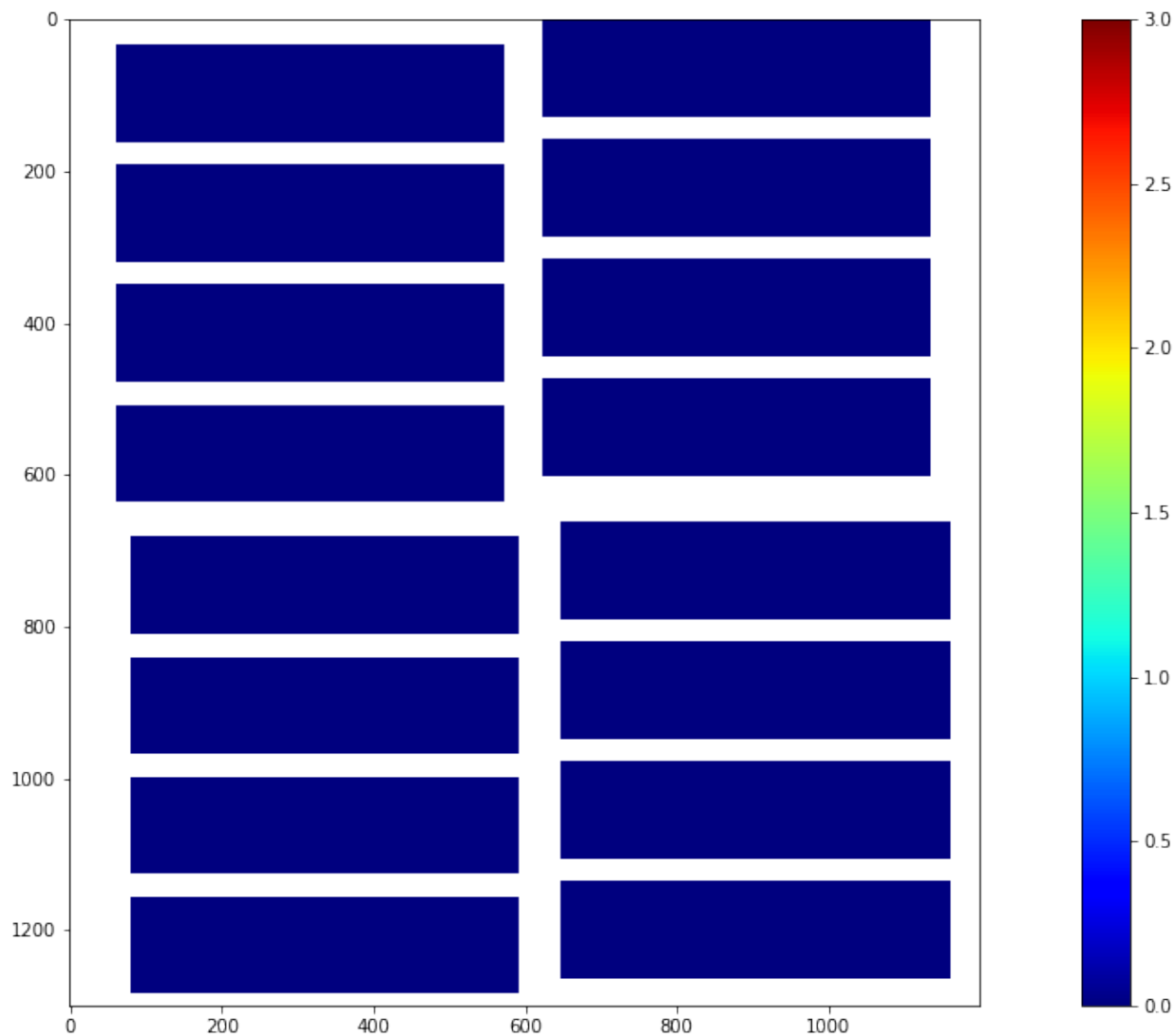
The per pixel mean of the first 128 images of the CORRECTED data





### 7.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data



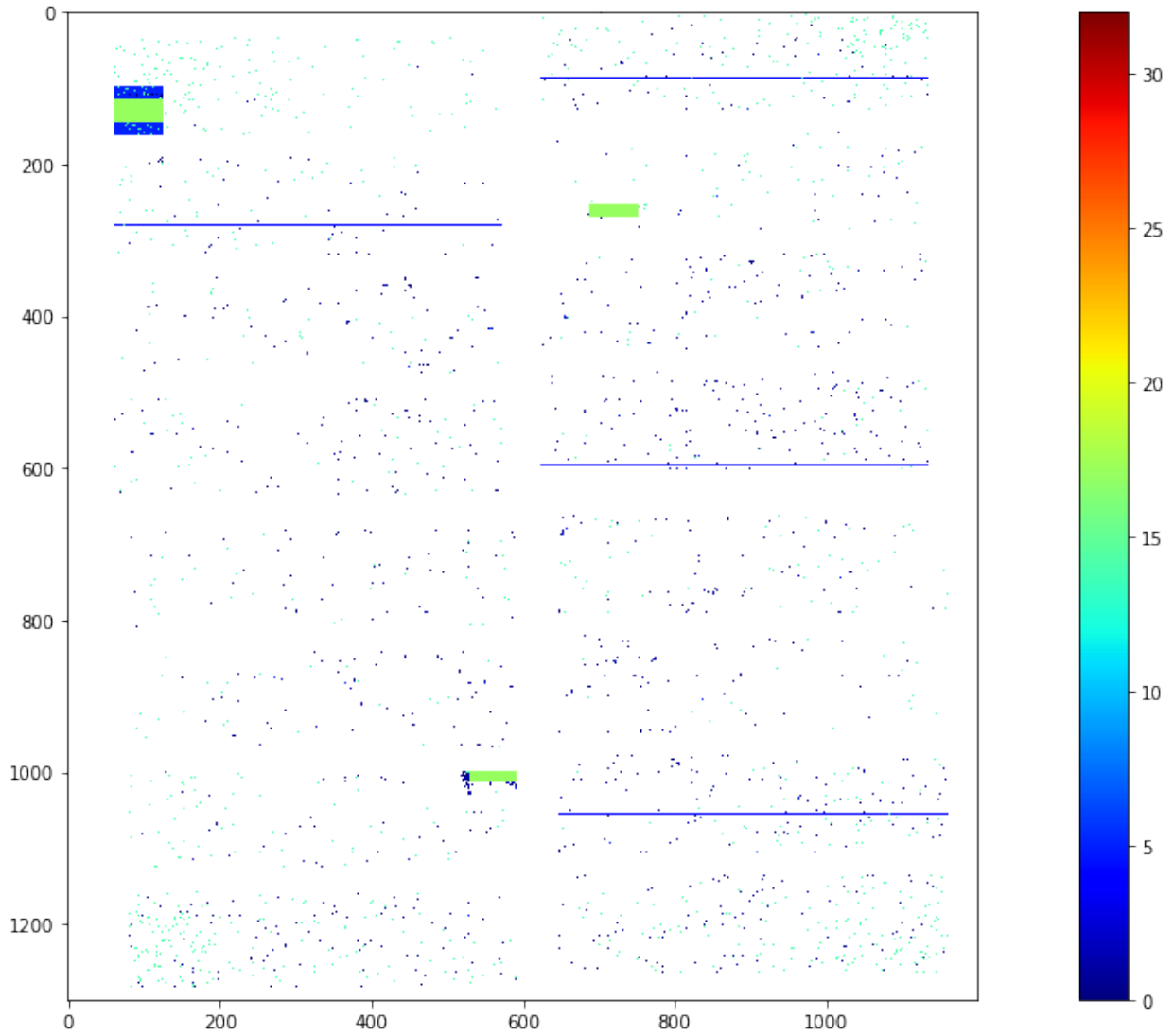
## 7.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

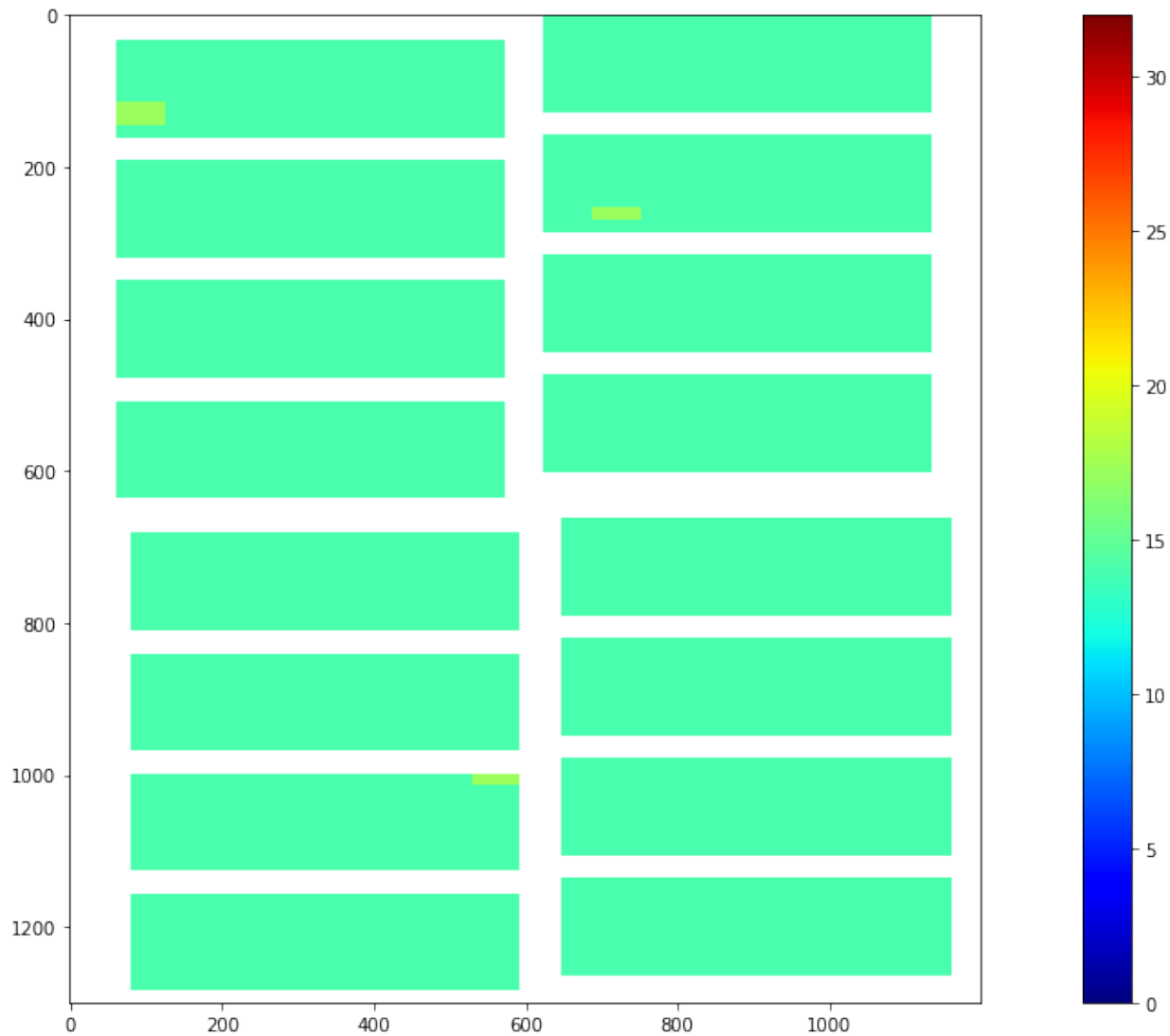
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 7.5.1 Single Shot Bad Pixels

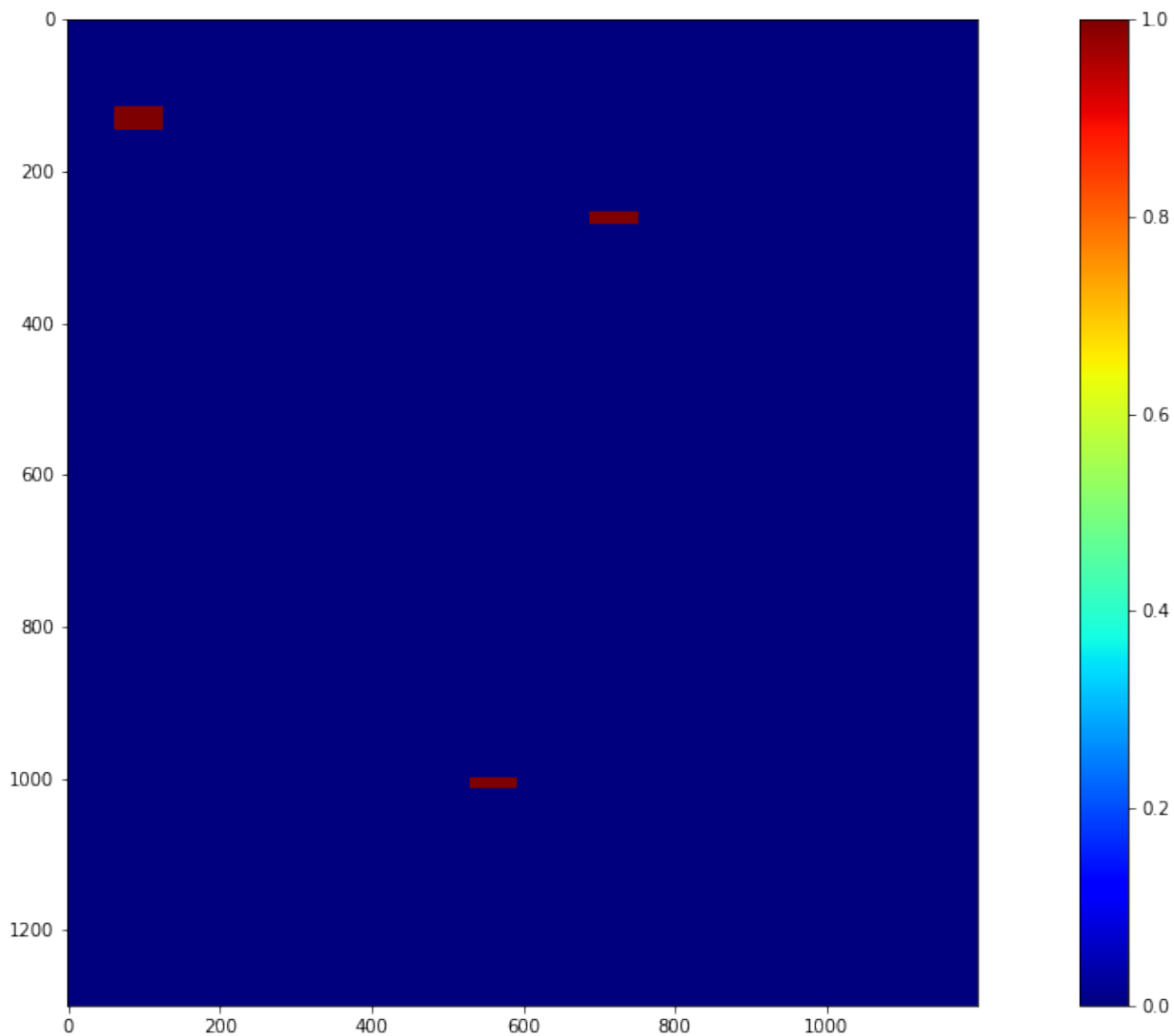
A single shot bad pixel map from cell 4 of the first train

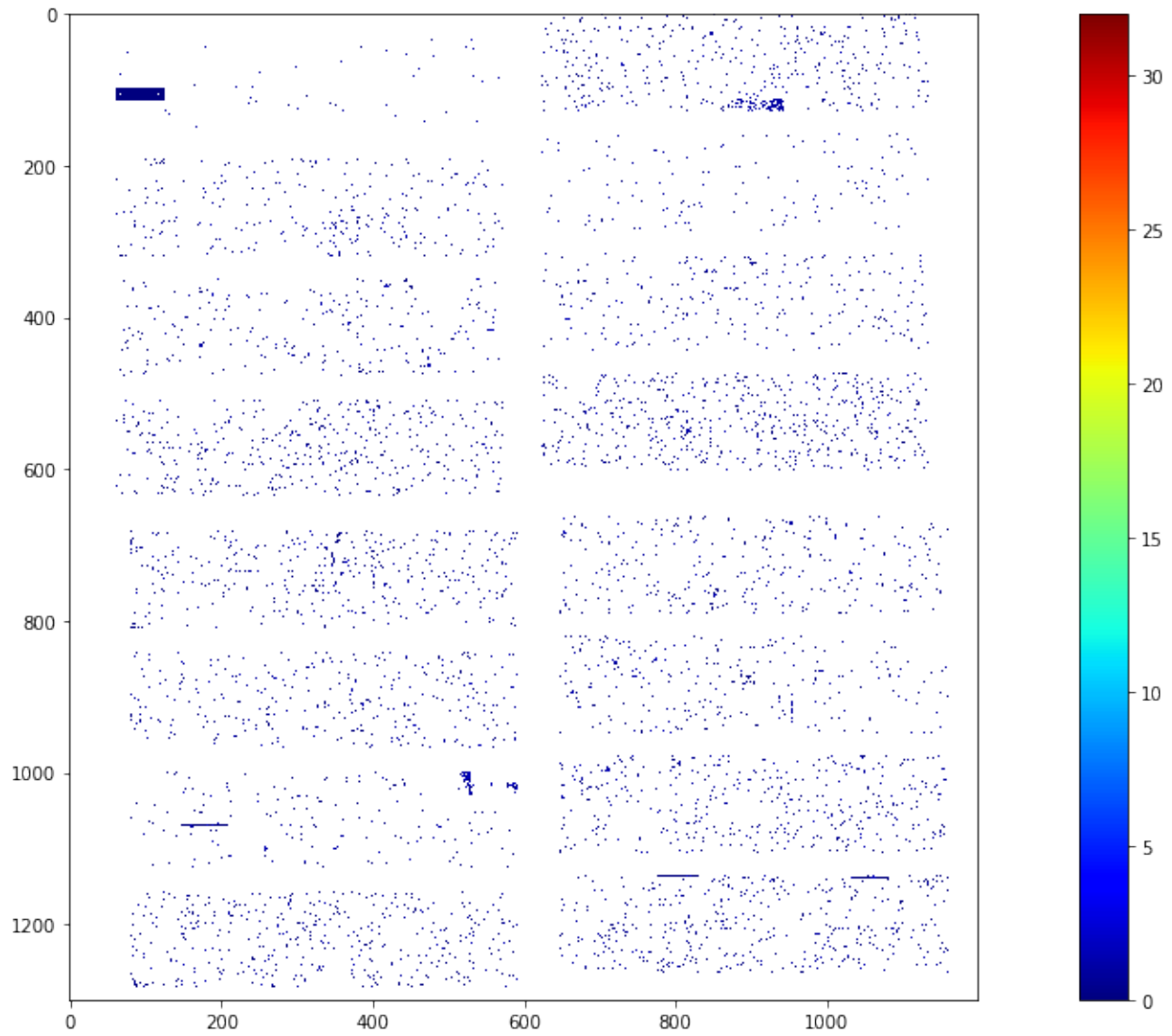


### 7.5.2 Full Train Bad Pixels



### 7.5.3 Full Train Bad Pixels - Only Dark Char. Related





## AGIPD OFFLINE CORRECTION, SEQUENCES = 21-23

```
Connecting to profile slurm_prof_d5afb407-93b9-4371-9cc6-08075170edb0_21-23
Using 2020-03-09 02:18:19+01:00 as creation time
Working in IL Mode: False. Actual cells in use are: 0
Outputting to /gpfs/exfel/d/proc/SPB/202030/p900119/r0098
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

### 8.1 Processed Files

```
Processing a total of 48 sequence files in chunks of 32
```



#	module	# module	file
0	Q1M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00021.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00022.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD00-S00023.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00021.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00022.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD01-S00023.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00021.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00022.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD02-S00023.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00021.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00022.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD03-S00023.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00021.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00022.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD04-S00023.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00021.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00022.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD05-S00023.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00021.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00022.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD06-S00023.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00021.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00022.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD07-S00023.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00021.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00022.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD08-S00023.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00021.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00022.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD09-S00023.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00021.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00022.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD10-S00023.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00021.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00022.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD11-S00023.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00021.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00022.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD12-S00023.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00021.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00022.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD13-S00023.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00021.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00022.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD14-S00023.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00021.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00022.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0098/RAW-R0098-AGIPD15-S00023.h5

```
A range of 500 pulse indices is selected: from 0 to 500 with a step of 1
Running 32 tasks parallel
Running 16 tasks parallel
```

```
Constants were injected on:
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
```

```
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
```

```
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
```

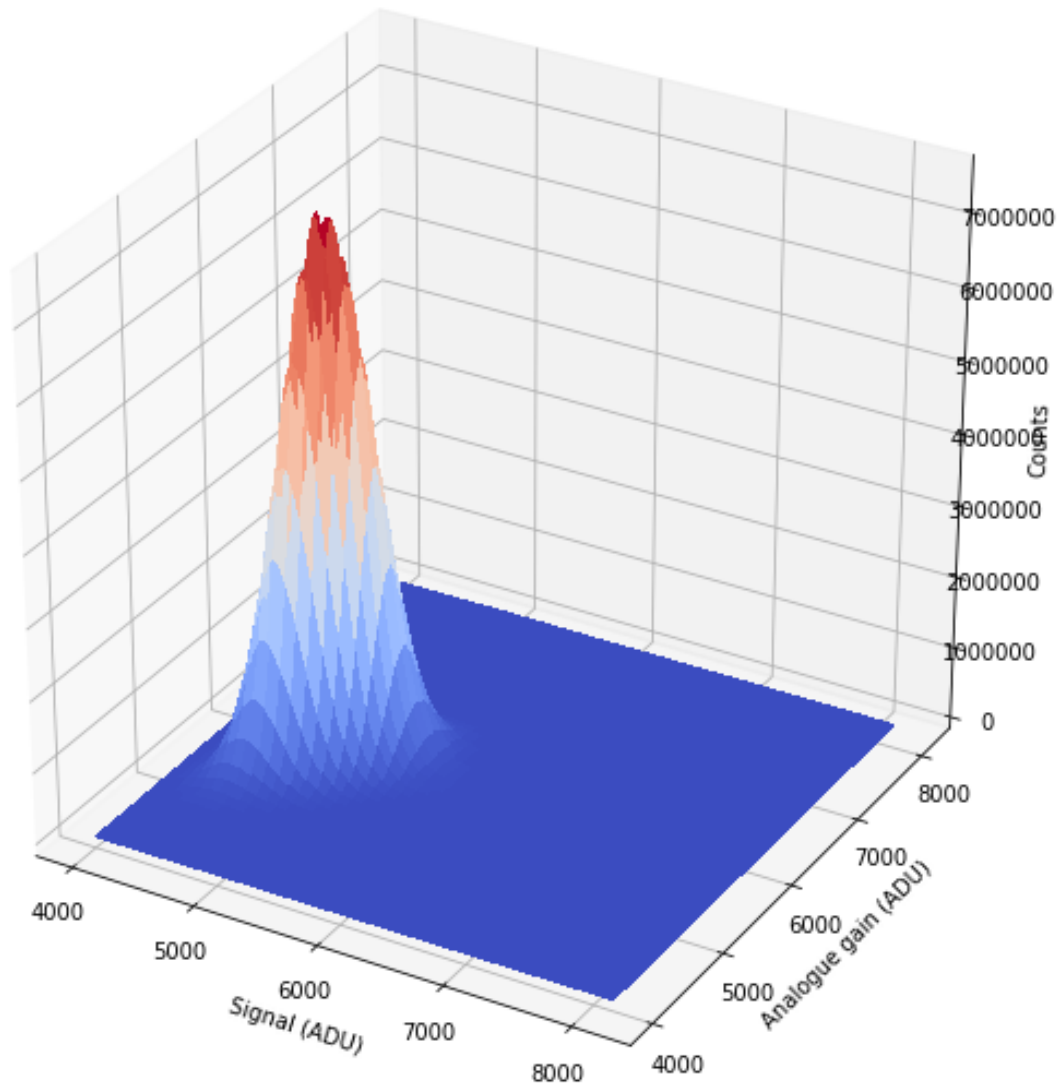
```
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
Q1M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:50
slopesPC.... 19-11-25 21:40
```

```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 19-11-25 21:24
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 19-11-25 21:40
Q1M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 19:13
slopesPC.... 19-11-25 22:01
Q2M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:20
slopesPC.... 19-11-25 21:30
Q2M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:00
Q2M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:24
slopesPC.... 19-11-25 21:09
Q2M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:52
slopesPC.... 19-11-25 21:05
Q3M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... None
slopesPC.... 19-11-25 21:04
Q3M2
offset..... 20-03-04 15:33
```

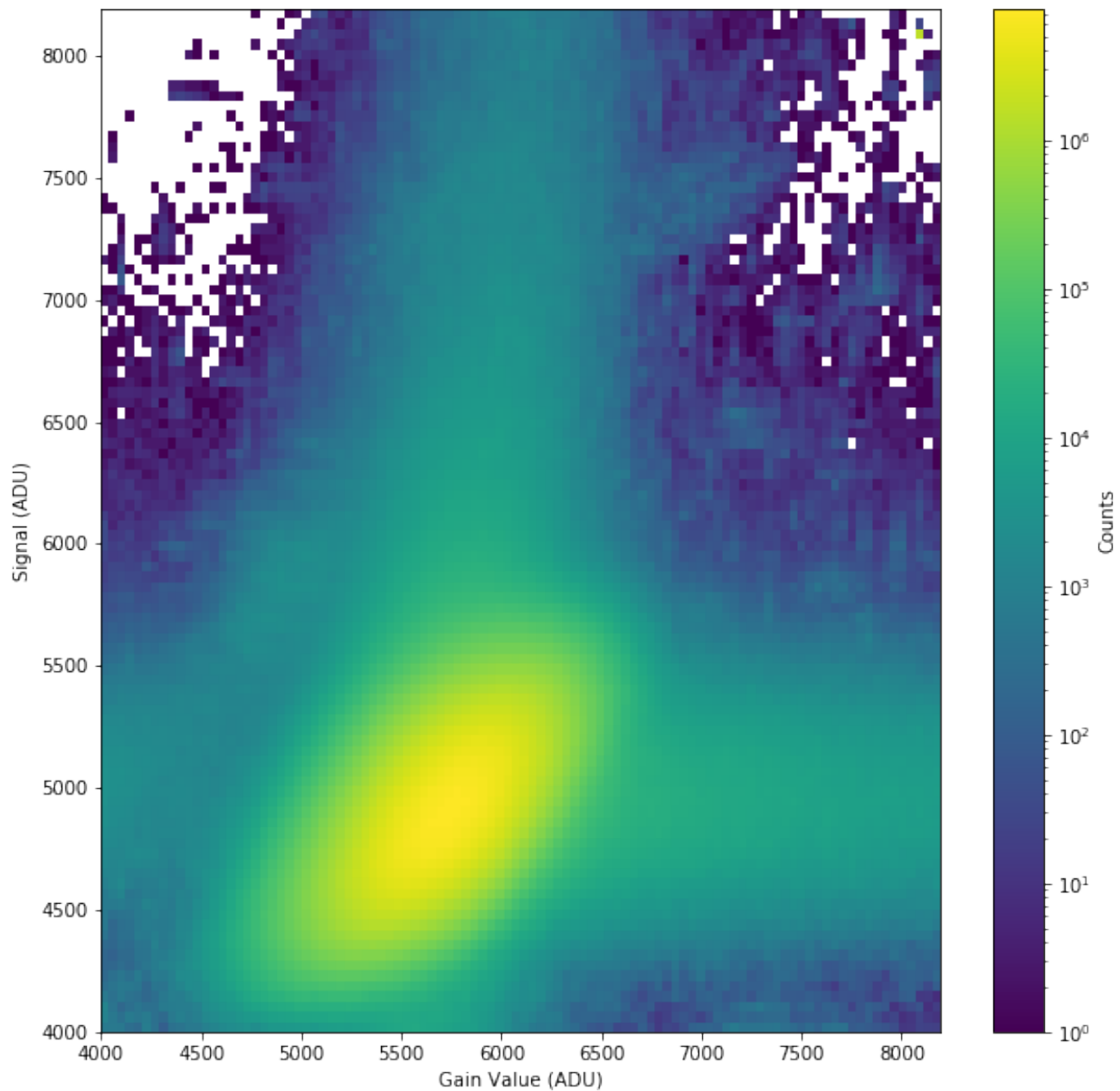
```
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:34
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 19-11-25 22:00
Q3M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:25
slopesPC.... 19-11-25 21:58
Q4M1
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:41
slopesPC.... 19-11-25 22:07
Q4M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 19-11-25 21:33
Q4M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:18
slopesPC.... 19-11-25 21:42
Q4M4
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:21
slopesPC.... 19-11-25 21:59
```

## 8.2 Signal vs. Analogue Gain

The following plot shows plots signal vs. gain for the first 128 images.

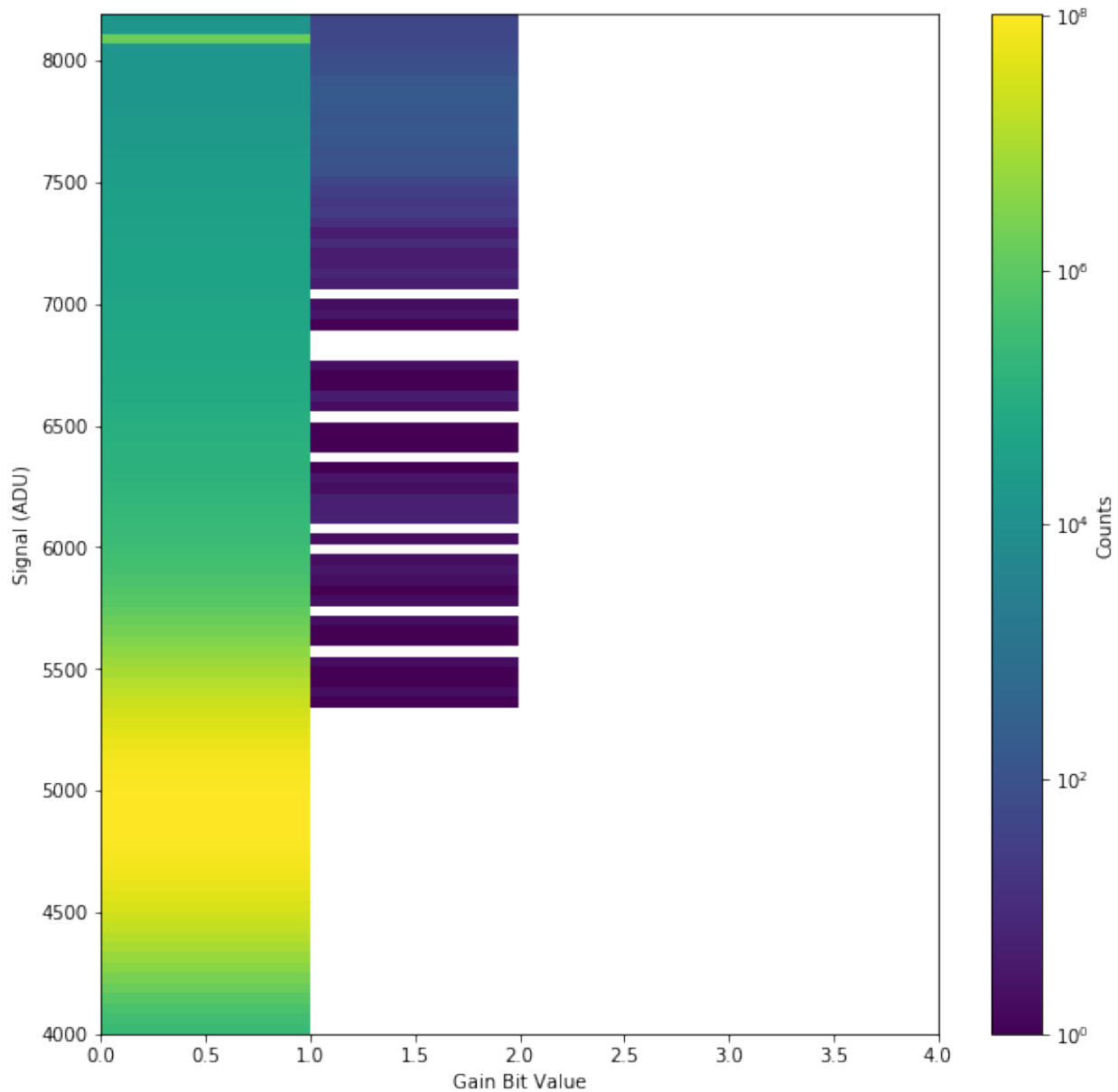


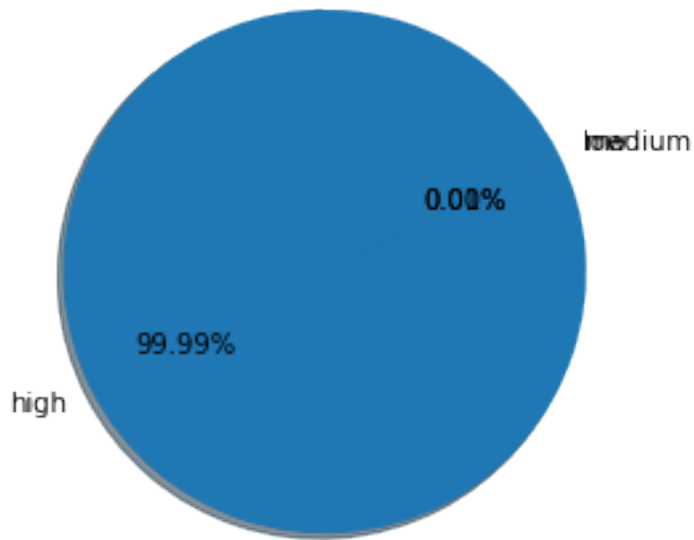




### 8.3 Signal vs. Digitized Gain

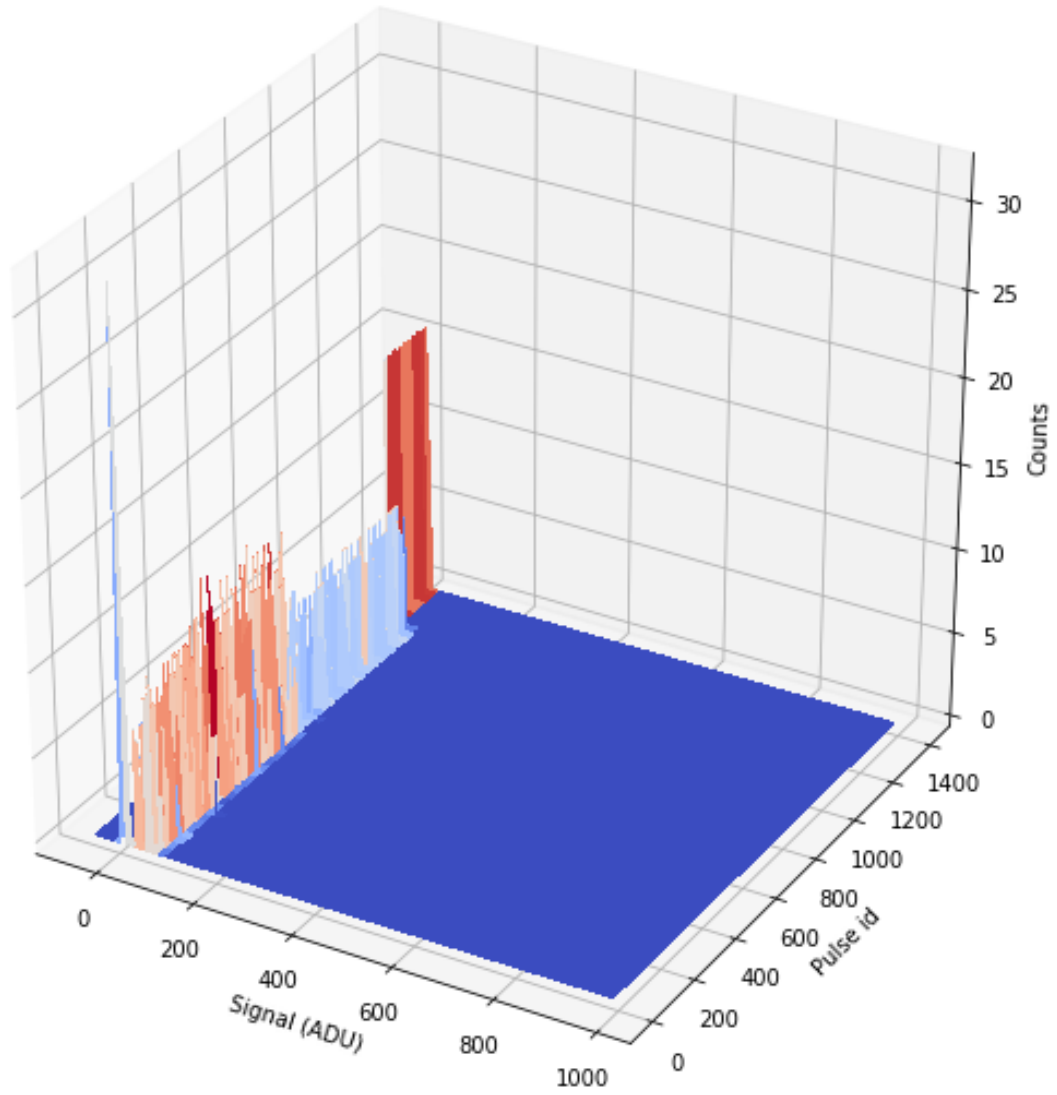
The following plot shows plots signal vs. digitized gain for the first 128 images.

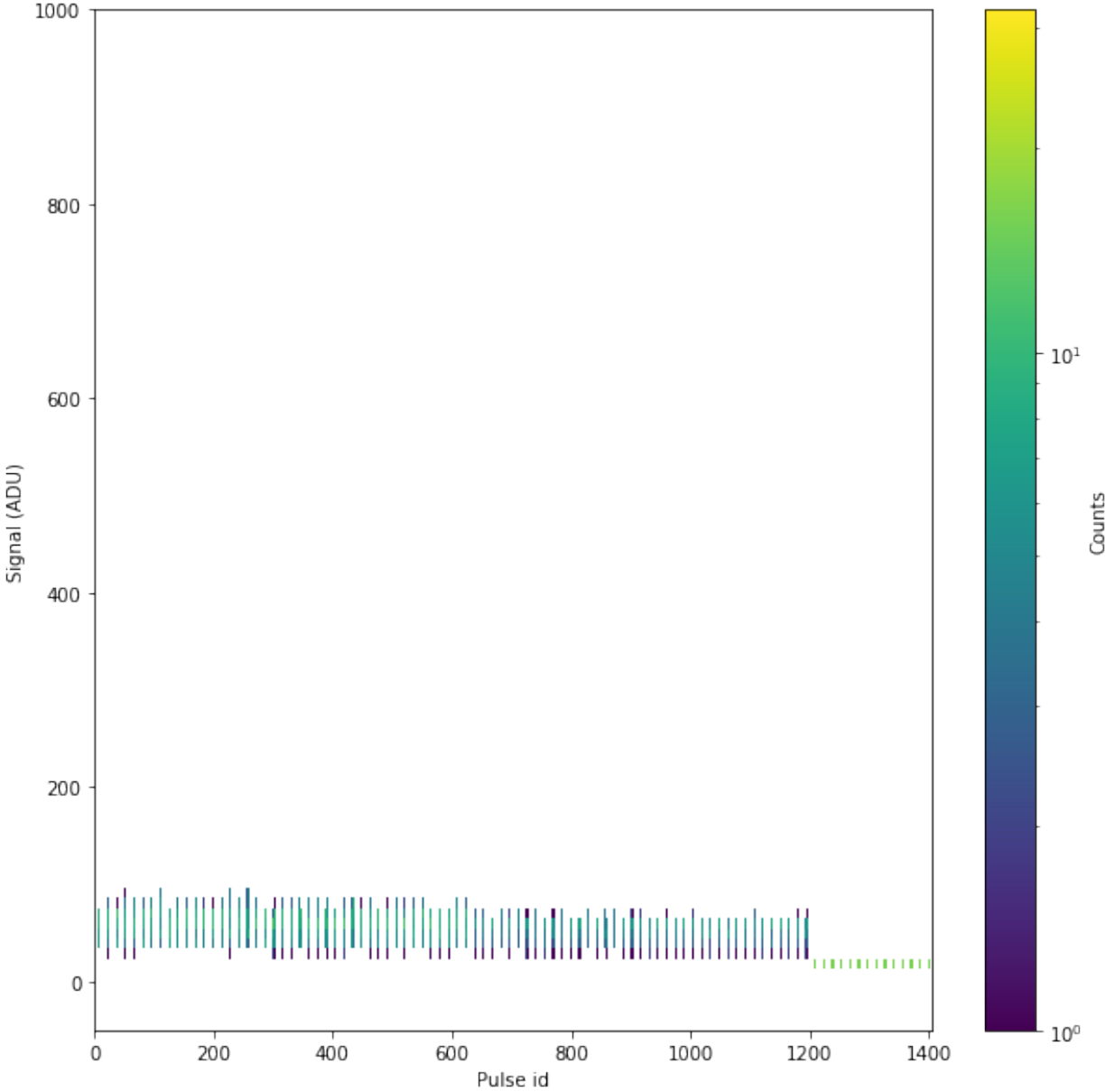


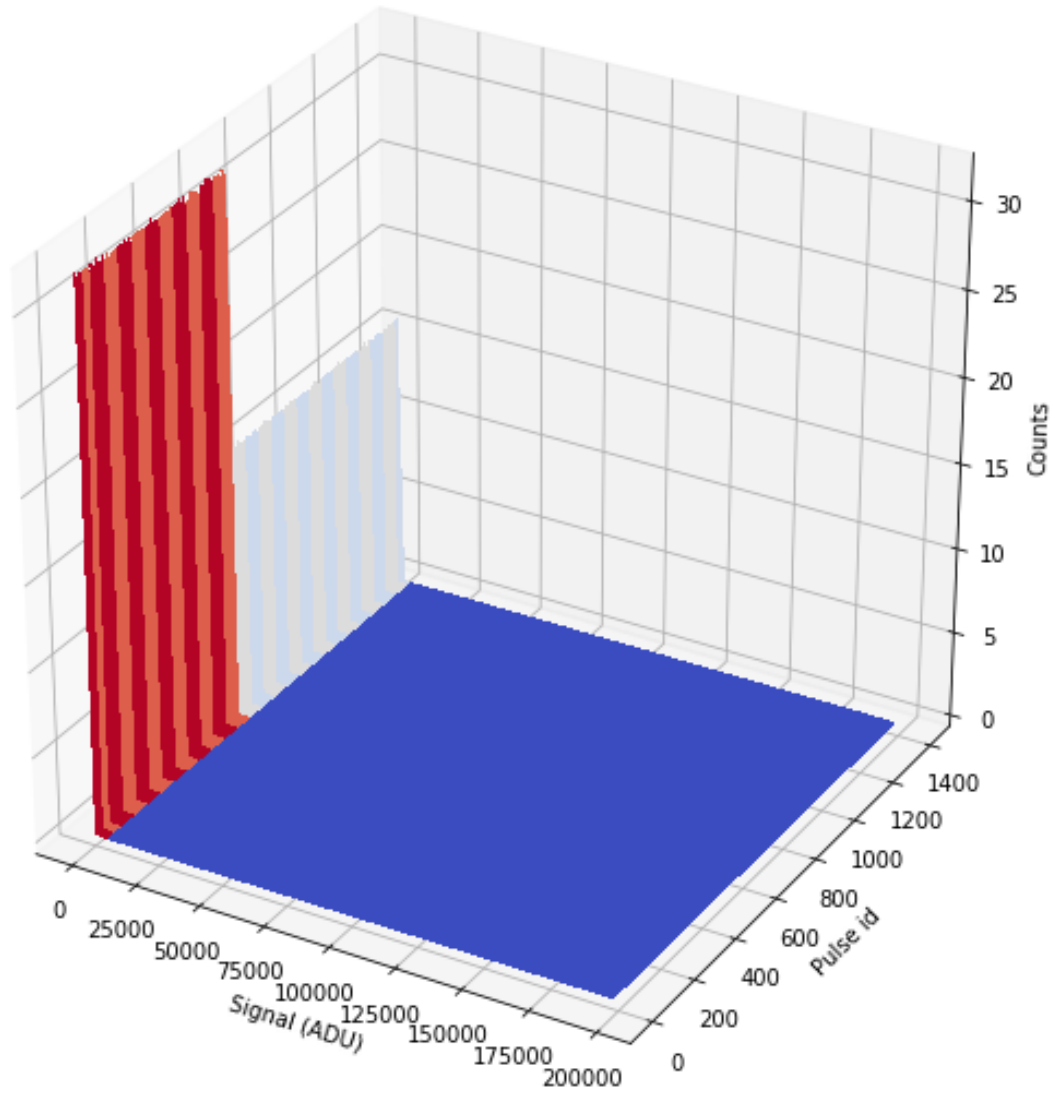


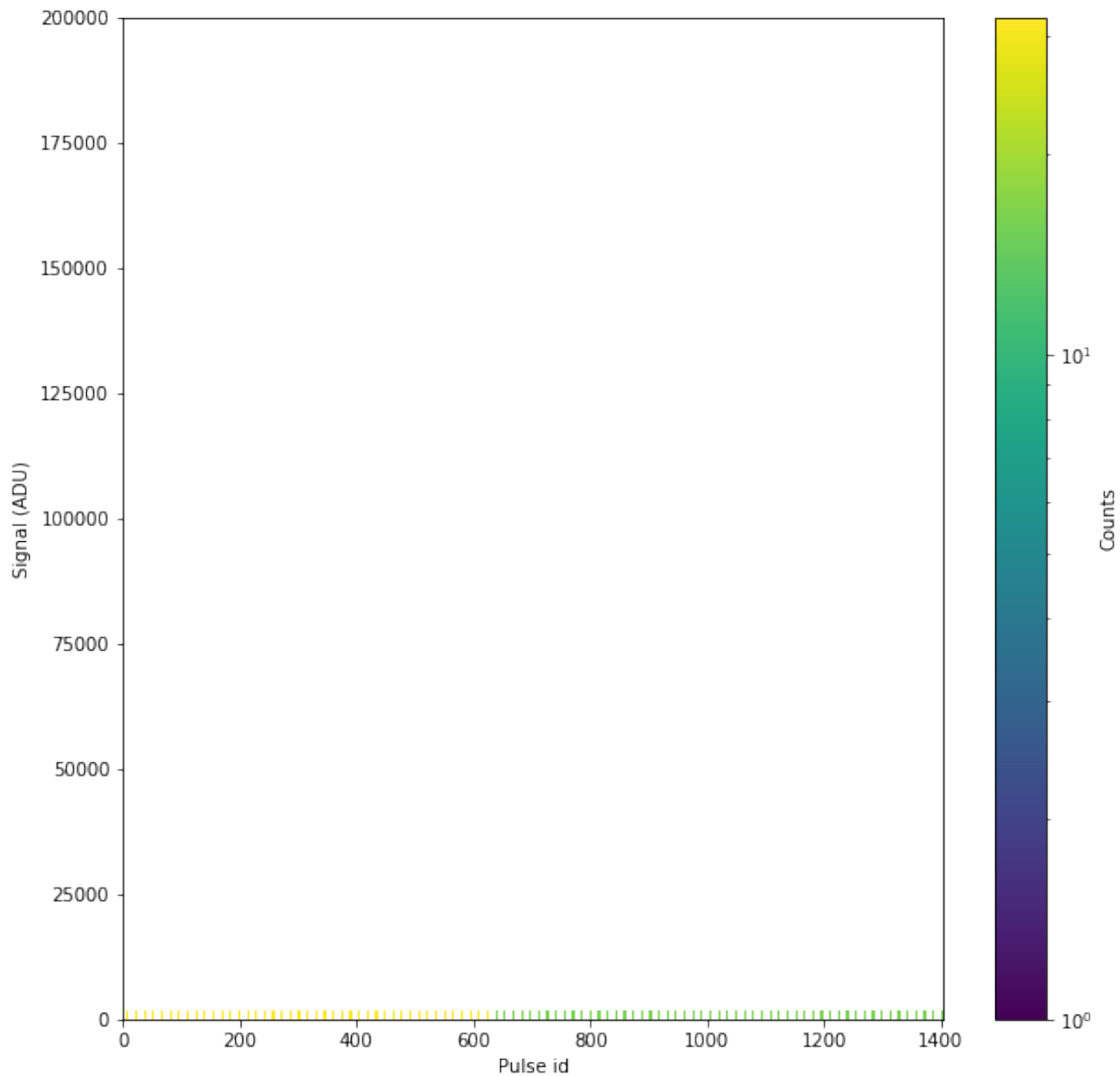
## 8.4 Mean Intensity per Pulse

The following plots show the mean signal for each pulse in a detailed and expanded intensity region.



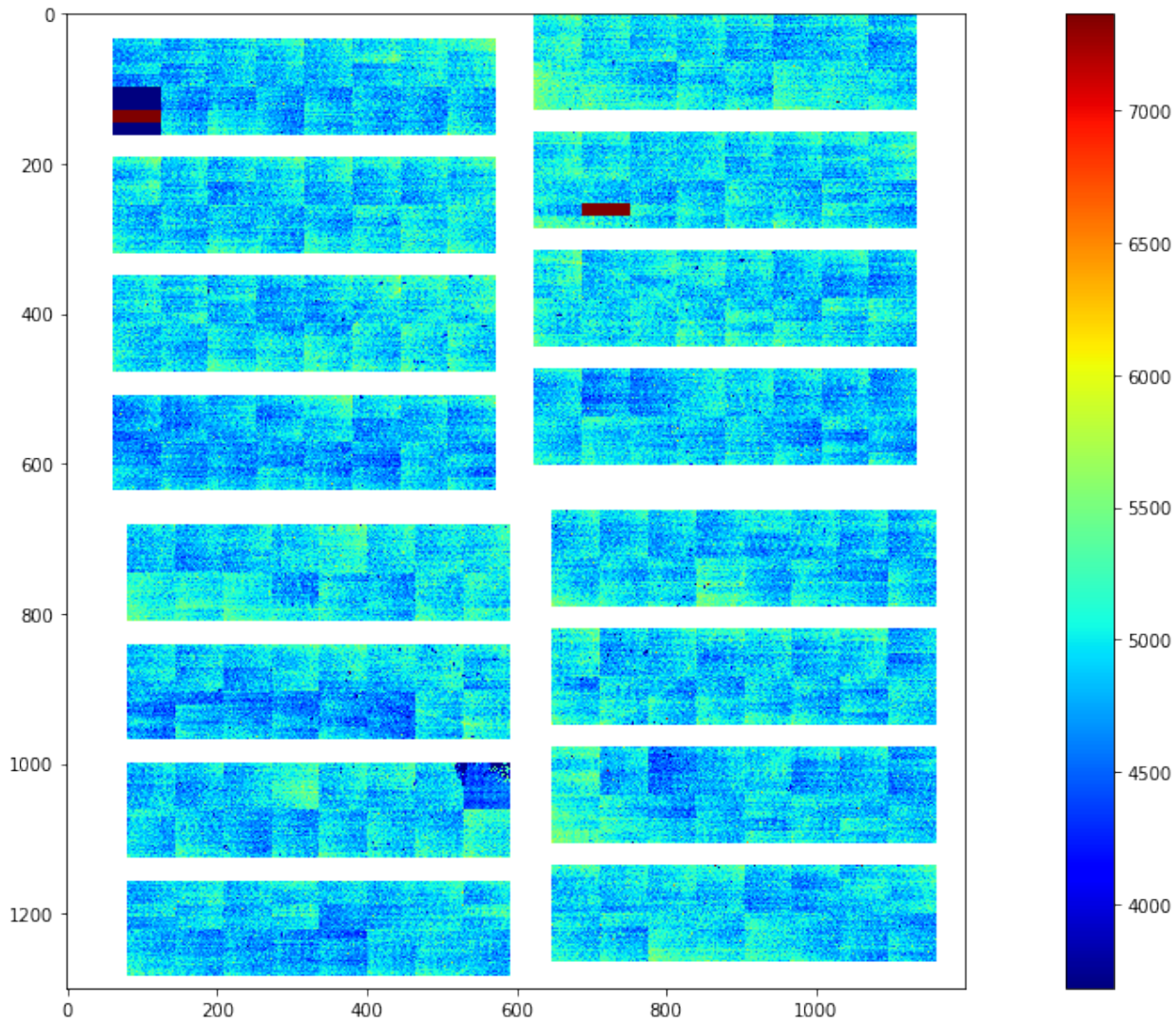






### 8.4.1 Mean RAW Preview

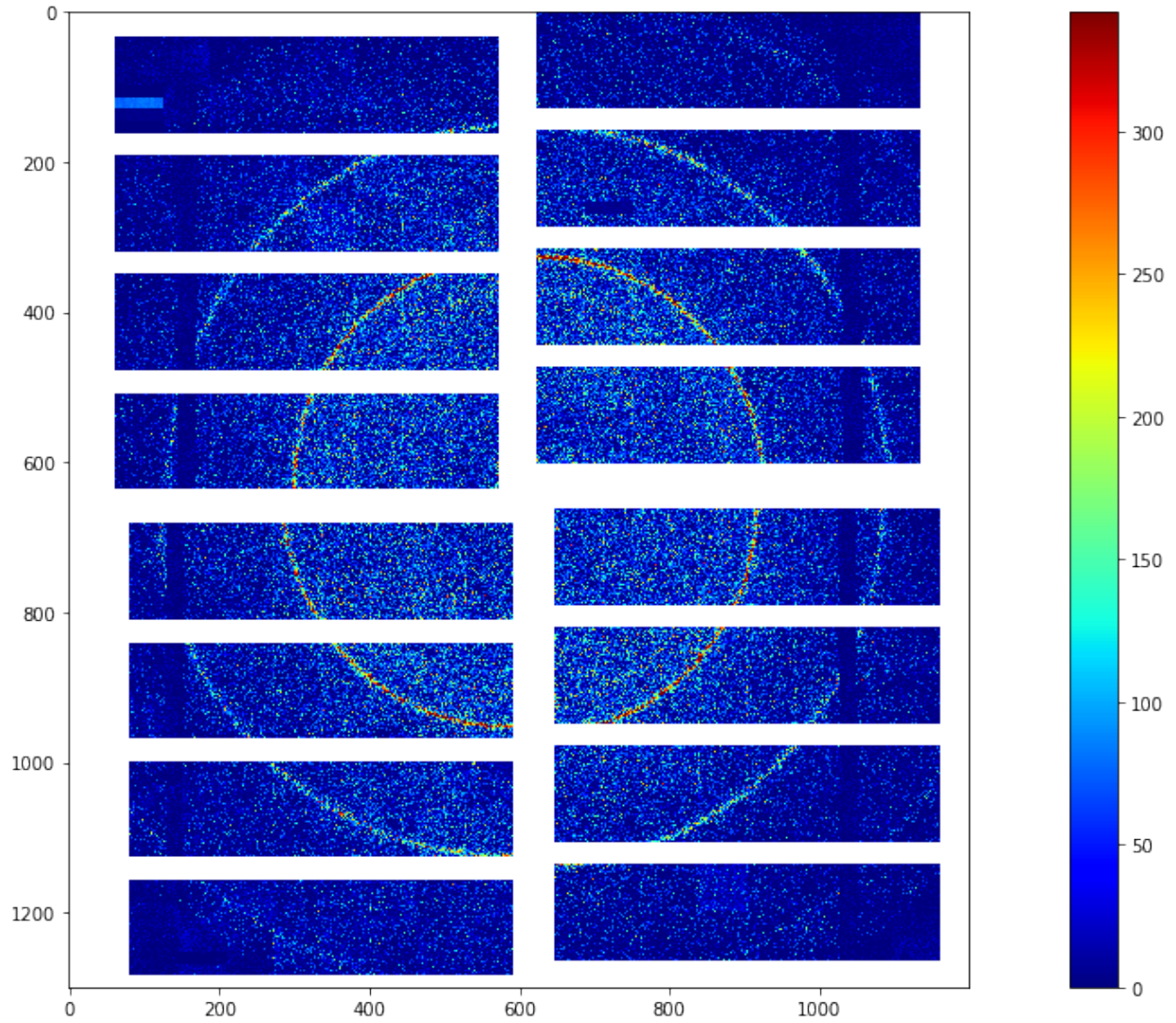
The per pixel mean of the first 128 images of the RAW data

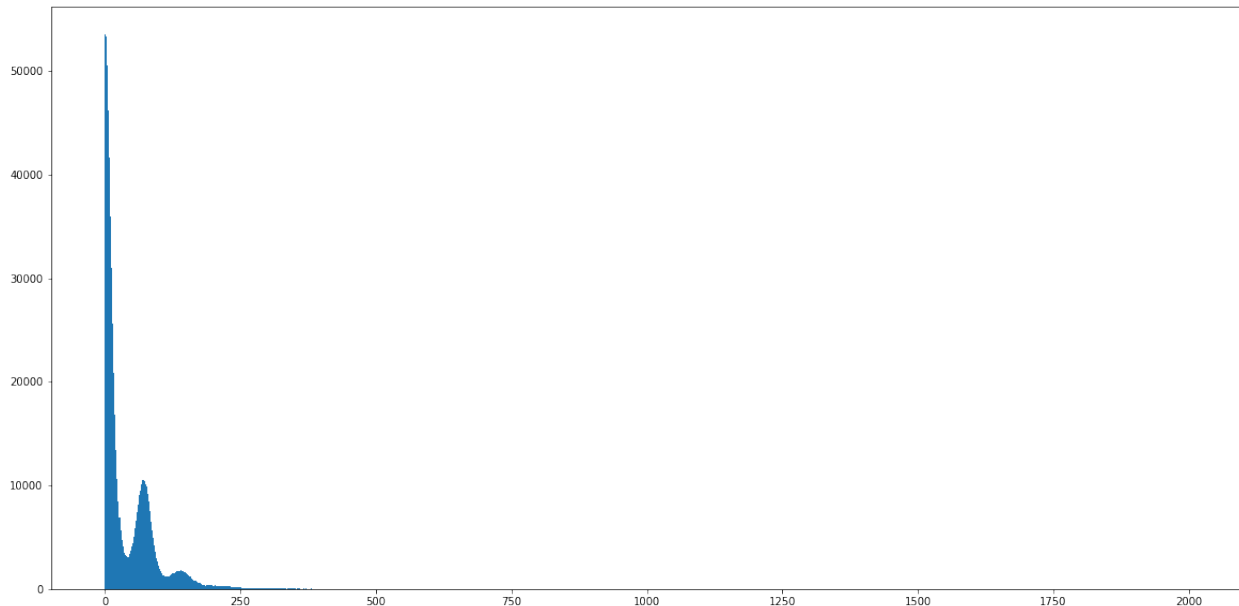


### 8.4.2 Single Shot Preview

A single shot image from cell 12 of the first train

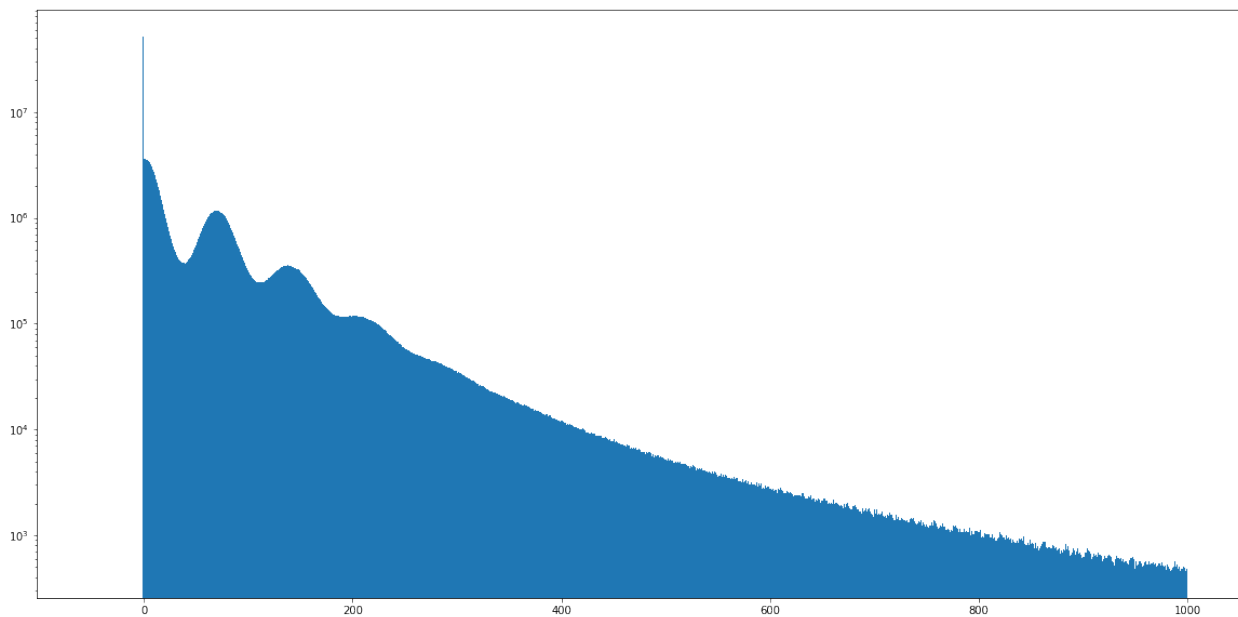
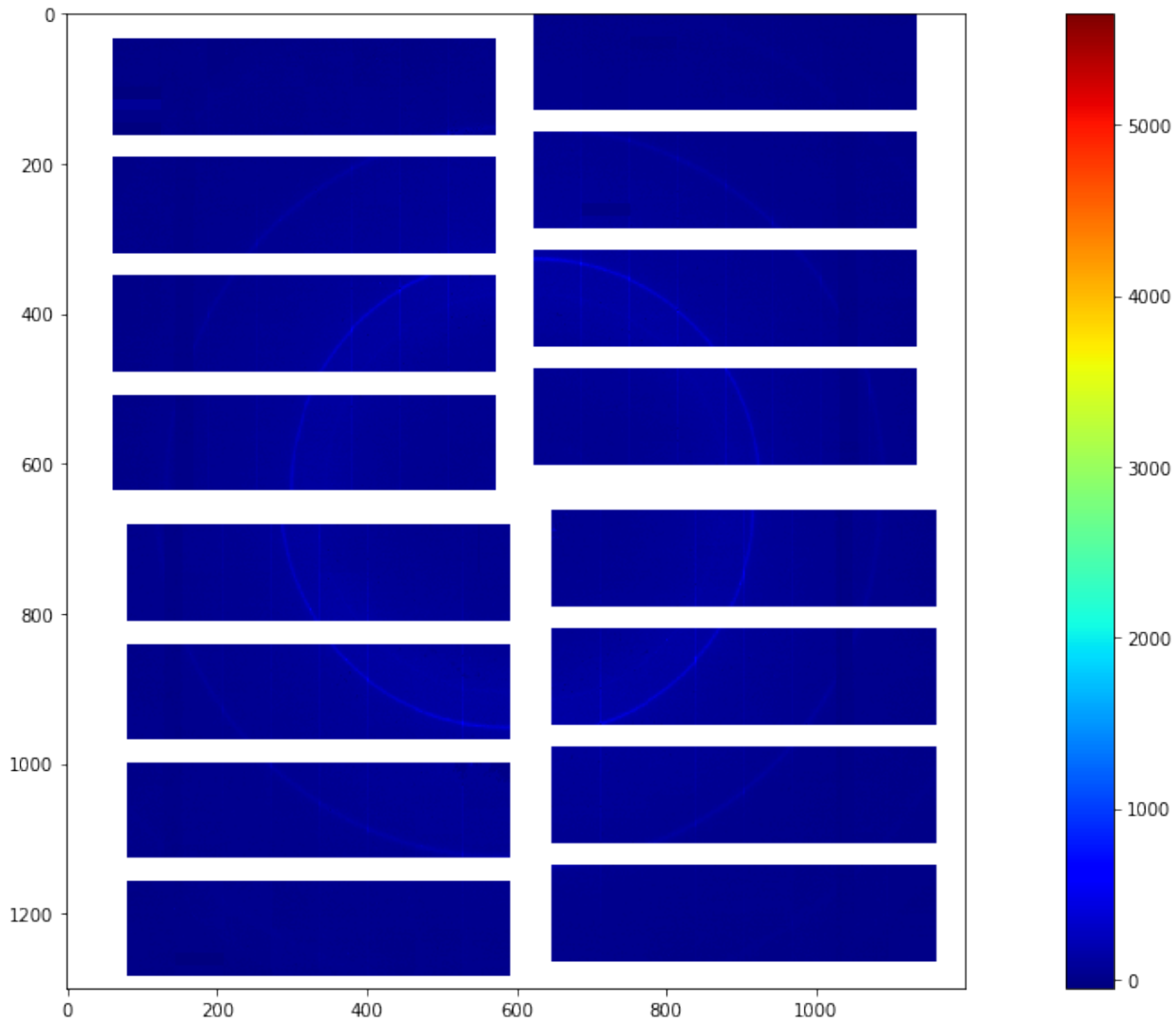






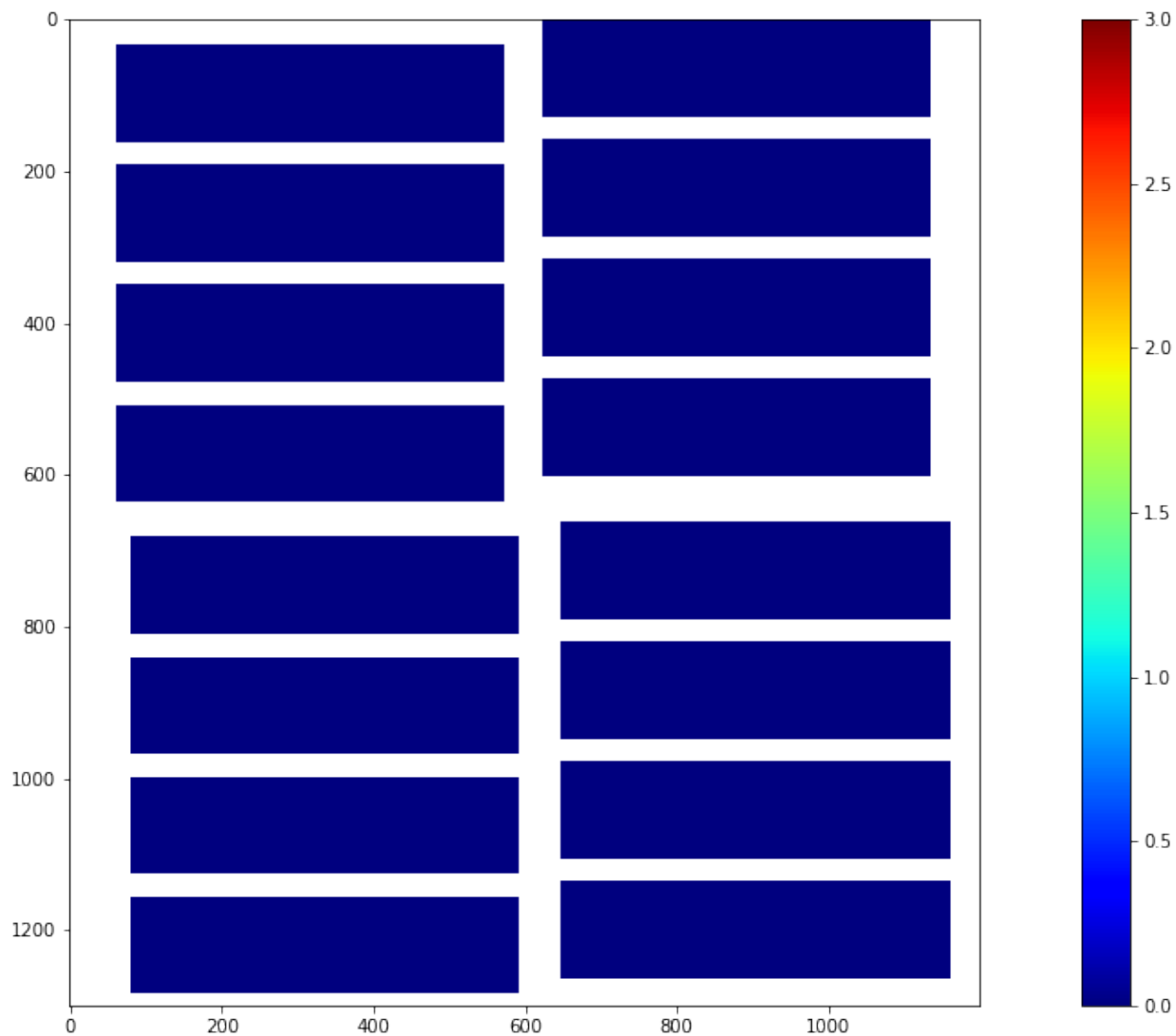
### 8.4.3 Mean CORRECTED Preview

The per pixel mean of the first 128 images of the CORRECTED data



### 8.4.4 Maximum GAIN Preview

The per pixel maximum of the first 128 images of the digitized GAIN data



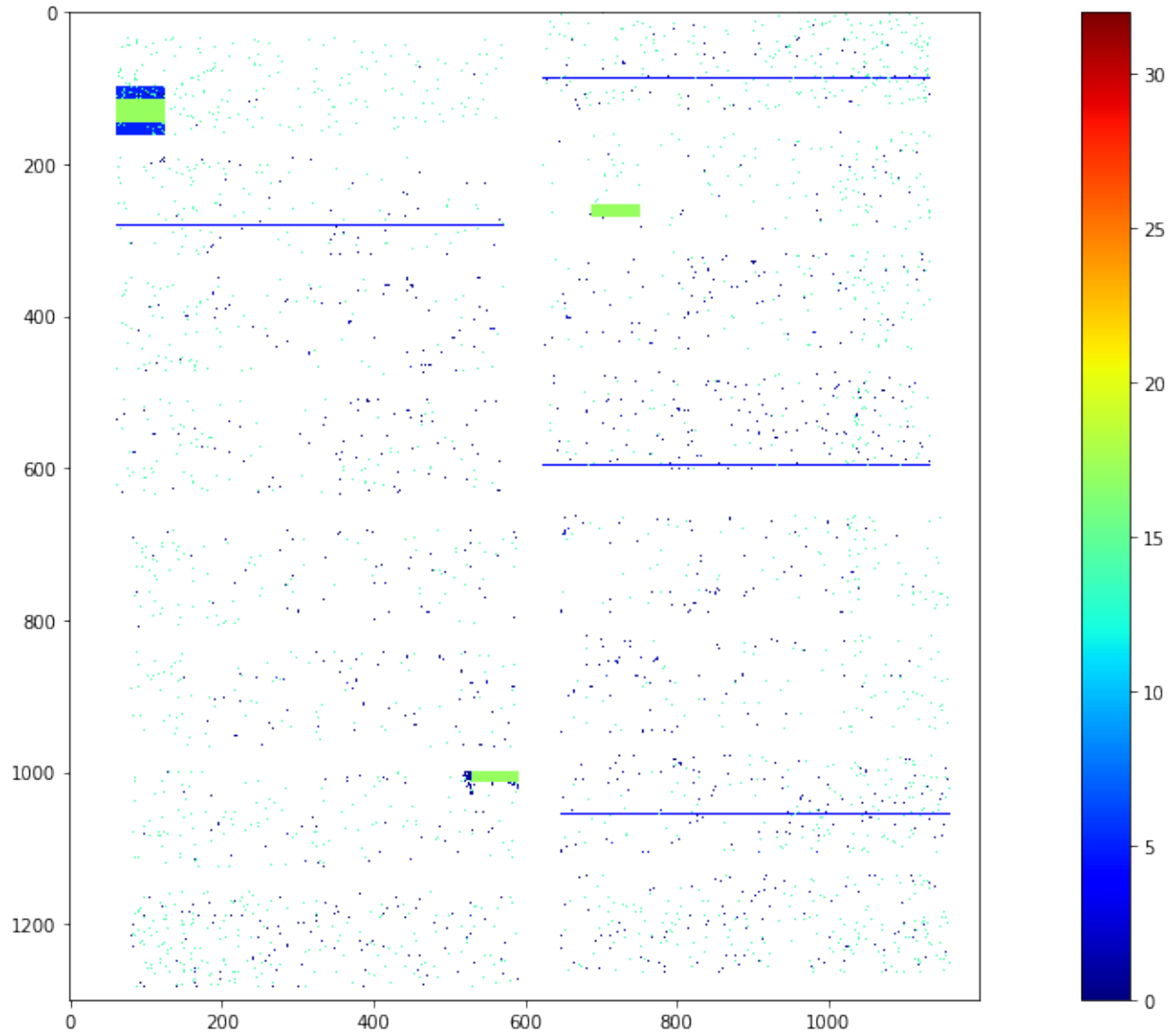
## 8.5 Bad Pixels

The mask contains dedicated entries for all pixels and memory cells as well as all three gains stages. Each mask entry is encoded in 32 bits as:

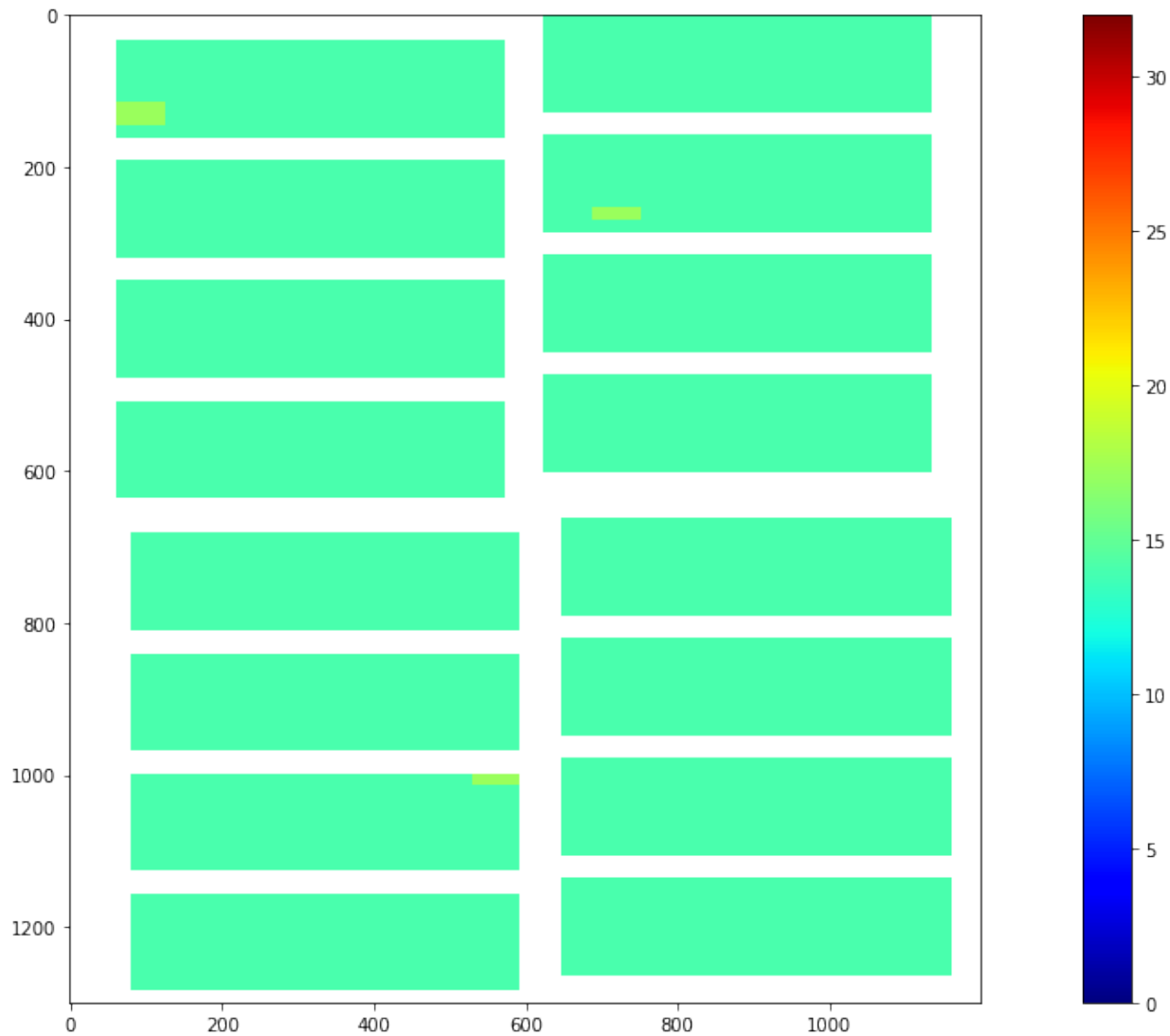
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	000000010000000
FF_GAIN_DEVIATION	000000100000000
FF_NO_ENTRIES	000001000000000
CI2_EVAL_ERROR	000010000000000
VALUE_IS_NAN	000010000000000
VALUE_OUT_OF_RANGE	000100000000000
GAIN_THRESHOLDING_ERROR	001000000000000
DATA_STD_IS_ZERO	010000000000000
ASIC_STD_BELOW_NOISE	100000000000000
INTERPOLATED	100000000000000
NOISY_ADC	100000000000000
OVERSCAN	100000000000000
NON_SENSITIVE	100000000000000
NON_LIN_RESPONSE_REGION	100000000000000

### 8.5.1 Single Shot Bad Pixels

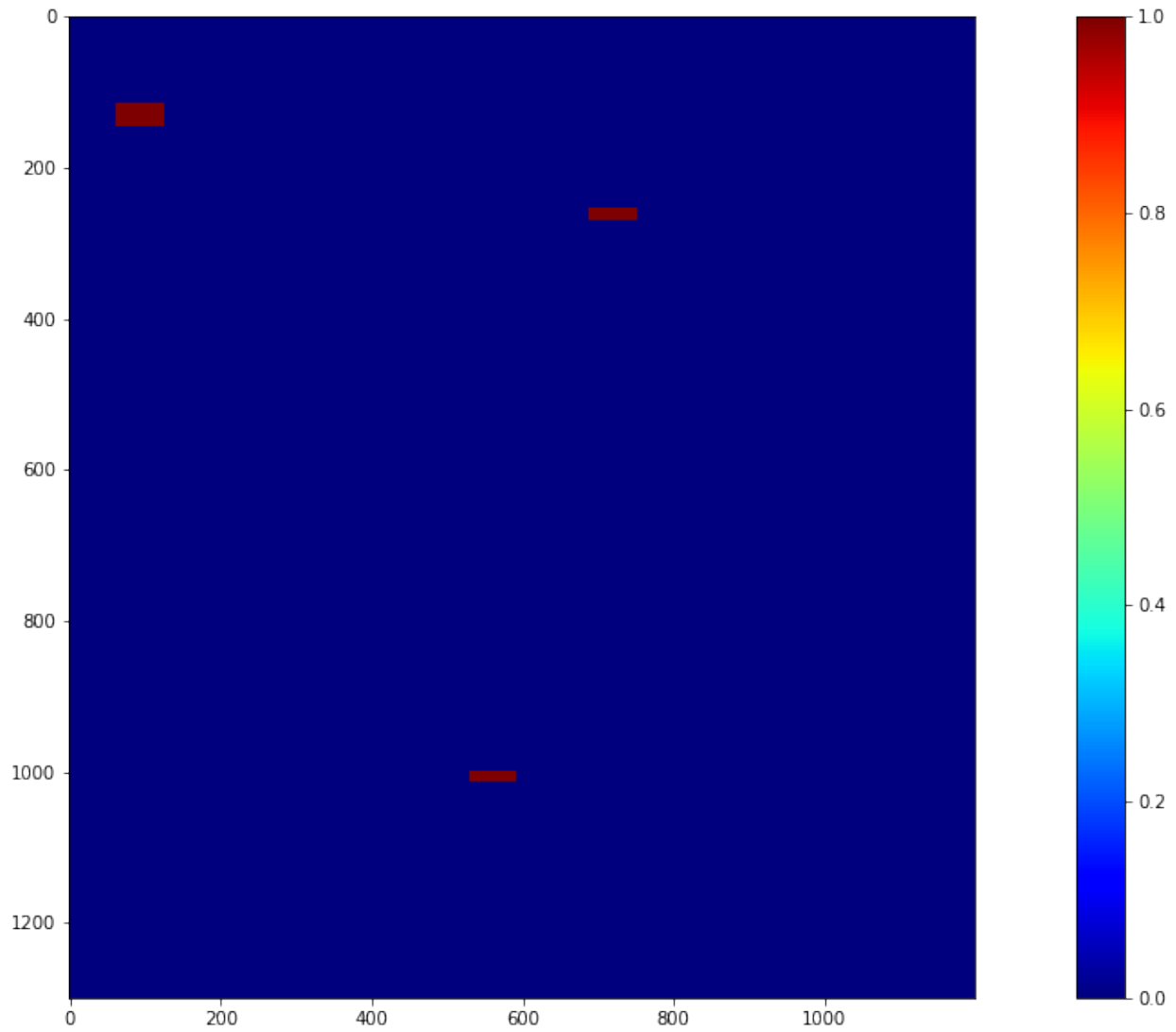
A single shot bad pixel map from cell 4 of the first train



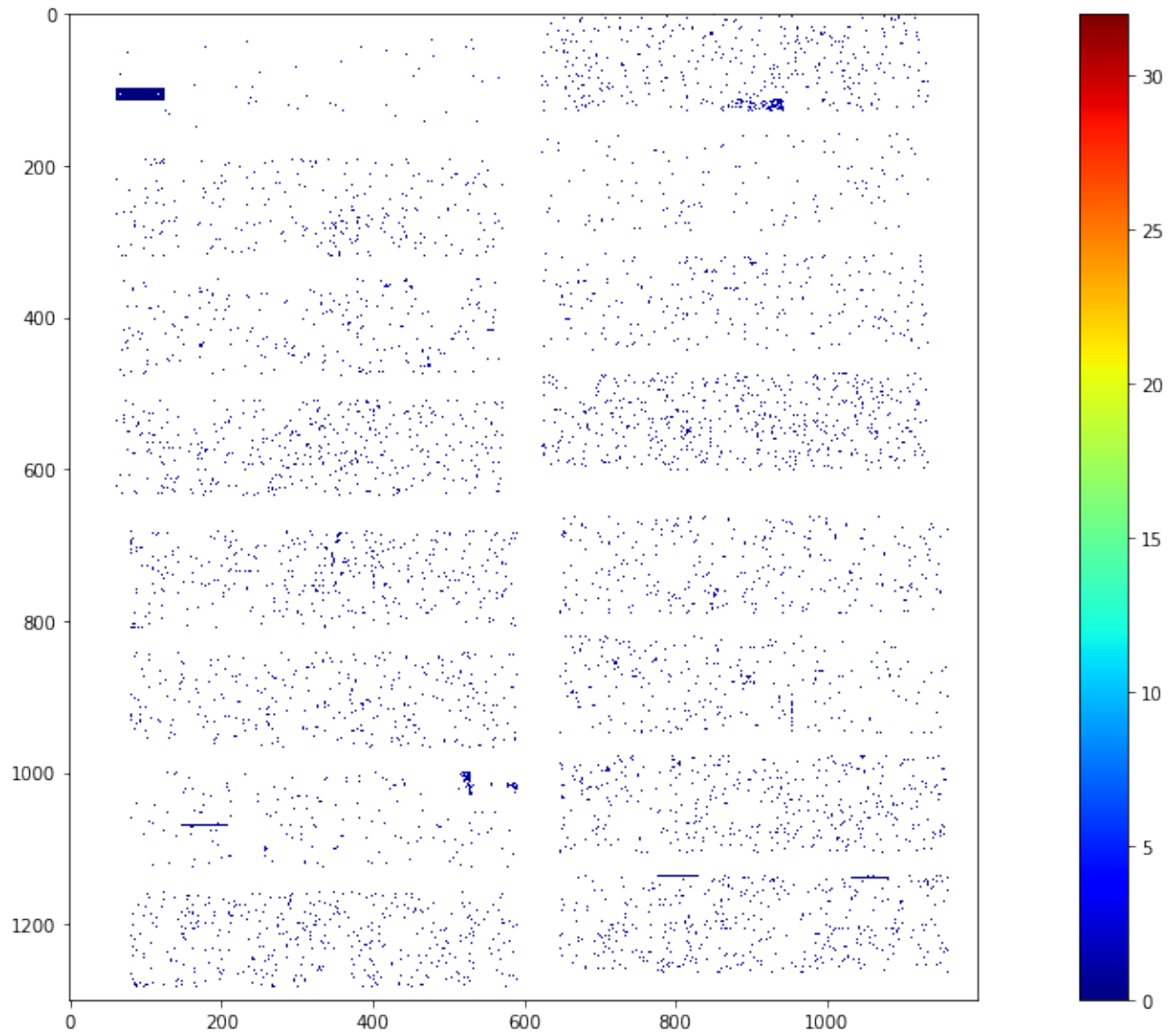
### 8.5.2 Full Train Bad Pixels



### 8.5.3 Full Train Bad Pixels - Only Dark Char. Related







## SUMMARY OF THE AGIPD OFFLINE CORRECTION

offset were injected on:

Time stamps	Modules and sequences
20-03-04 15:33	All modules

slopesPC were injected on:

Time stamps	Modules and sequences
19-11-25 21:00	S0: ['Q2M2'], S1: ['Q2M2'], S2: ['Q2M2'], S3: ['Q2M2'], S4: ['Q2M2'], S5: ['Q2M2'], S6: ['Q2M2'], S7: ['Q2M2']
19-11-25 21:04	S0: ['Q3M1'], S1: ['Q3M1'], S2: ['Q3M1'], S3: ['Q3M1'], S4: ['Q3M1'], S5: ['Q3M1'], S6: ['Q3M1'], S7: ['Q3M1']
19-11-25 21:05	S0: ['Q2M4'], S1: ['Q2M4'], S2: ['Q2M4'], S3: ['Q2M4'], S4: ['Q2M4'], S5: ['Q2M4'], S6: ['Q2M4'], S7: ['Q2M4']
19-11-25 21:09	S0: ['Q2M3'], S1: ['Q2M3'], S2: ['Q2M3'], S3: ['Q2M3'], S4: ['Q2M3'], S5: ['Q2M3'], S6: ['Q2M3'], S7: ['Q2M3']
19-11-25 21:24	S0: ['Q1M2'], S1: ['Q1M2'], S2: ['Q1M2'], S3: ['Q1M2'], S4: ['Q1M2'], S5: ['Q1M2'], S6: ['Q1M2'], S7: ['Q1M2']
19-11-25 21:30	S0: ['Q2M1'], S1: ['Q2M1'], S2: ['Q2M1'], S3: ['Q2M1'], S4: ['Q2M1'], S5: ['Q2M1'], S6: ['Q2M1'], S7: ['Q2M1']
19-11-25 21:33	S0: ['Q4M2'], S1: ['Q4M2'], S2: ['Q4M2'], S3: ['Q4M2'], S4: ['Q4M2'], S5: ['Q4M2'], S6: ['Q4M2'], S7: ['Q4M2']
19-11-25 21:34	S0: ['Q3M2'], S1: ['Q3M2'], S2: ['Q3M2'], S3: ['Q3M2'], S4: ['Q3M2'], S5: ['Q3M2'], S6: ['Q3M2'], S7: ['Q3M2']
19-11-25 21:40	Rest of the modules
19-11-25 21:42	S0: ['Q4M3'], S1: ['Q4M3'], S2: ['Q4M3'], S3: ['Q4M3'], S4: ['Q4M3'], S5: ['Q4M3'], S6: ['Q4M3'], S7: ['Q4M3']
19-11-25 21:58	S0: ['Q3M4'], S1: ['Q3M4'], S2: ['Q3M4'], S3: ['Q3M4'], S4: ['Q3M4'], S5: ['Q3M4'], S6: ['Q3M4'], S7: ['Q3M4']
19-11-25 21:59	S0: ['Q4M4'], S1: ['Q4M4'], S2: ['Q4M4'], S3: ['Q4M4'], S4: ['Q4M4'], S5: ['Q4M4'], S6: ['Q4M4'], S7: ['Q4M4']
19-11-25 22:00	S0: ['Q3M3'], S1: ['Q3M3'], S2: ['Q3M3'], S3: ['Q3M3'], S4: ['Q3M3'], S5: ['Q3M3'], S6: ['Q3M3'], S7: ['Q3M3']
19-11-25 22:01	S0: ['Q1M4'], S1: ['Q1M4'], S2: ['Q1M4'], S3: ['Q1M4'], S4: ['Q1M4'], S5: ['Q1M4'], S6: ['Q1M4'], S7: ['Q1M4']
19-11-25 22:07	S0: ['Q4M1'], S1: ['Q4M1'], S2: ['Q4M1'], S3: ['Q4M1'], S4: ['Q4M1'], S5: ['Q4M1'], S6: ['Q4M1'], S7: ['Q4M1']

slopesFF were injected on:

Time stamps	Modules and sequences
NA	All modules

## RUNTIME SUMMARY

JobID	Elapsed	Suspended
4658851	01:34:36	00:00:00
4658852	02:03:01	00:00:00
4658853	02:16:56	00:00:00
4658854	01:36:39	00:00:00
4658855	02:01:32	00:00:00
4658856	02:03:18	00:00:00
4658857	01:15:05	00:00:00
4658858	00:00:26	00:00:00