

AGIPD Offline Correction



Detector group

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

Release : 2.8.3

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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	85	runs to process, required
out-folder	“/gpfs/exfel/d/proc/SPB/202030/-p900119/r0085”	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 = 12-14

```
Connecting to profile slurm_prof_clfef9b9-95f1-41b3-b833-37b073885cd7_12-14
Using 2020-03-08 06:57:31+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/r0085
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

2.1 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/r0085/RAW-R0085-AGIPD00-S00012.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00013.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00014.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00012.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00013.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00014.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00012.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00013.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00014.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00012.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00013.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00014.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00012.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00013.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00014.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00012.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00013.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00014.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00012.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00013.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00014.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00012.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00013.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00014.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00012.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00013.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00014.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00012.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00013.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00014.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00012.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00013.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00014.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00012.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00013.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00014.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00012.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00013.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00014.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00012.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00013.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00014.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00012.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00013.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00014.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00012.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00013.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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
```

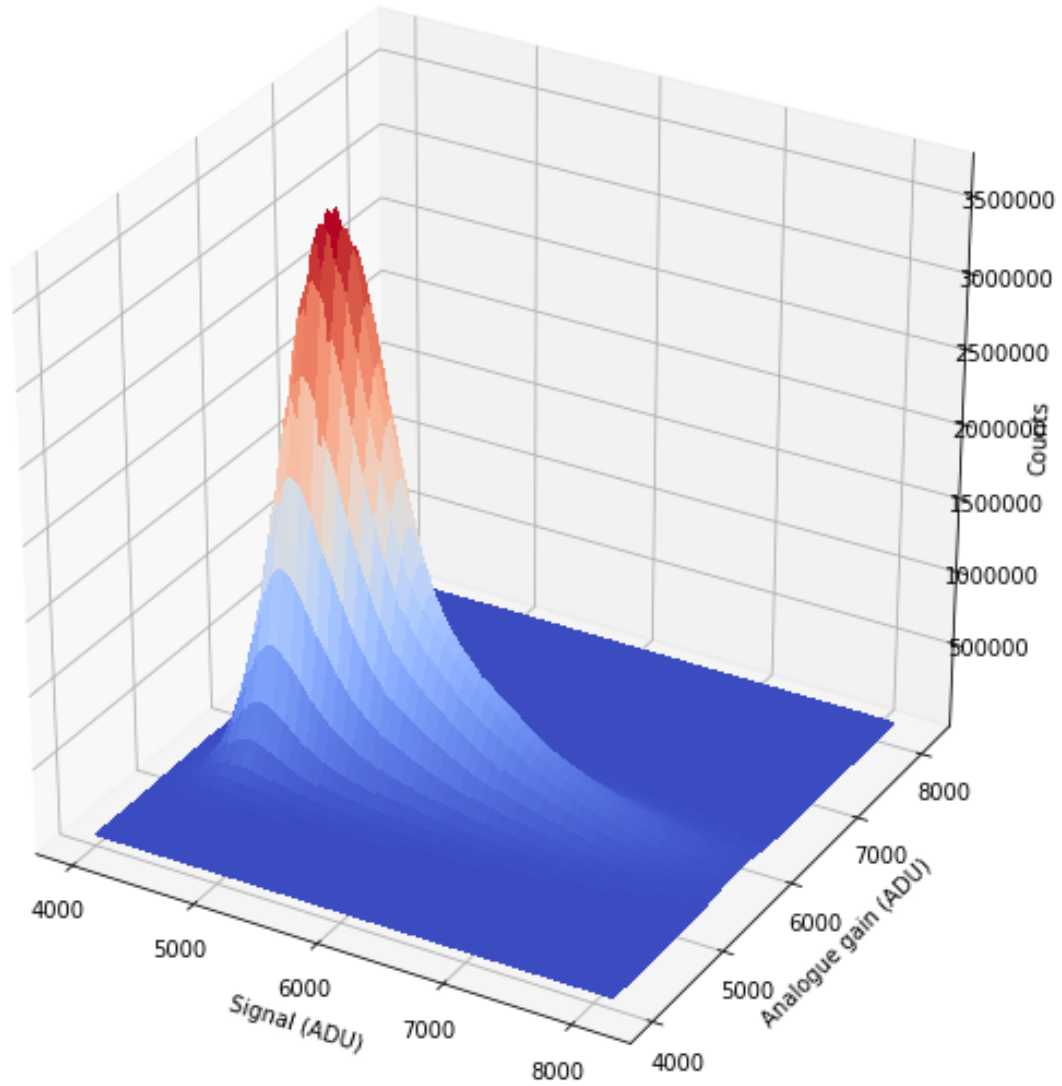
```
bppc..... None
slopesPC.... None
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 20-03-05 18:19
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
```

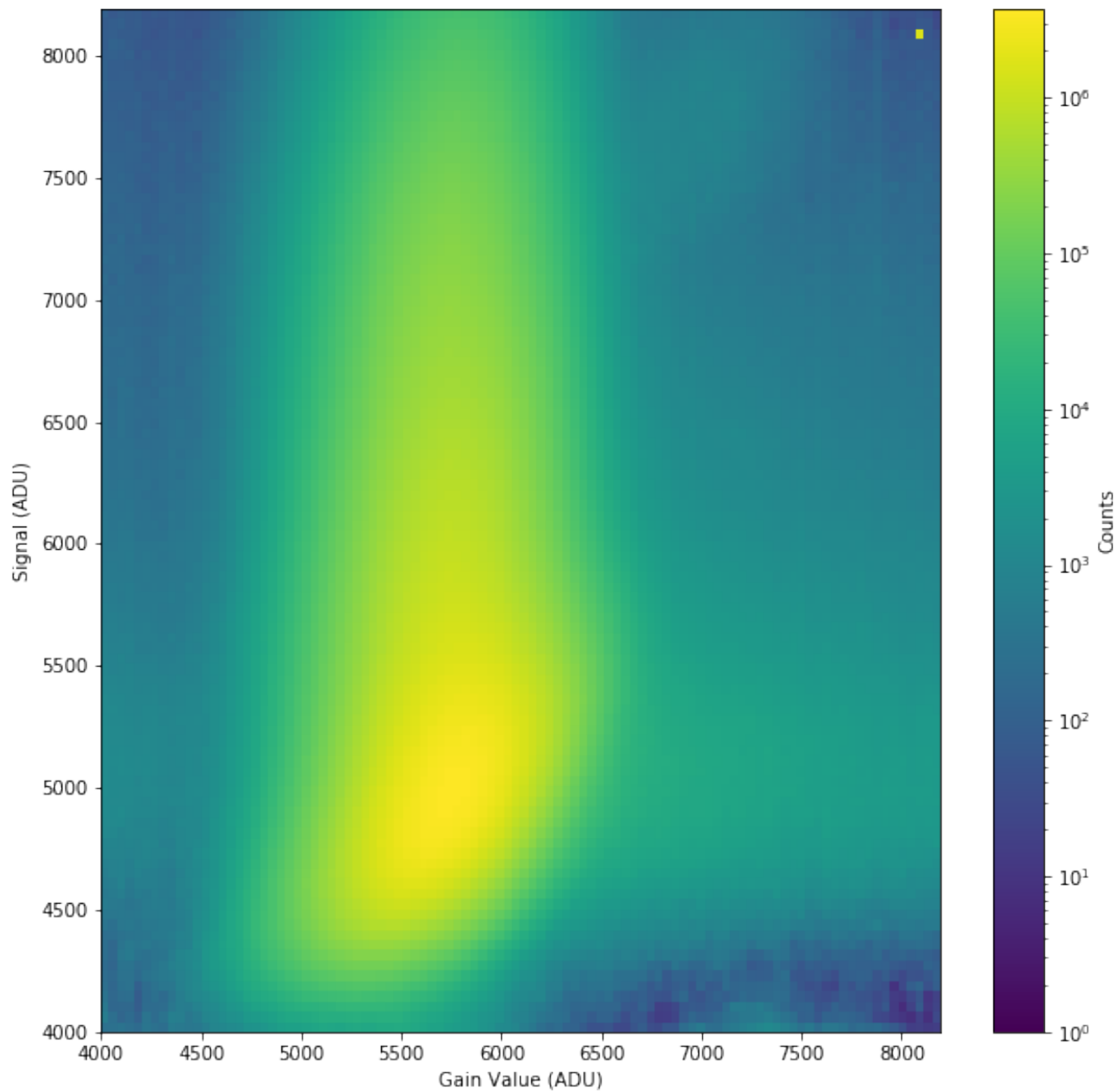
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 20-03-05 18:22
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
```

2.2 Signal vs. Analogue Gain

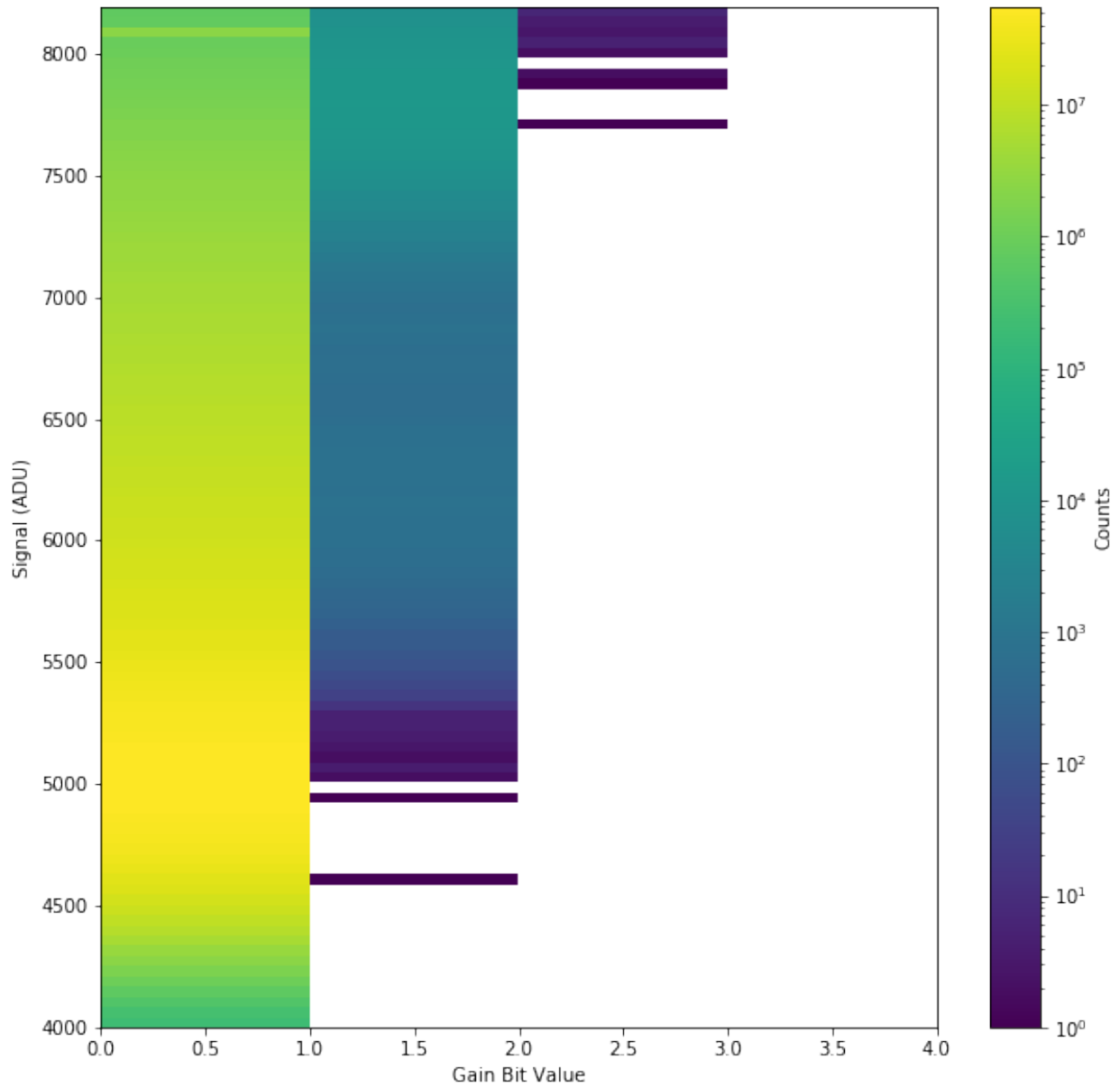
The following plot shows plots signal vs. gain for the first 128 images.

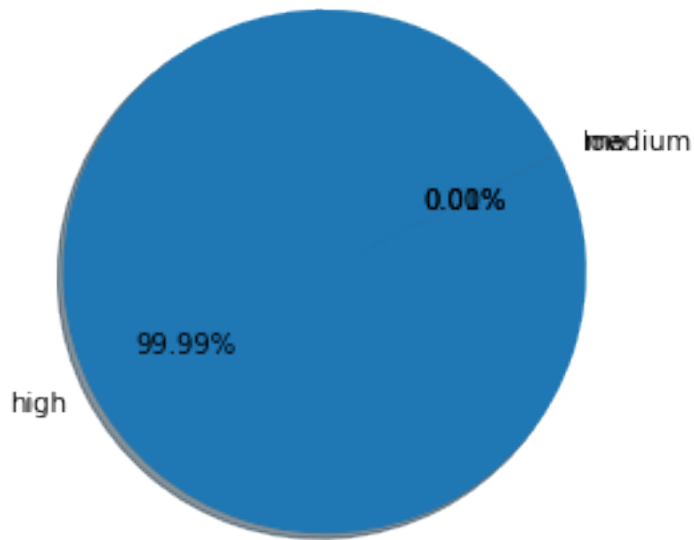




2.3 Signal vs. Digitized Gain

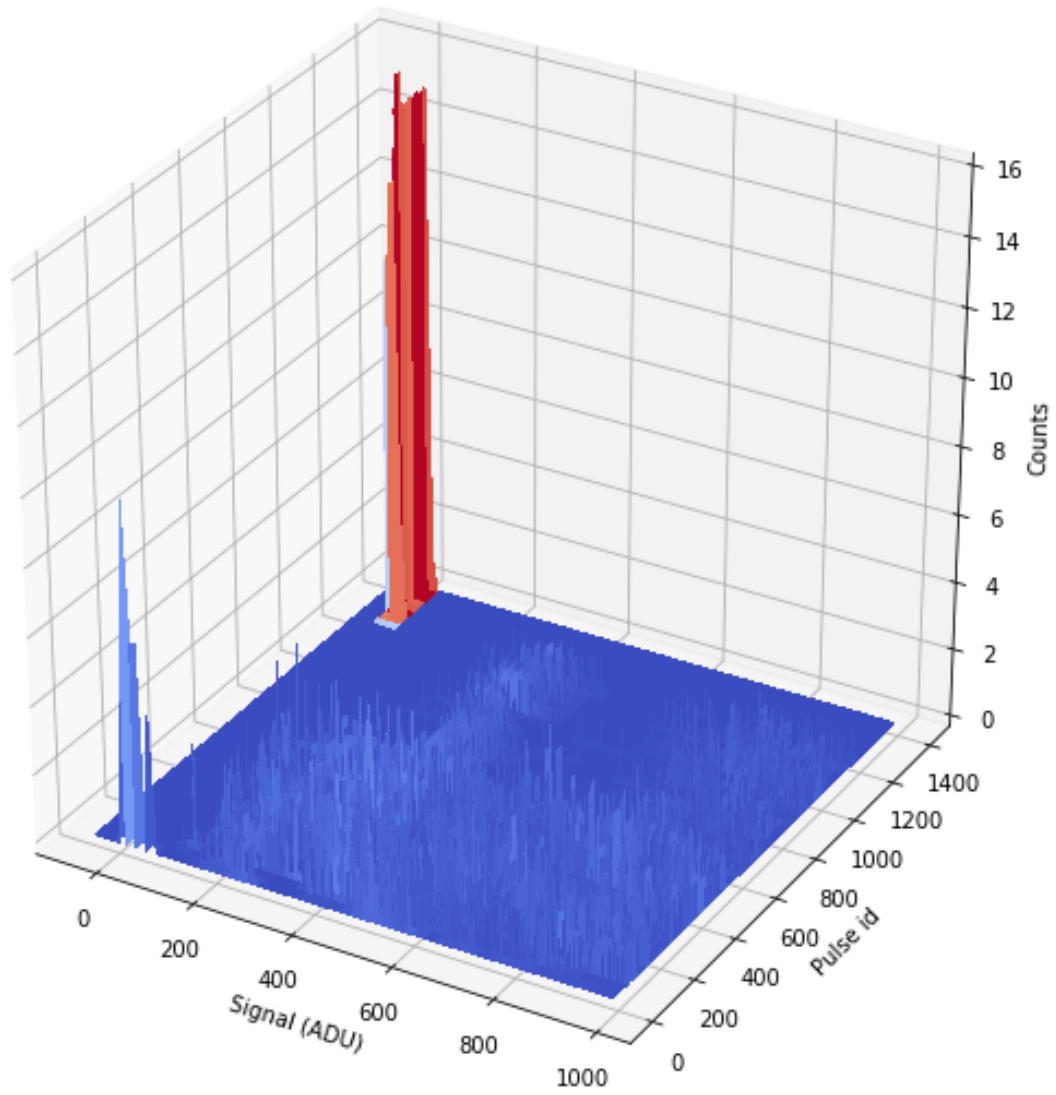
The following plot shows plots signal vs. digitized gain for the first 128 images.

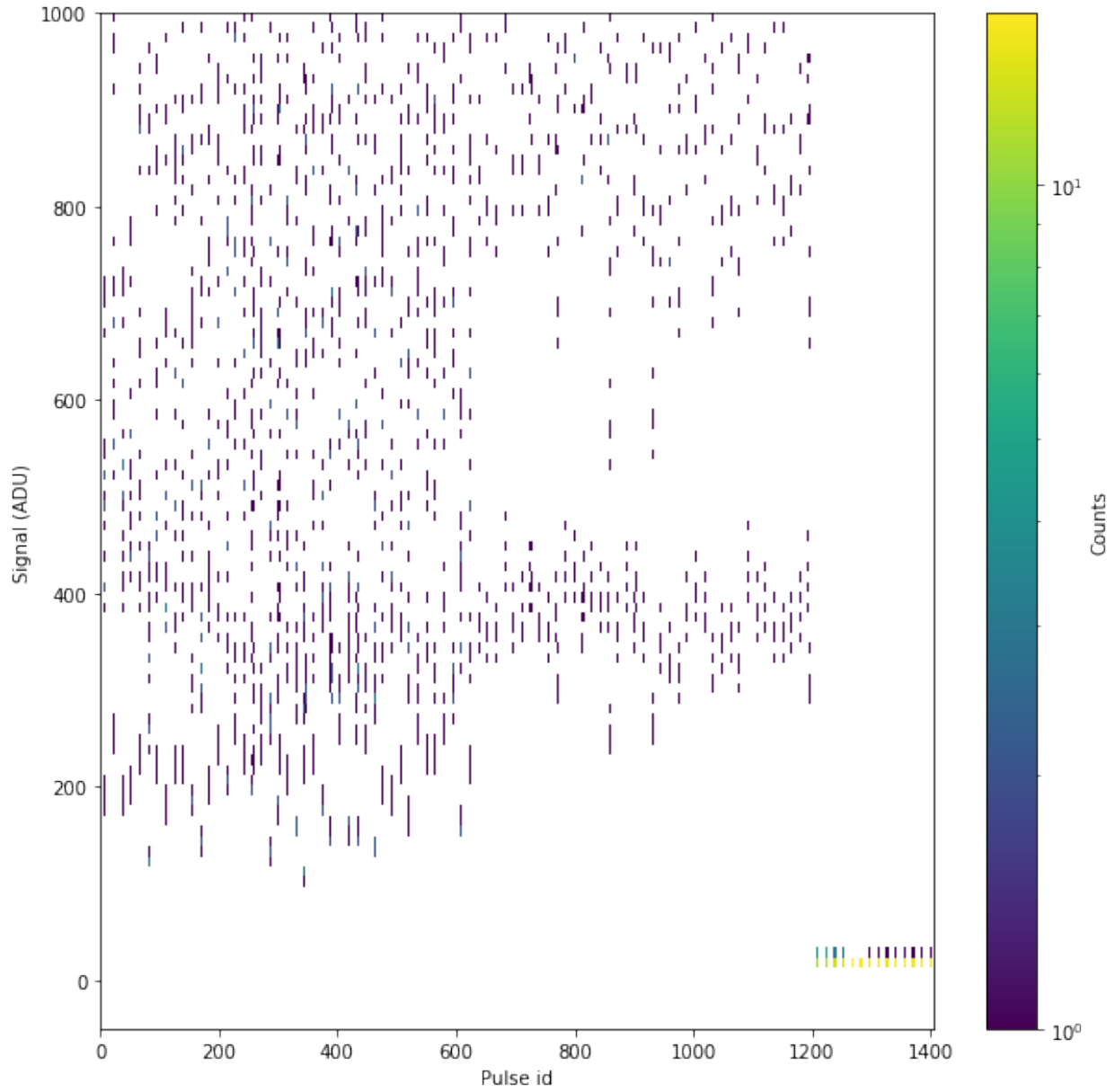


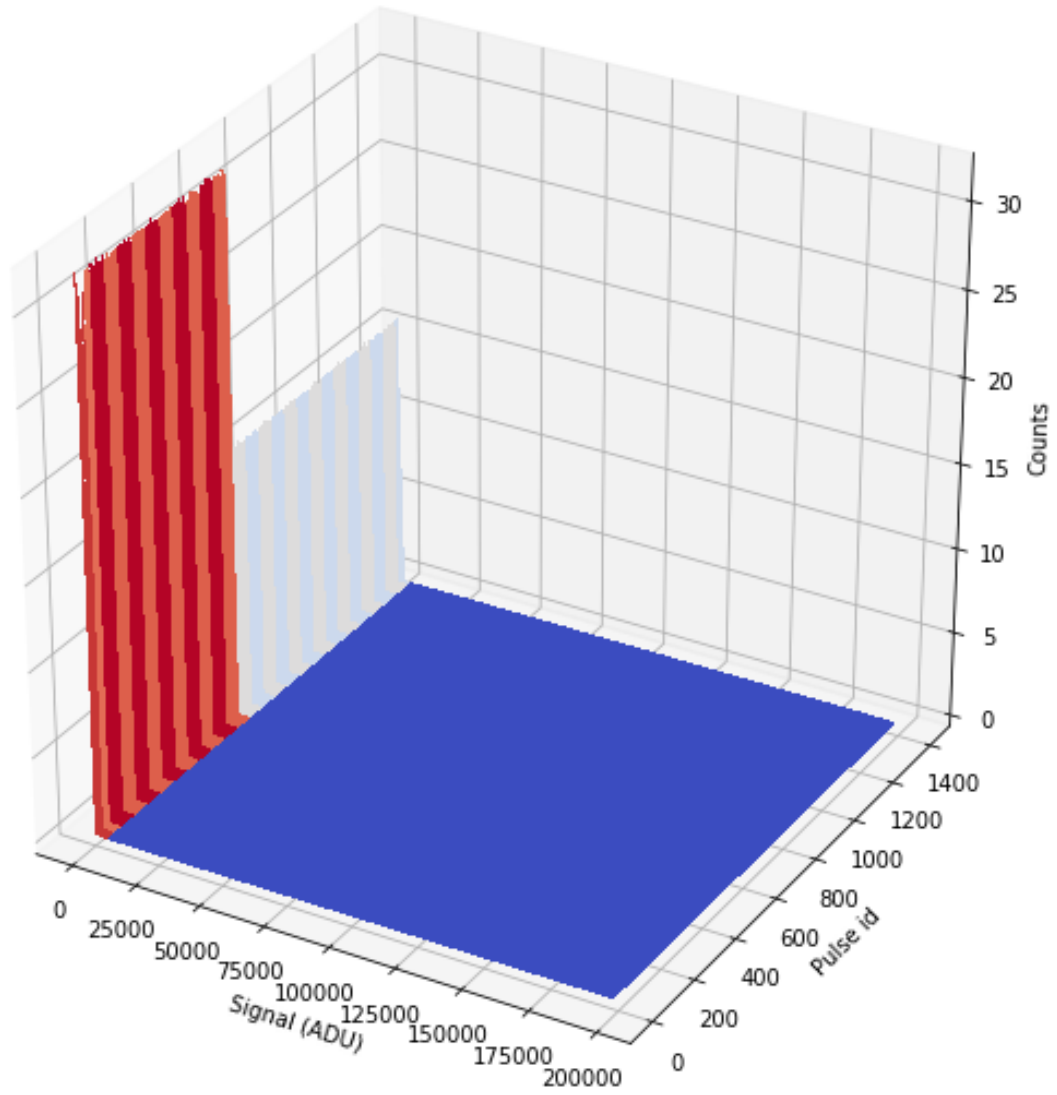


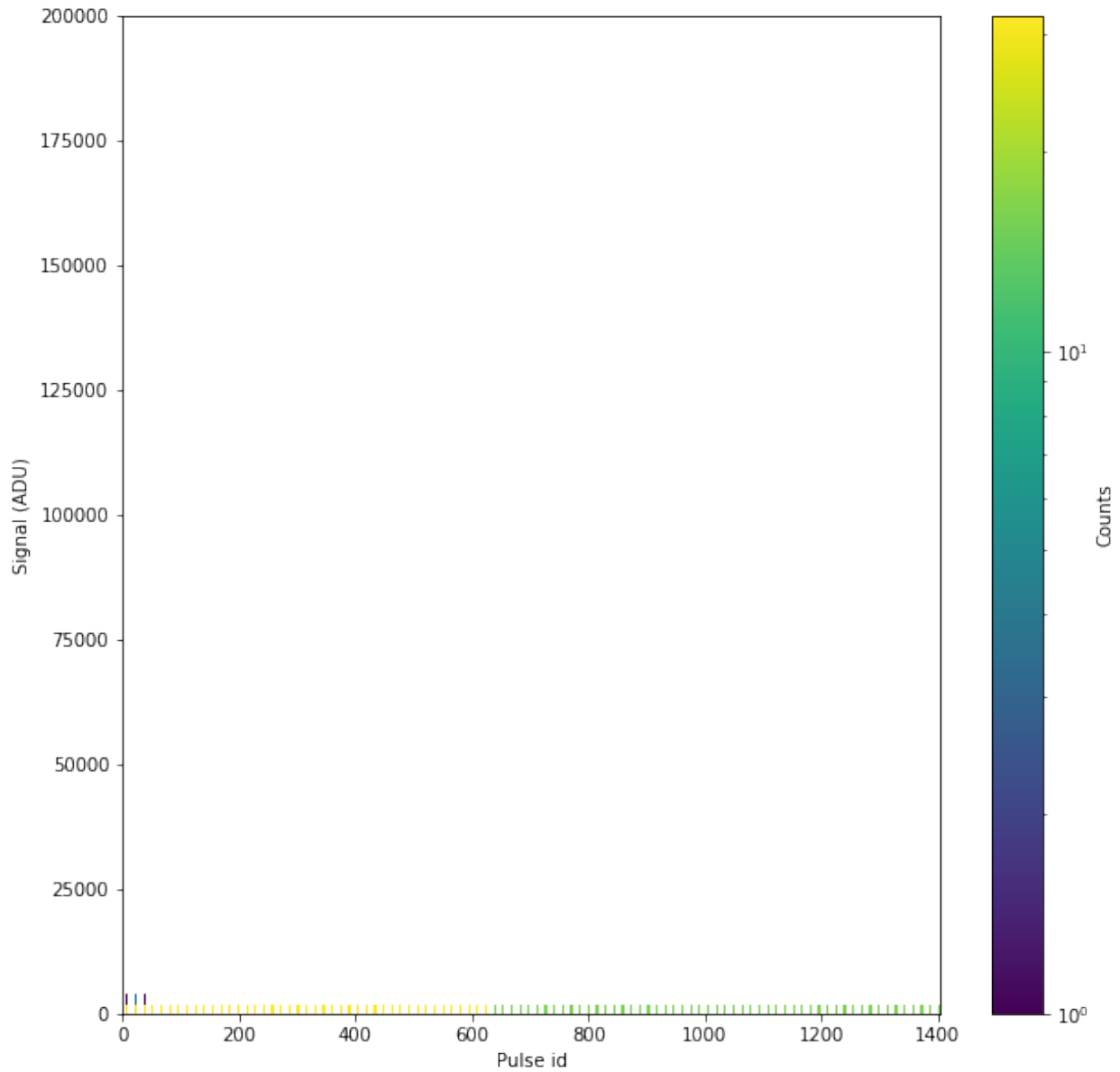
2.4 Mean Intensity per Pulse

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



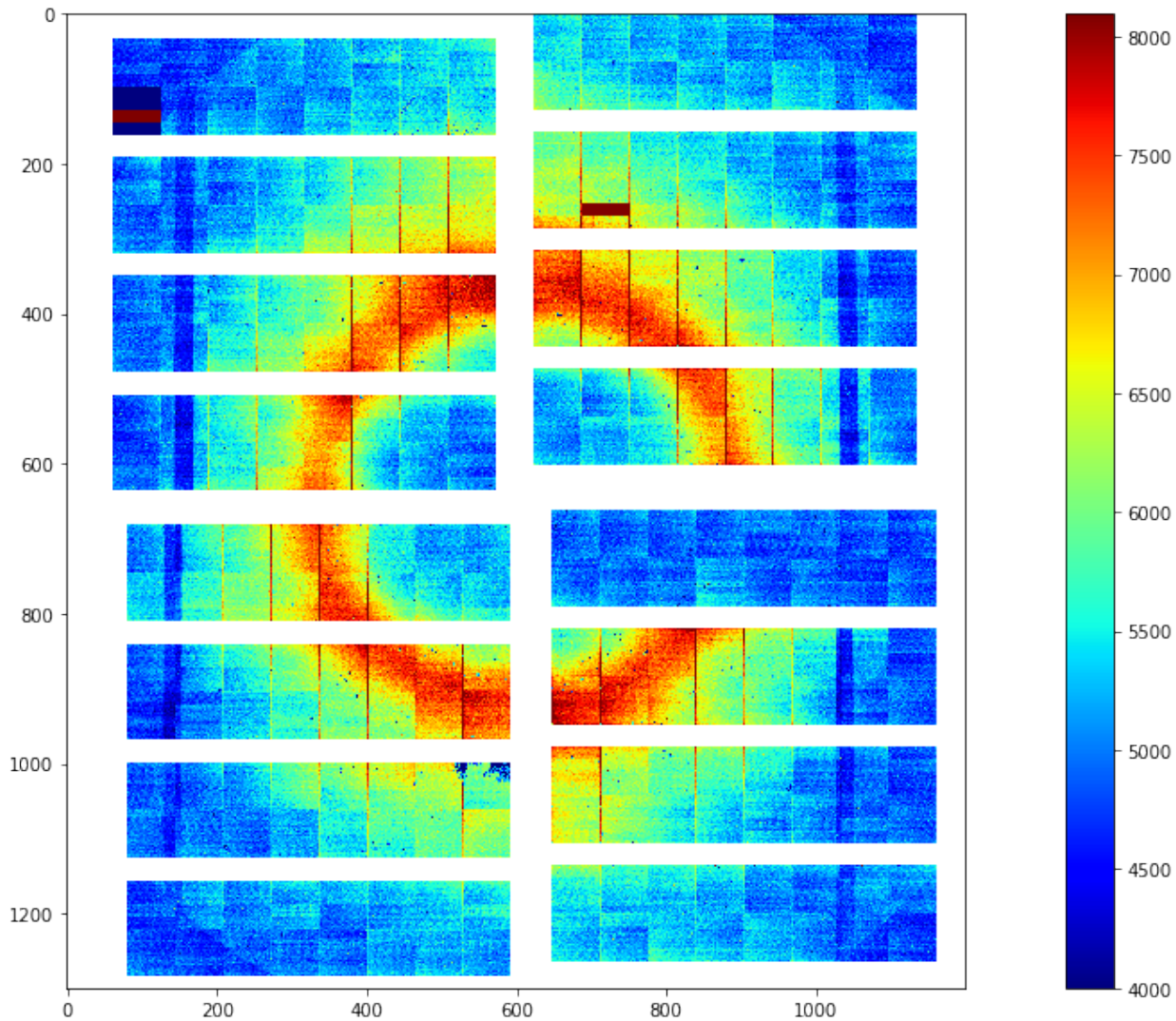






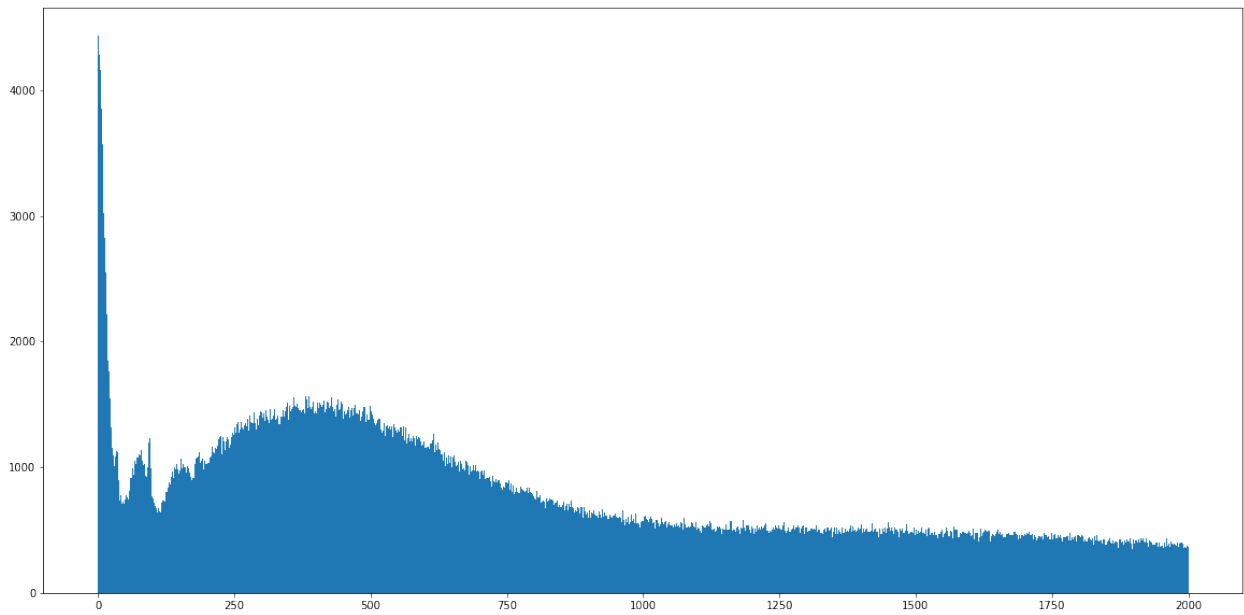
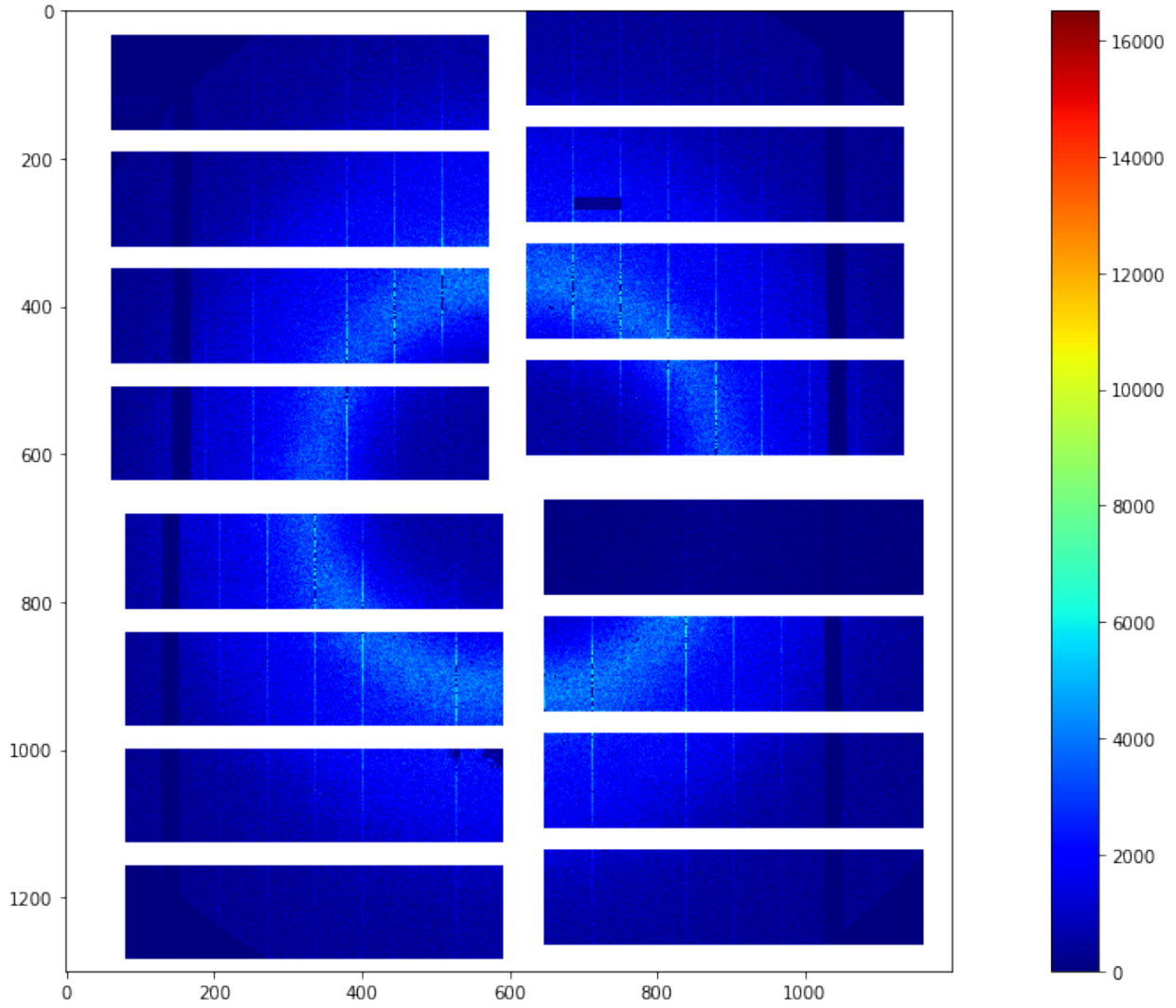
2.4.1 Mean RAW Preview

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



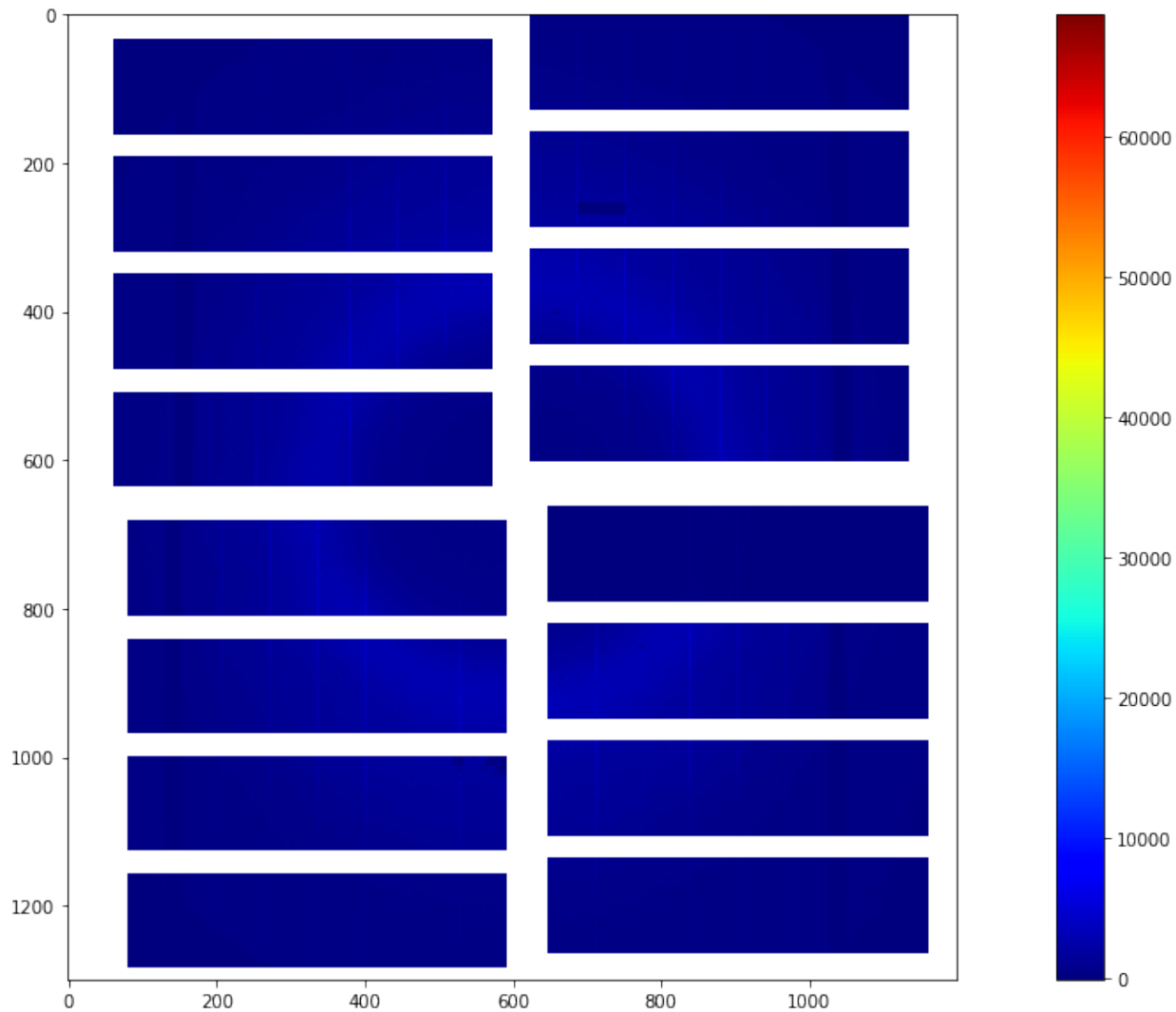
2.4.2 Single Shot Preview

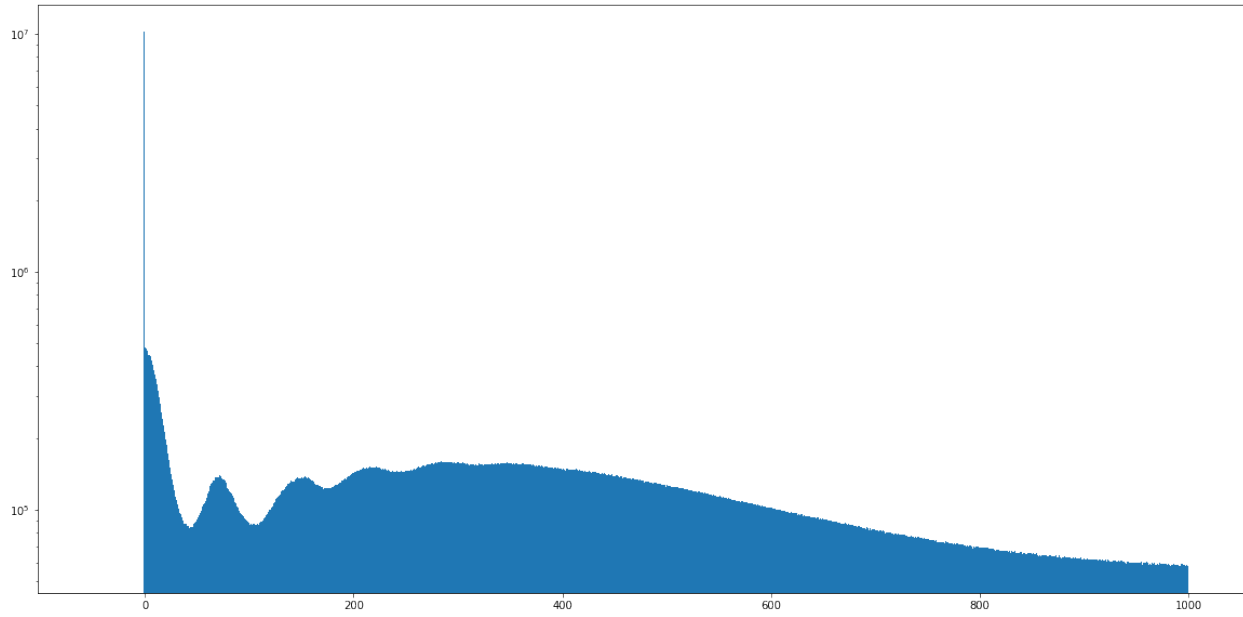
A single shot image from cell 12 of the first train



2.4.3 Mean CORRECTED Preview

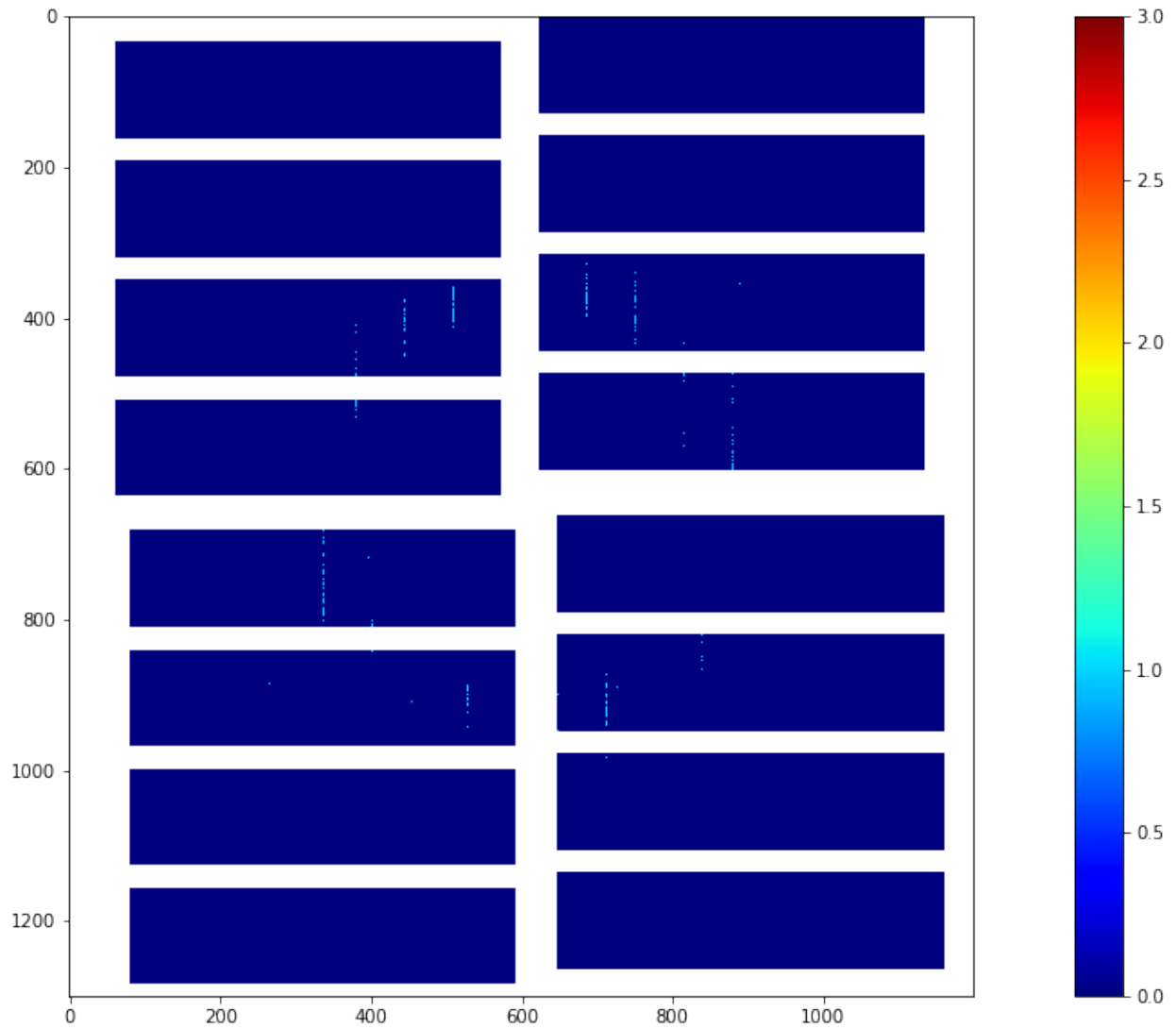
The per pixel mean of the first 128 images of the CORRECTED data





2.4.4 Maximum GAIN Preview

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



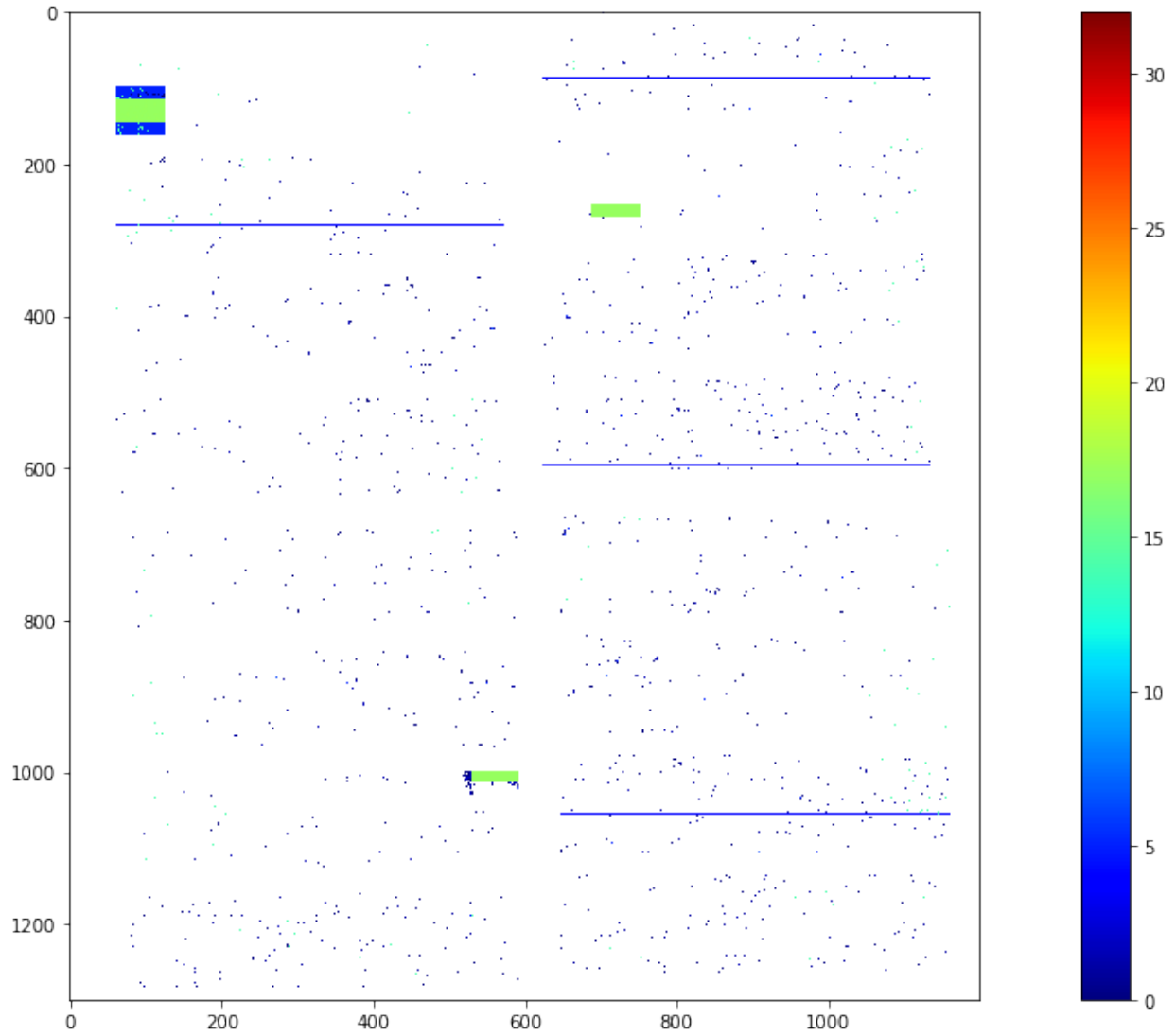
2.5 Bad Pixels

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:

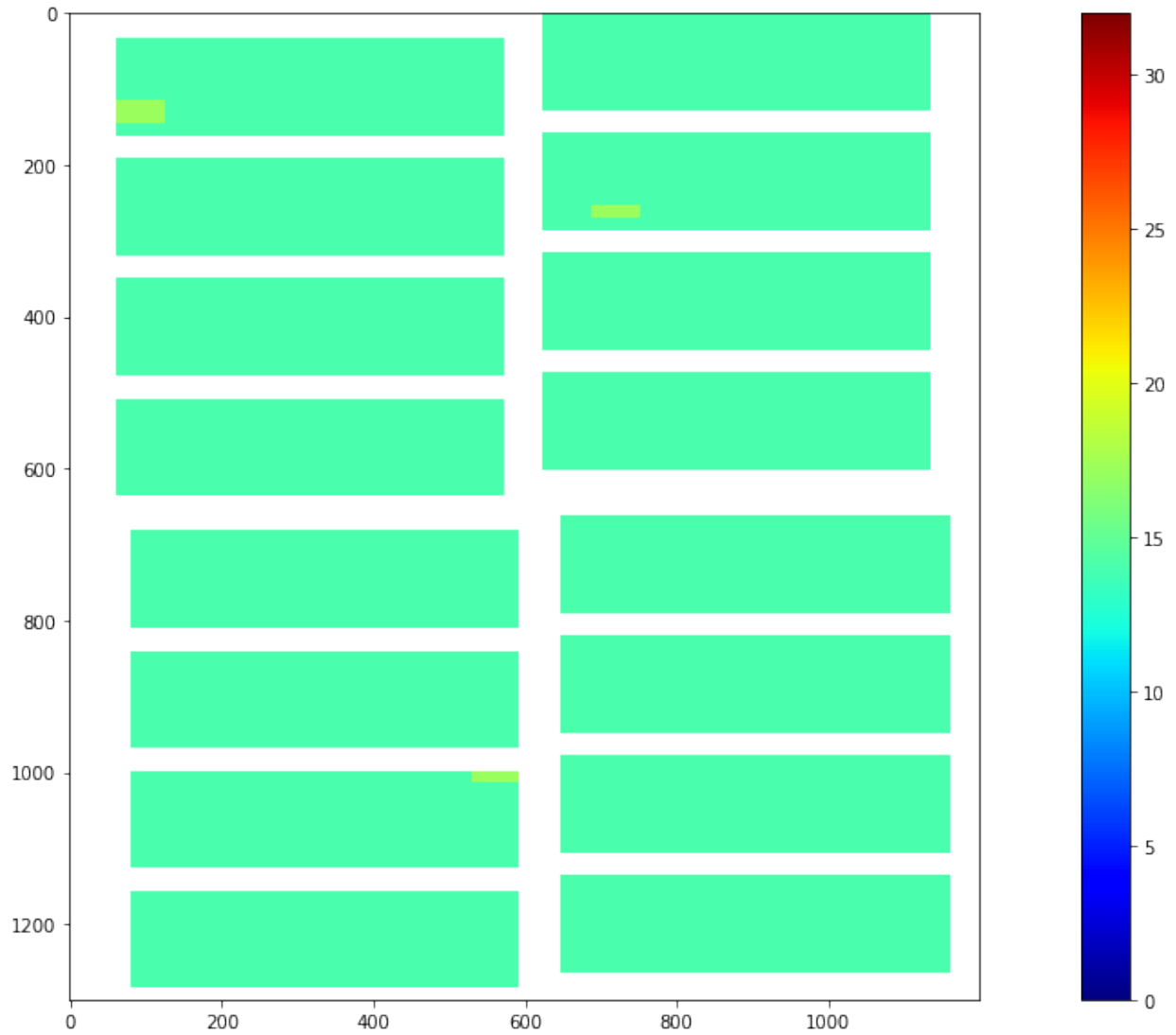
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	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

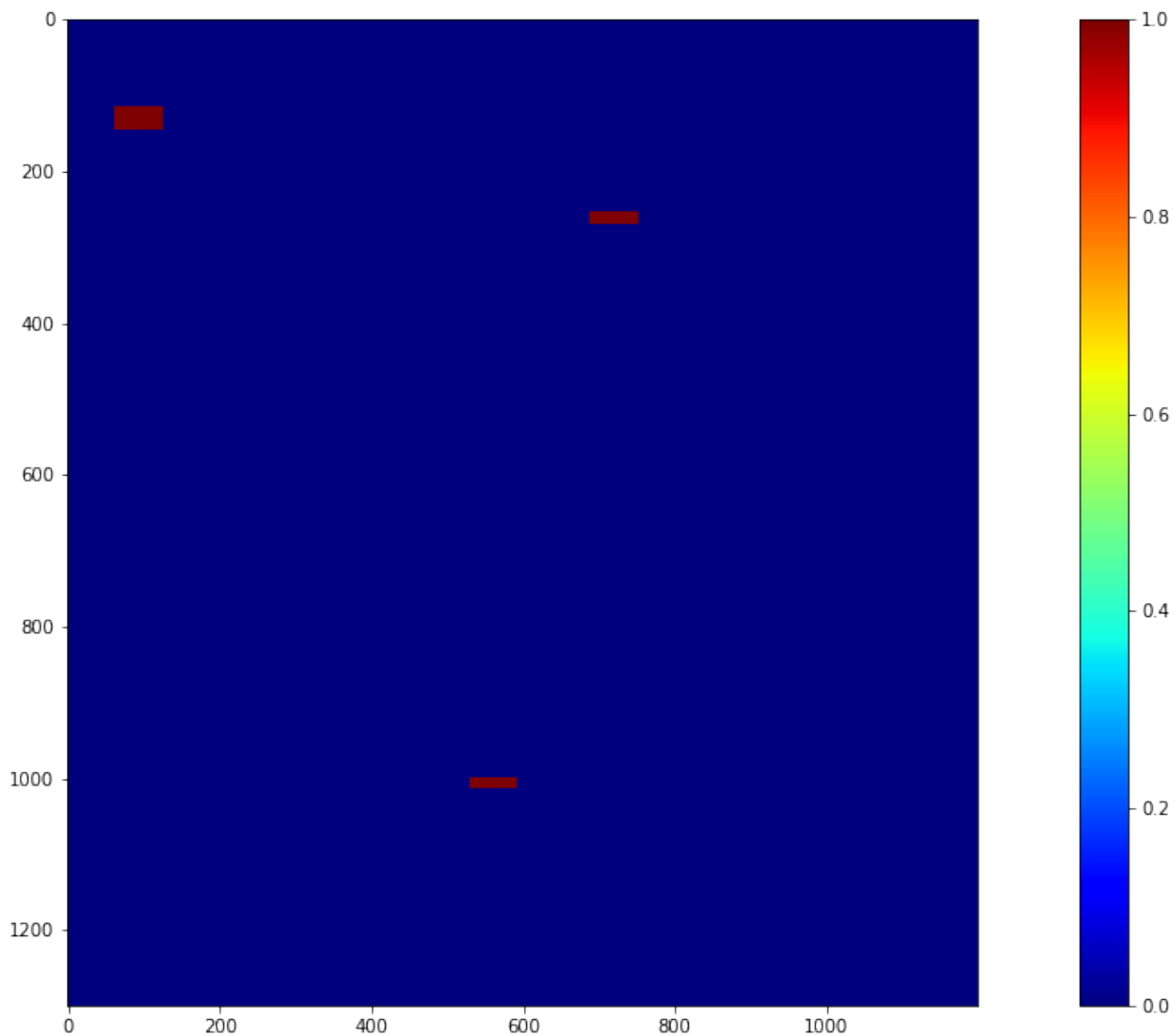
A single shot bad pixel map from cell 4 of the first train

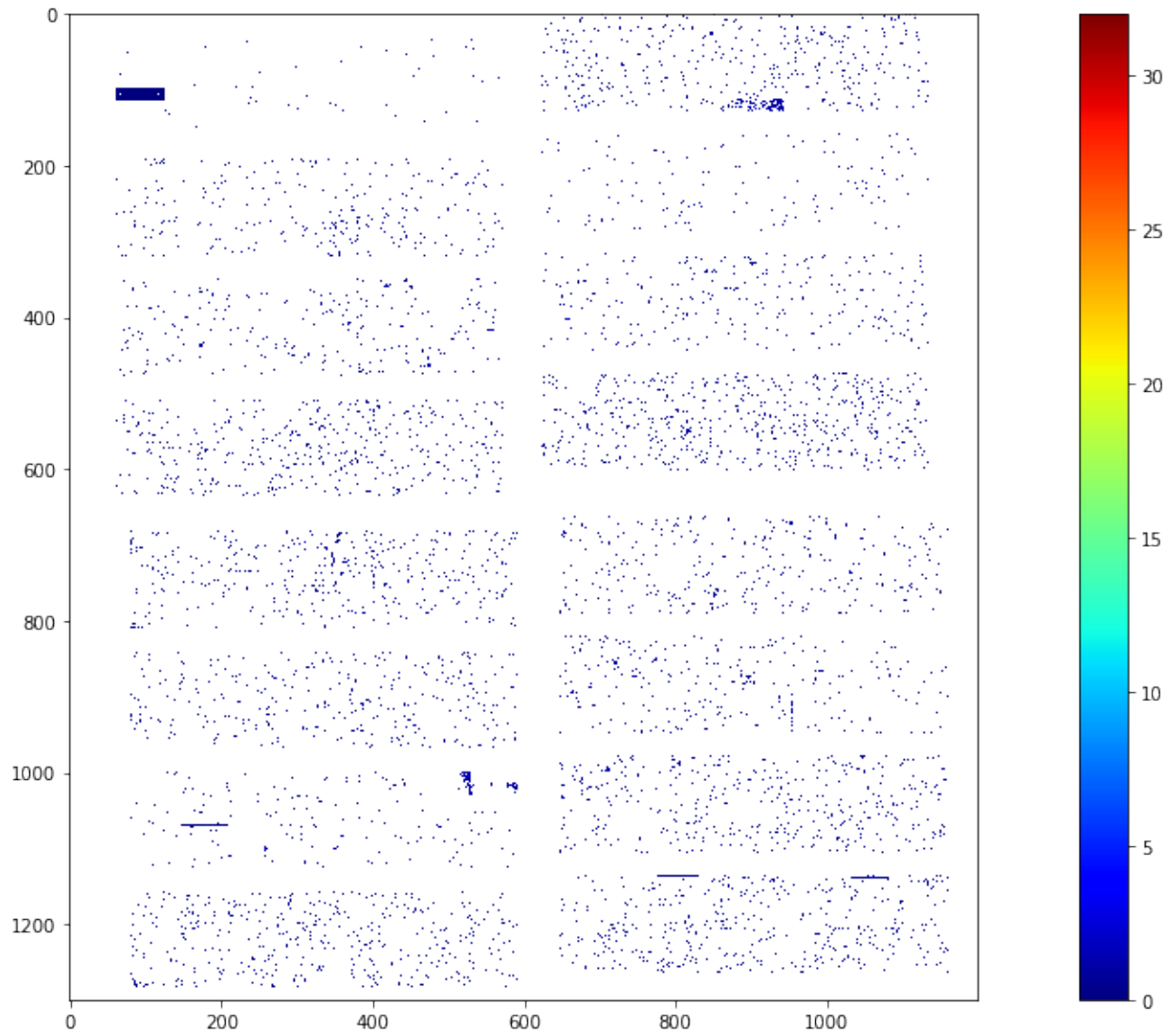


2.5.2 Full Train Bad Pixels



2.5.3 Full Train Bad Pixels - Only Dark Char. Related





AGIPD OFFLINE CORRECTION, SEQUENCES = 15-17

```
Connecting to profile slurm_prof_clfef9b9-95f1-41b3-b833-37b073885cd7_15-17
Using 2020-03-08 06:57:31+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/r0085
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

3.1 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/r0085/RAW-R0085-AGIPD00-S00015.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00016.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00017.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00015.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00016.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00017.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00015.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00016.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00017.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00015.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00016.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00017.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00015.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00016.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00017.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00015.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00016.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00017.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00015.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00016.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00017.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00015.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00016.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00017.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00015.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00016.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00017.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00015.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00016.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00017.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00015.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00016.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00017.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00015.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00016.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00017.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00015.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00016.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00017.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00015.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00016.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00017.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00015.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00016.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00017.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00015.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00016.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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
```

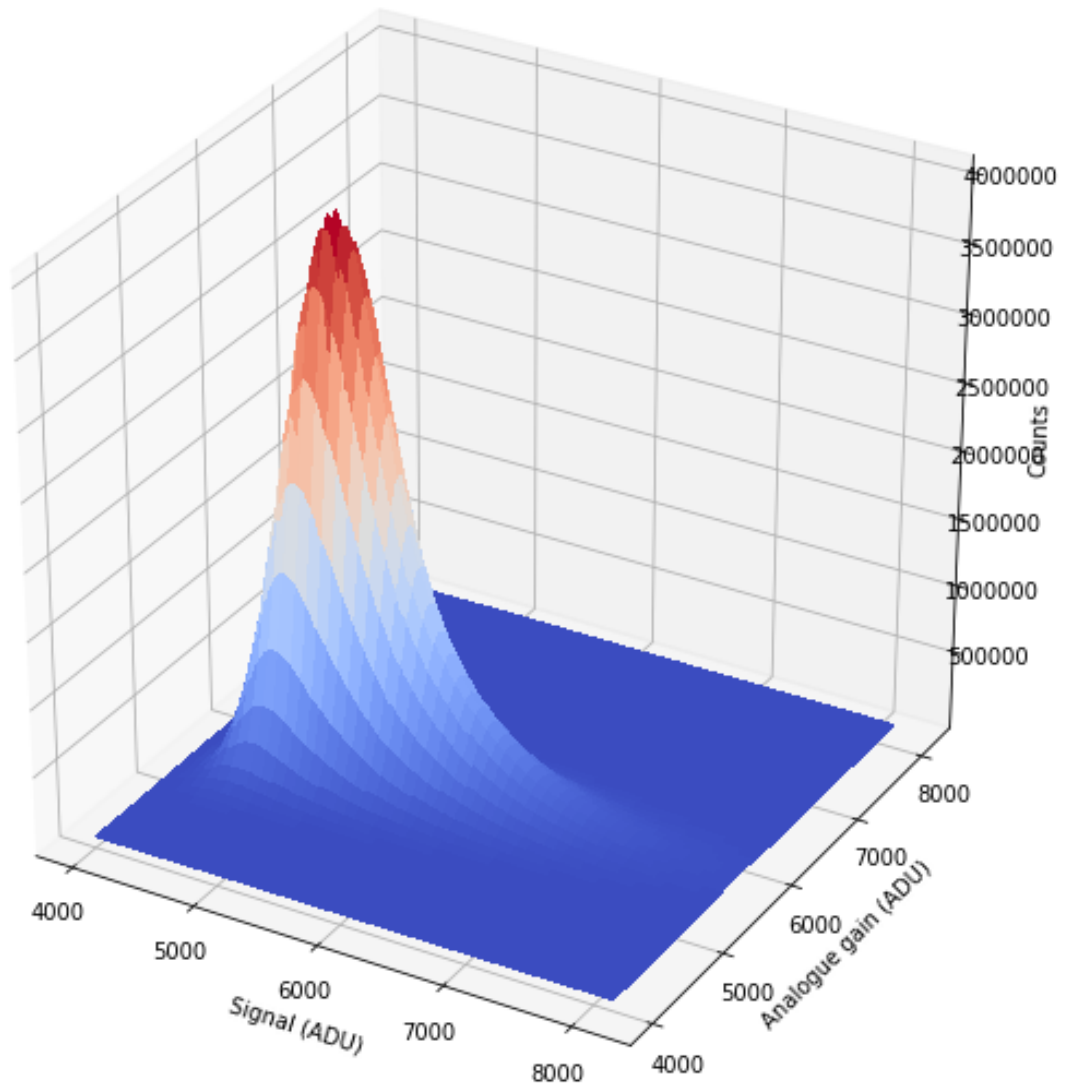
```
bppc..... None
slopesPC.... None
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 20-03-05 18:19
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
```

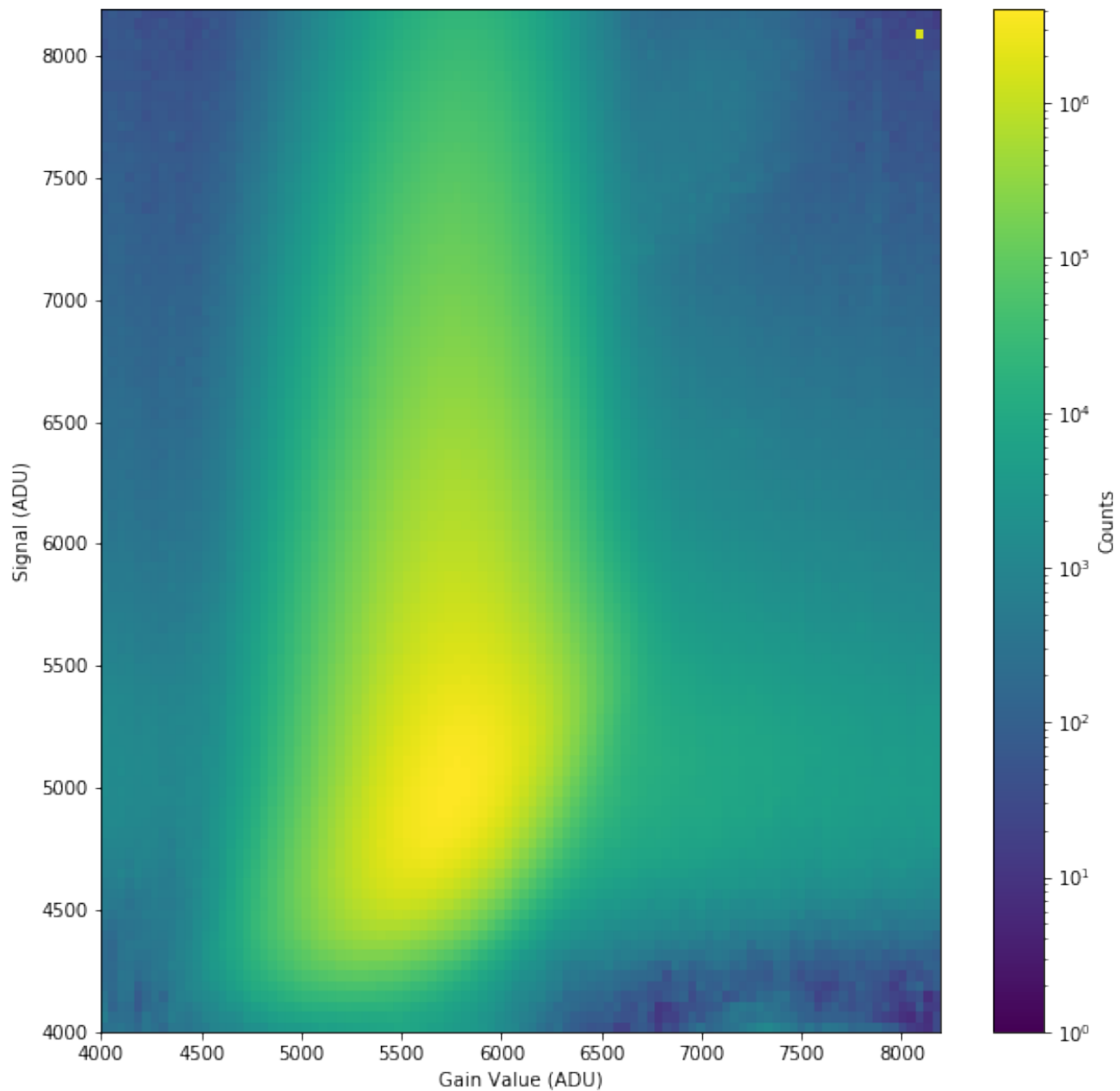
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 20-03-05 18:22
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
```

3.2 Signal vs. Analogue Gain

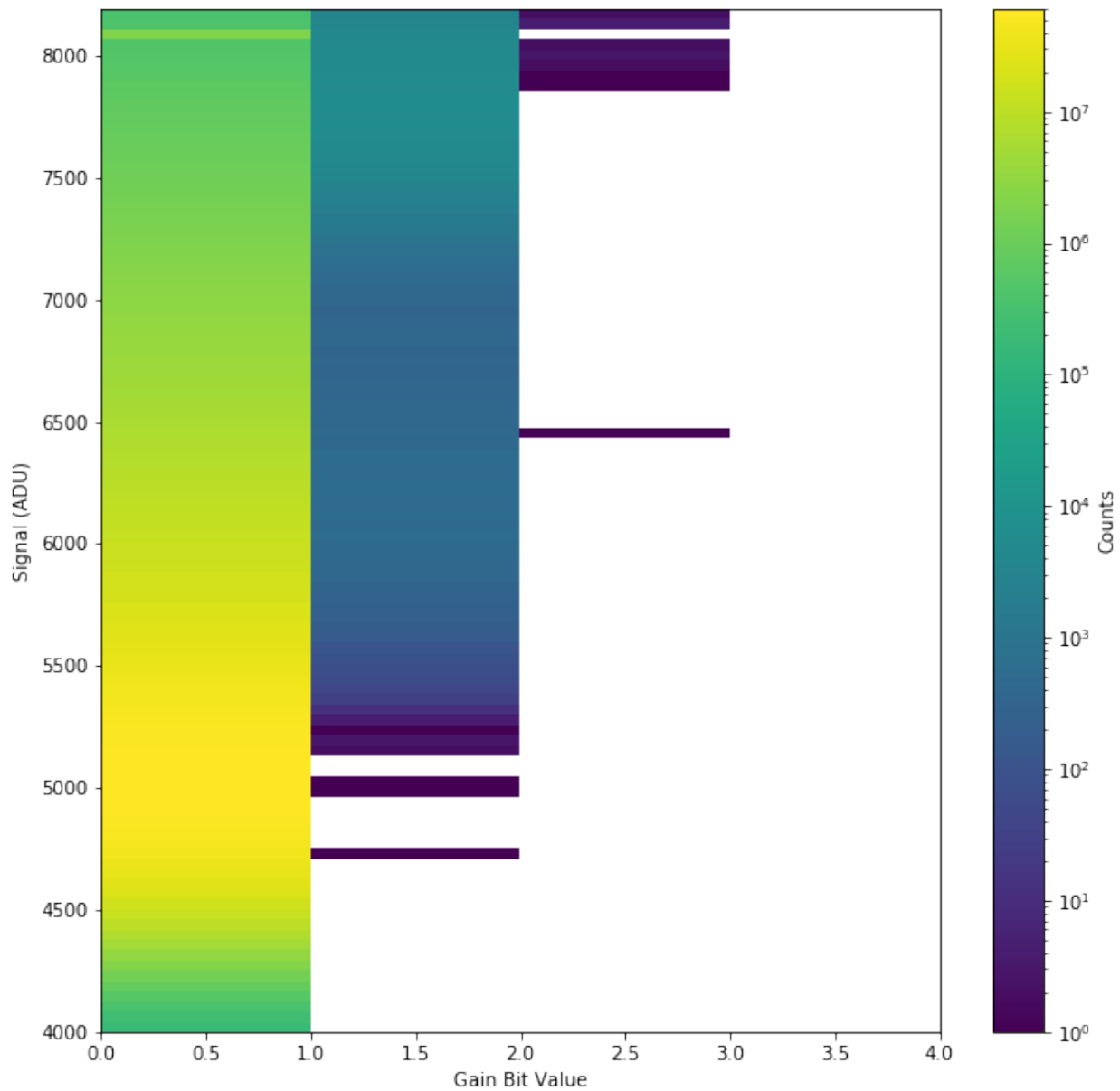
The following plot shows plots signal vs. gain for the first 128 images.

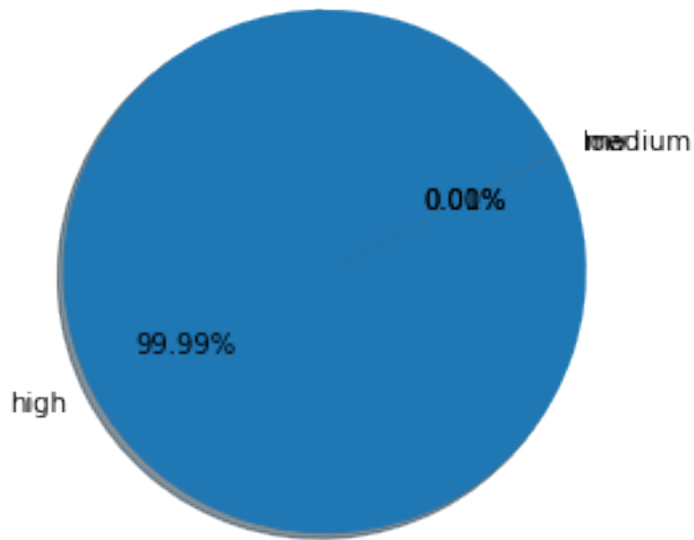




3.3 Signal vs. Digitized Gain

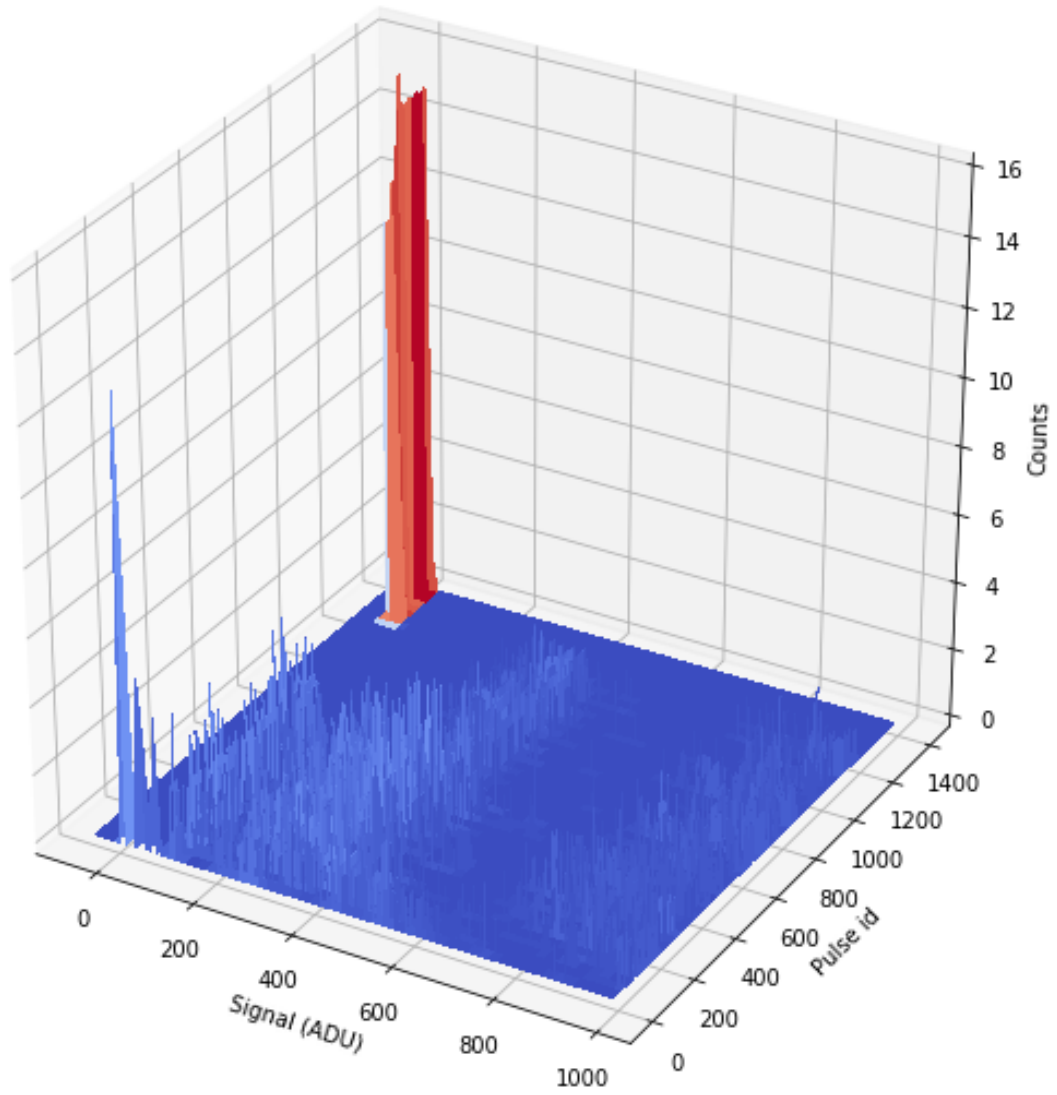
The following plot shows plots signal vs. digitized gain for the first 128 images.

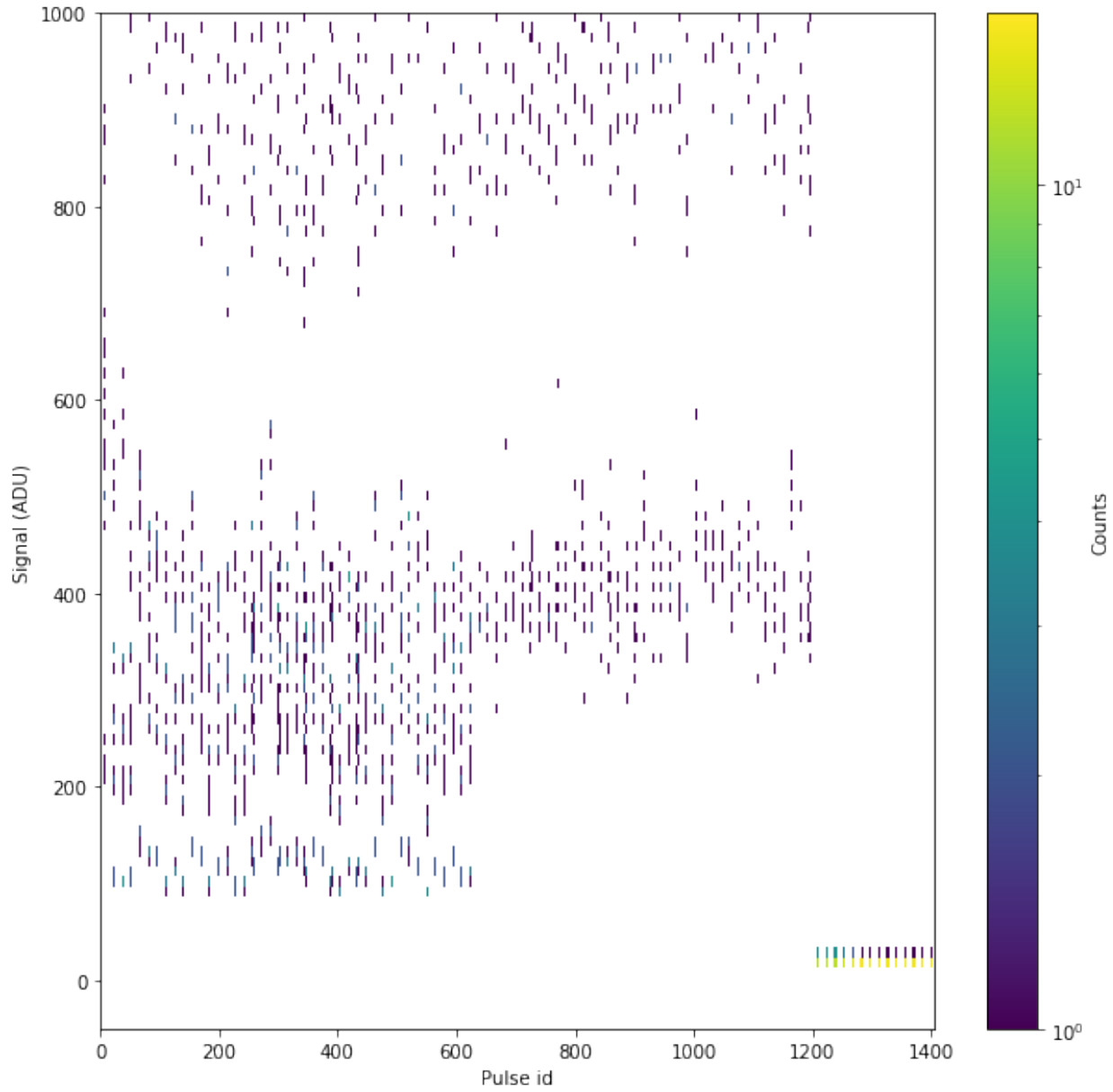


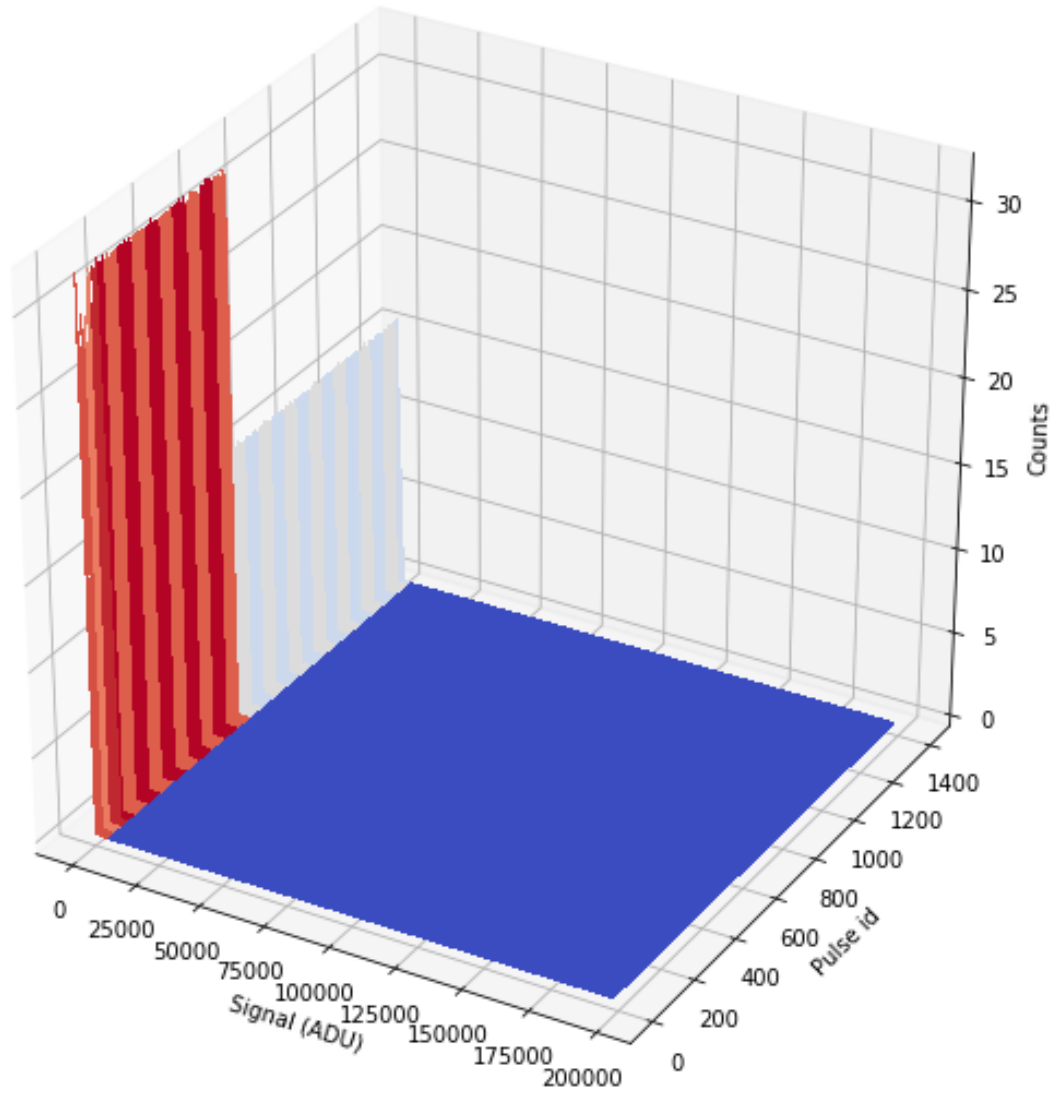


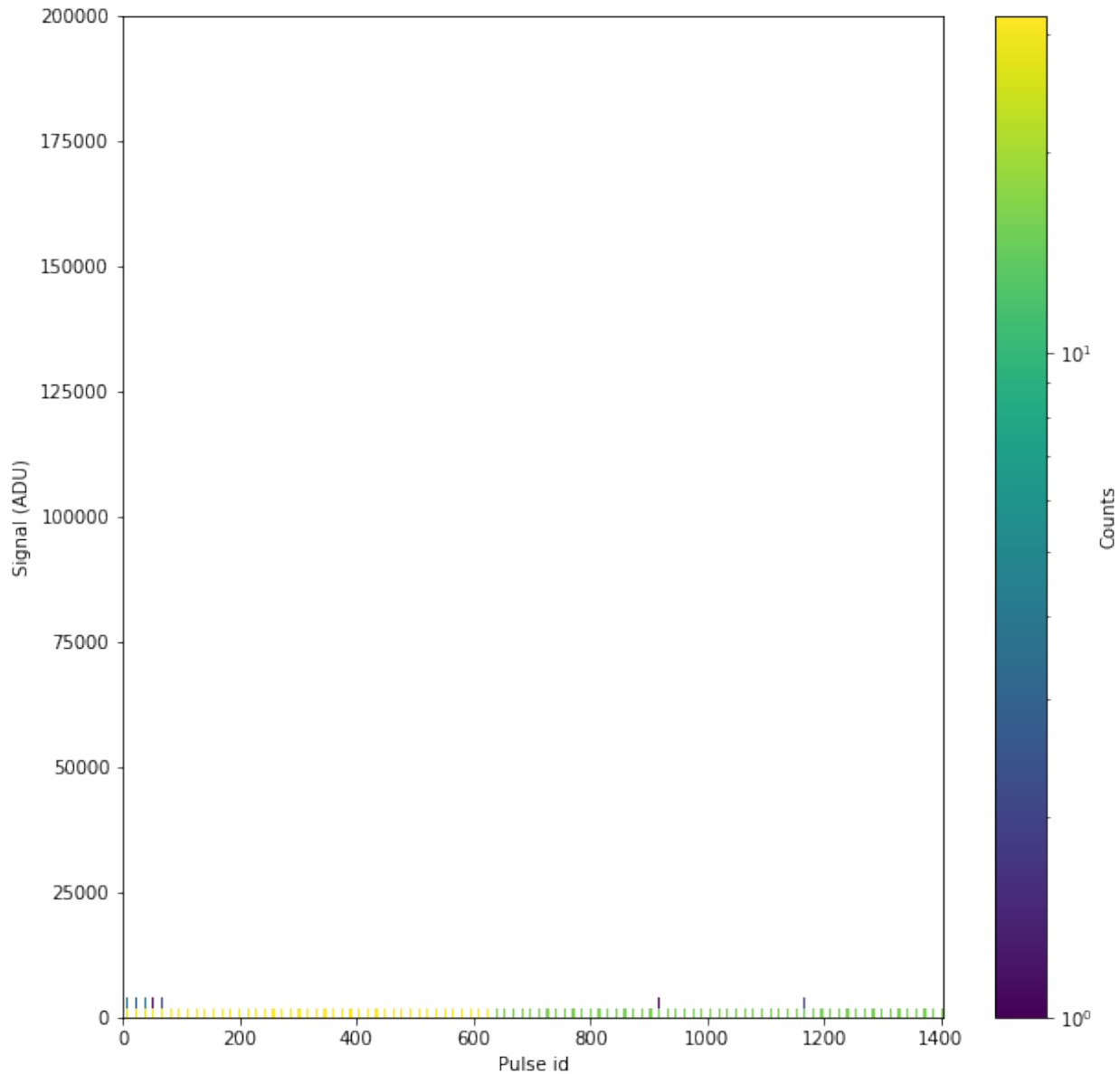
3.4 Mean Intensity per Pulse

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



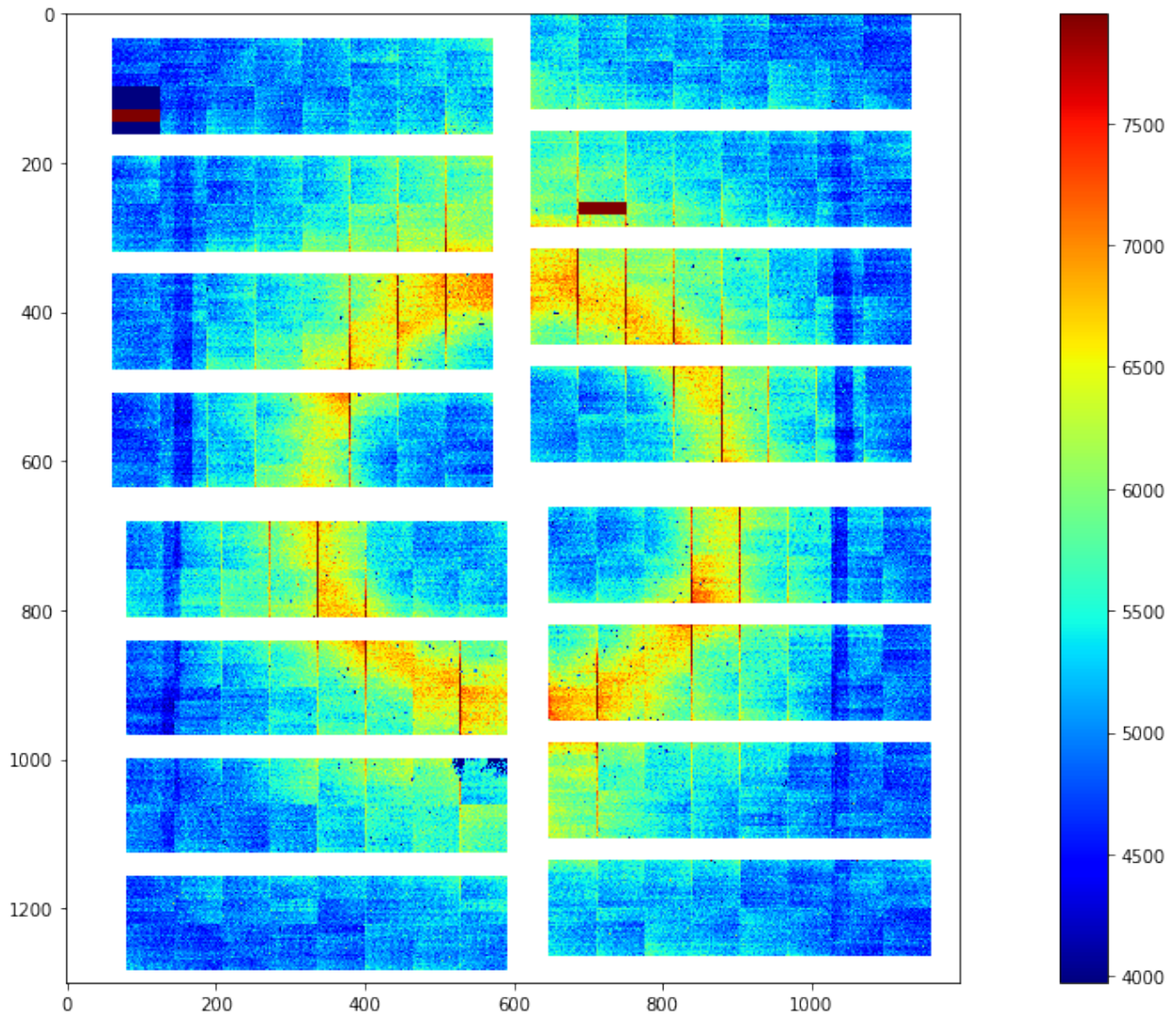






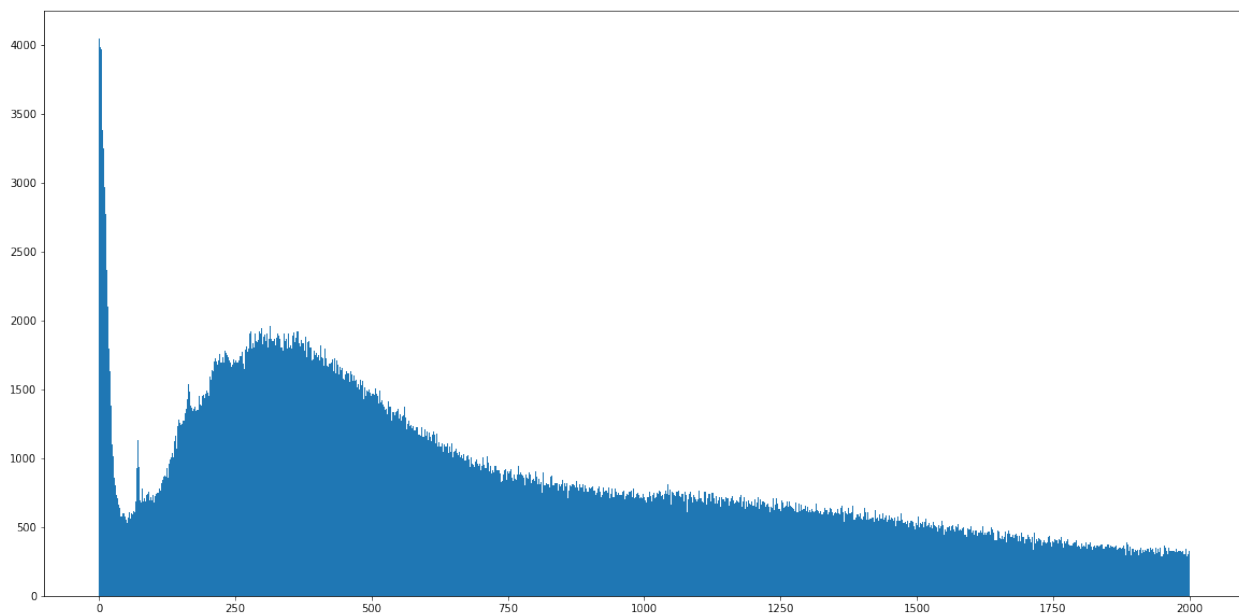
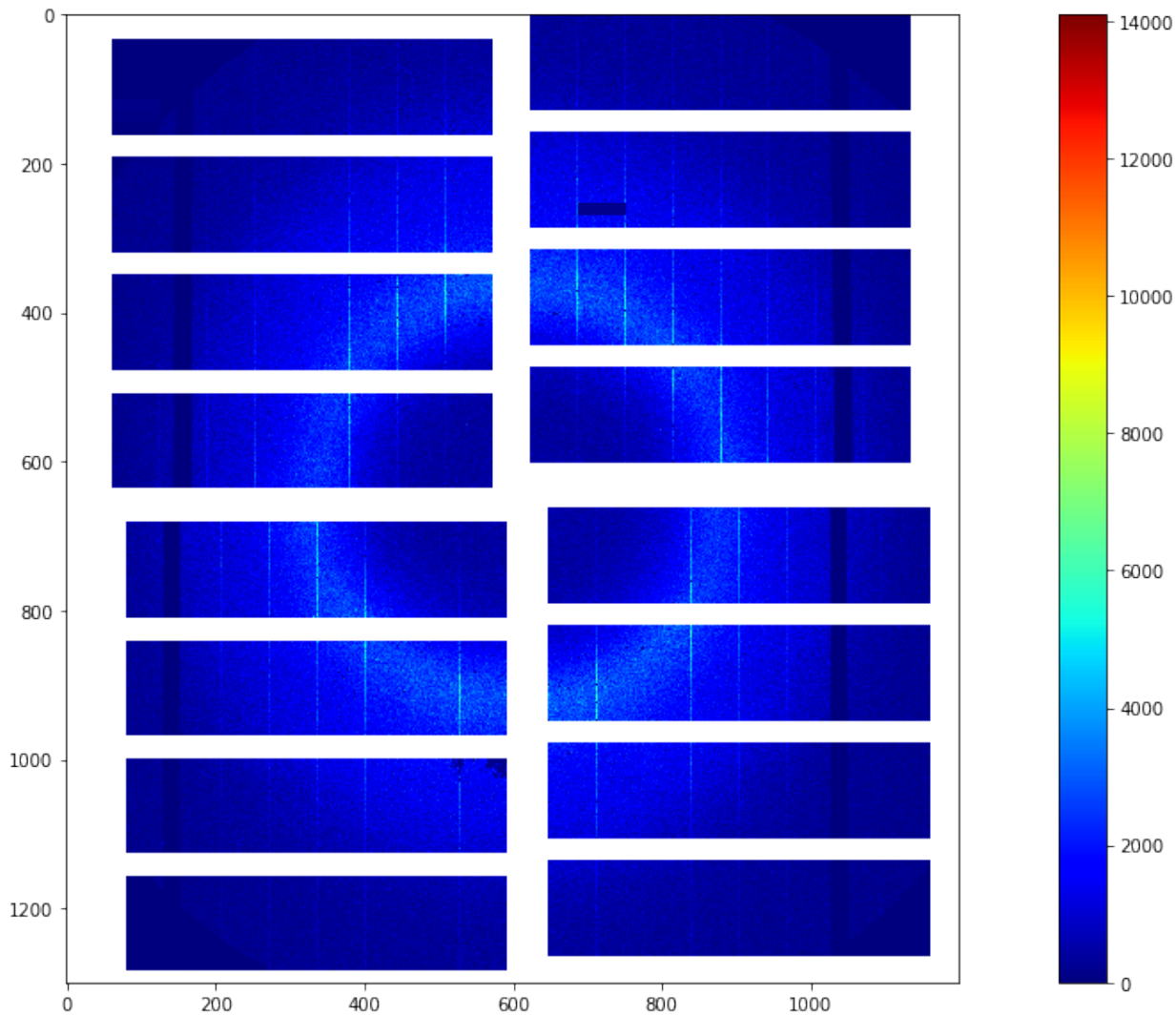
3.4.1 Mean RAW Preview

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



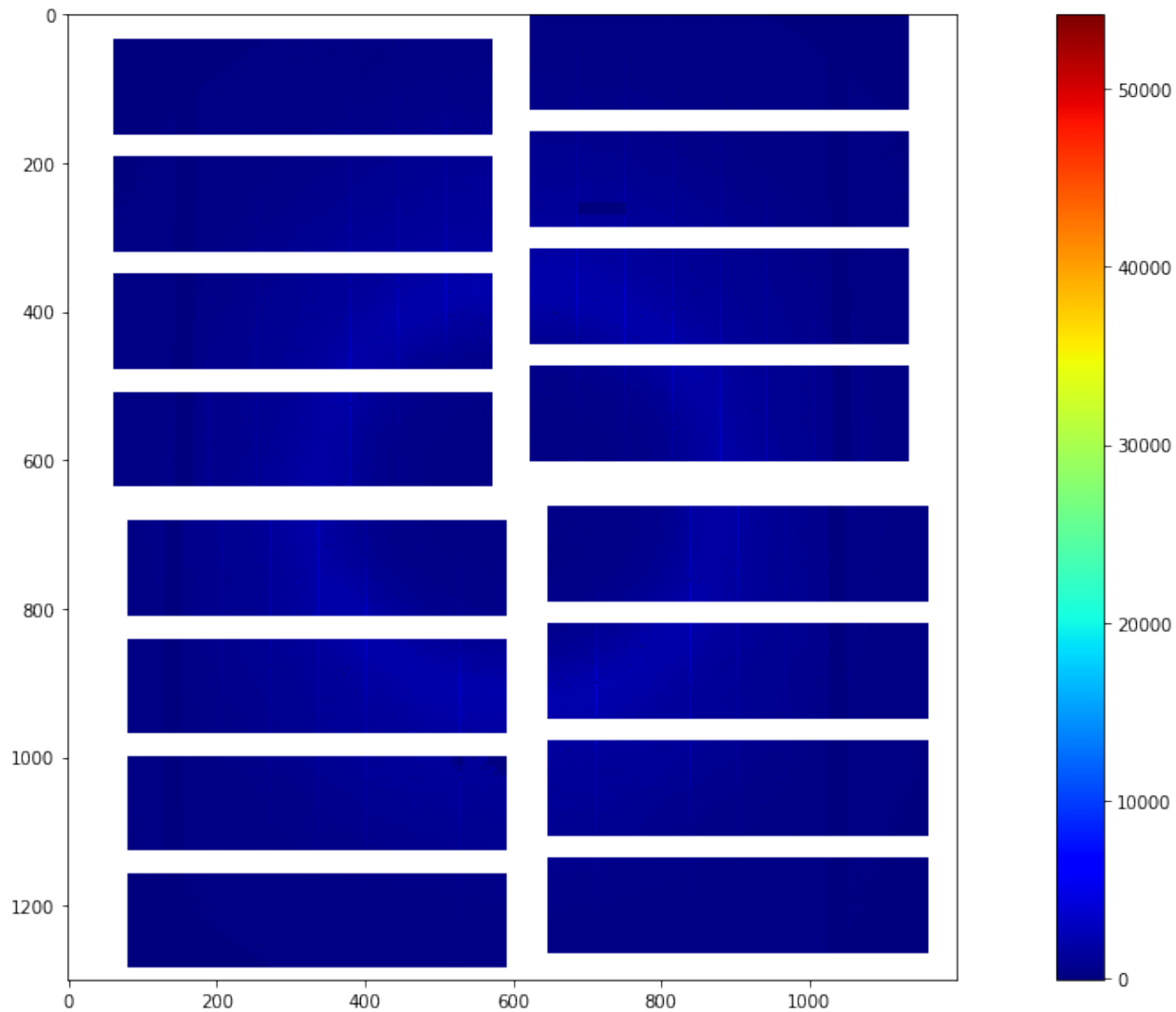
3.4.2 Single Shot Preview

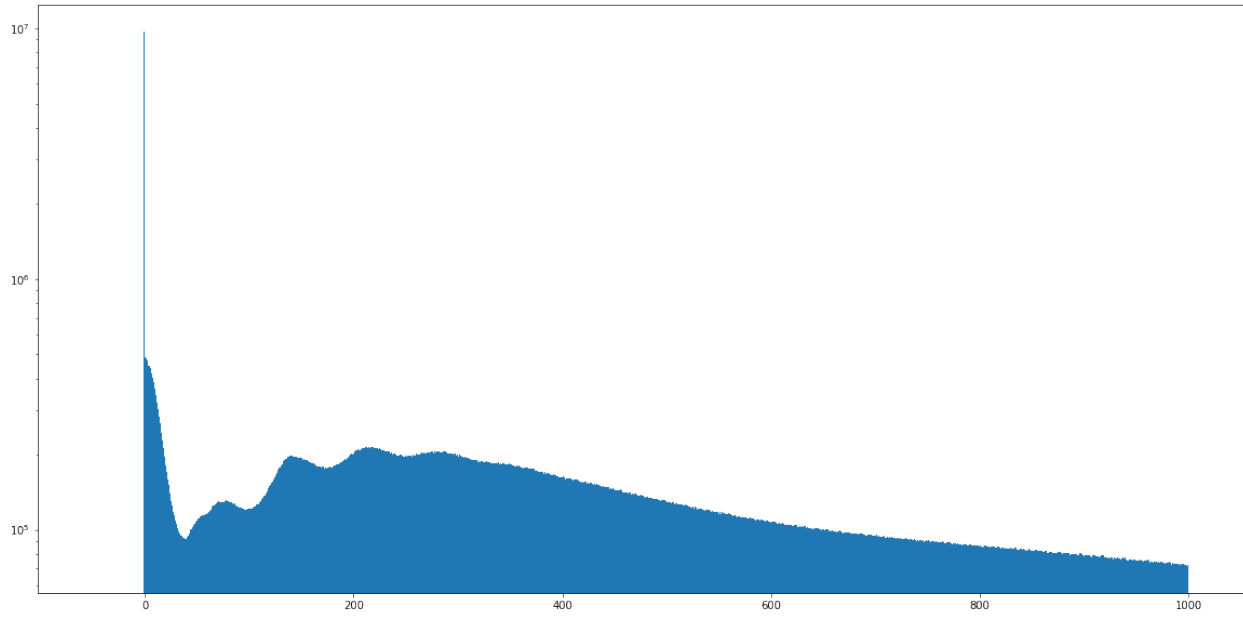
A single shot image from cell 12 of the first train



3.4.3 Mean CORRECTED Preview

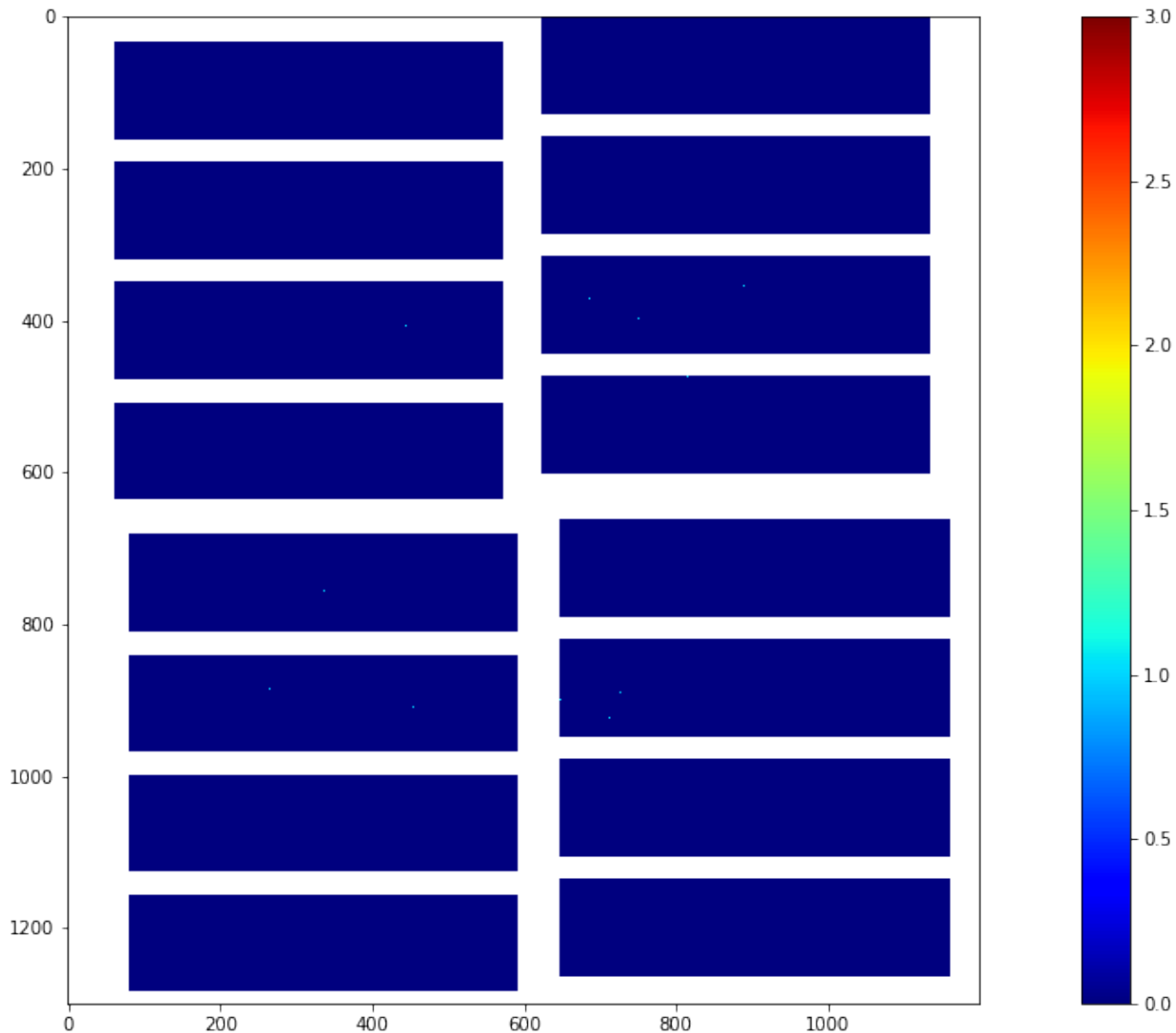
The per pixel mean of the first 128 images of the CORRECTED data





3.4.4 Maximum GAIN Preview

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



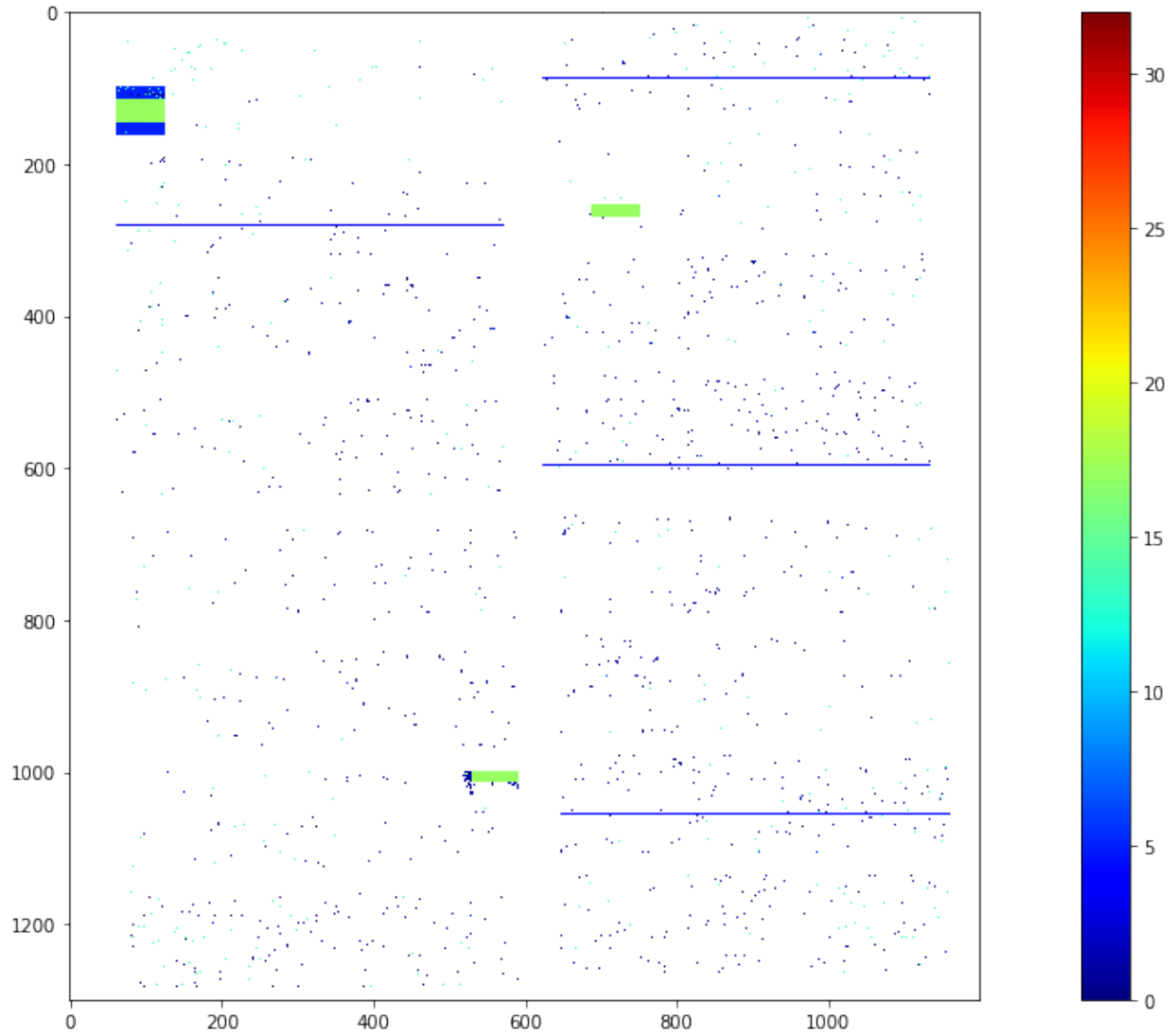
3.5 Bad Pixels

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:

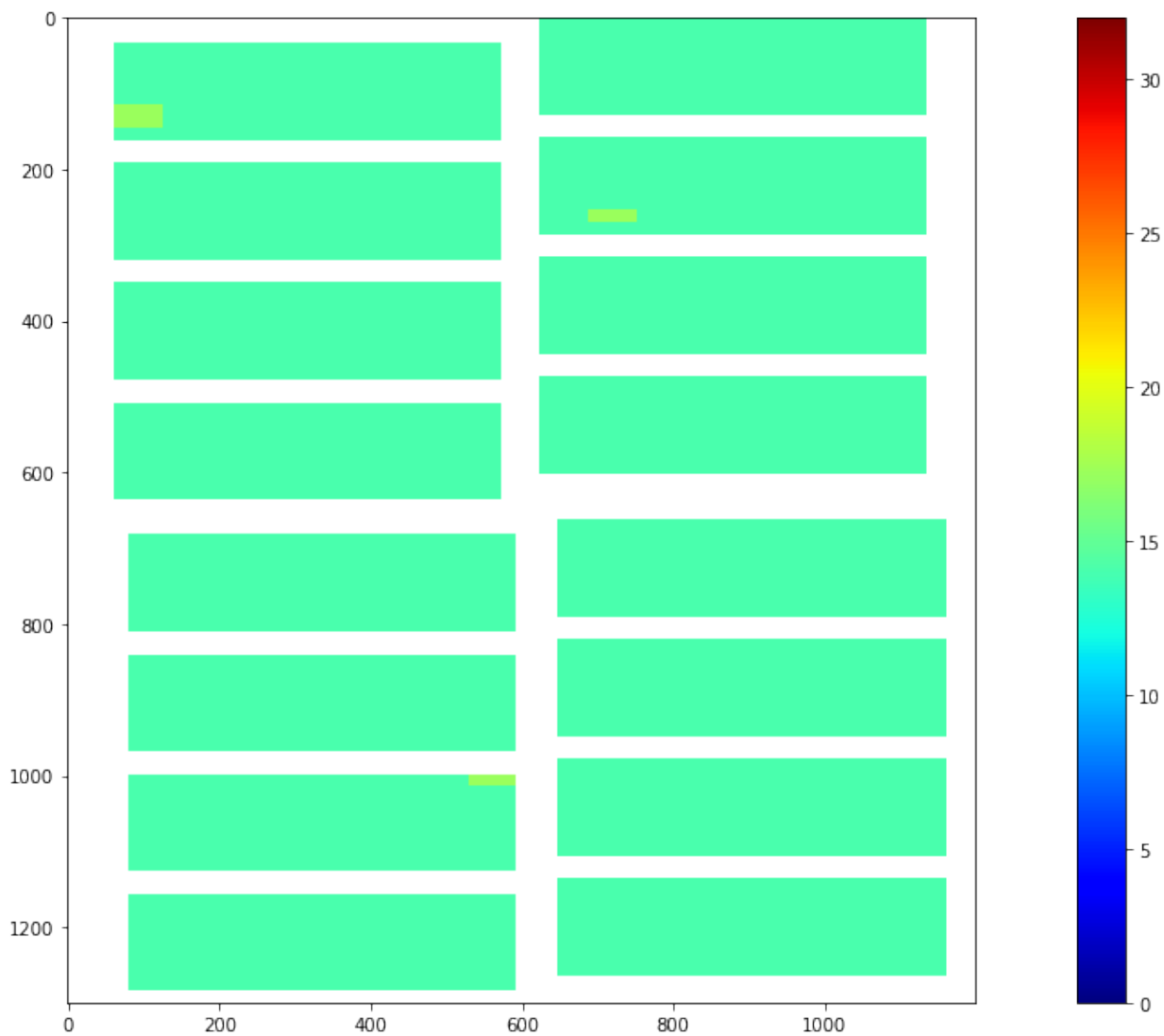
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	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

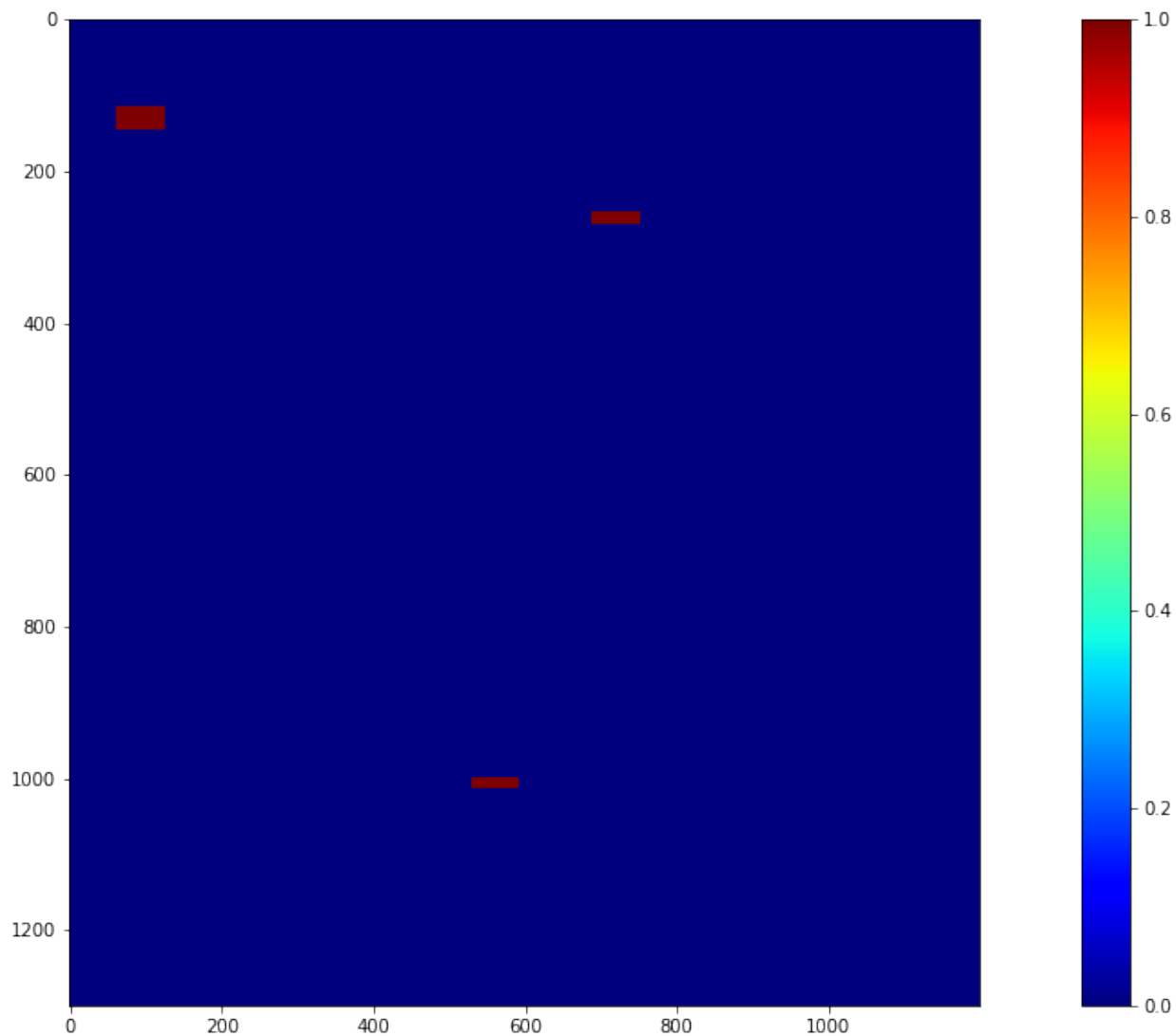
A single shot bad pixel map from cell 4 of the first train

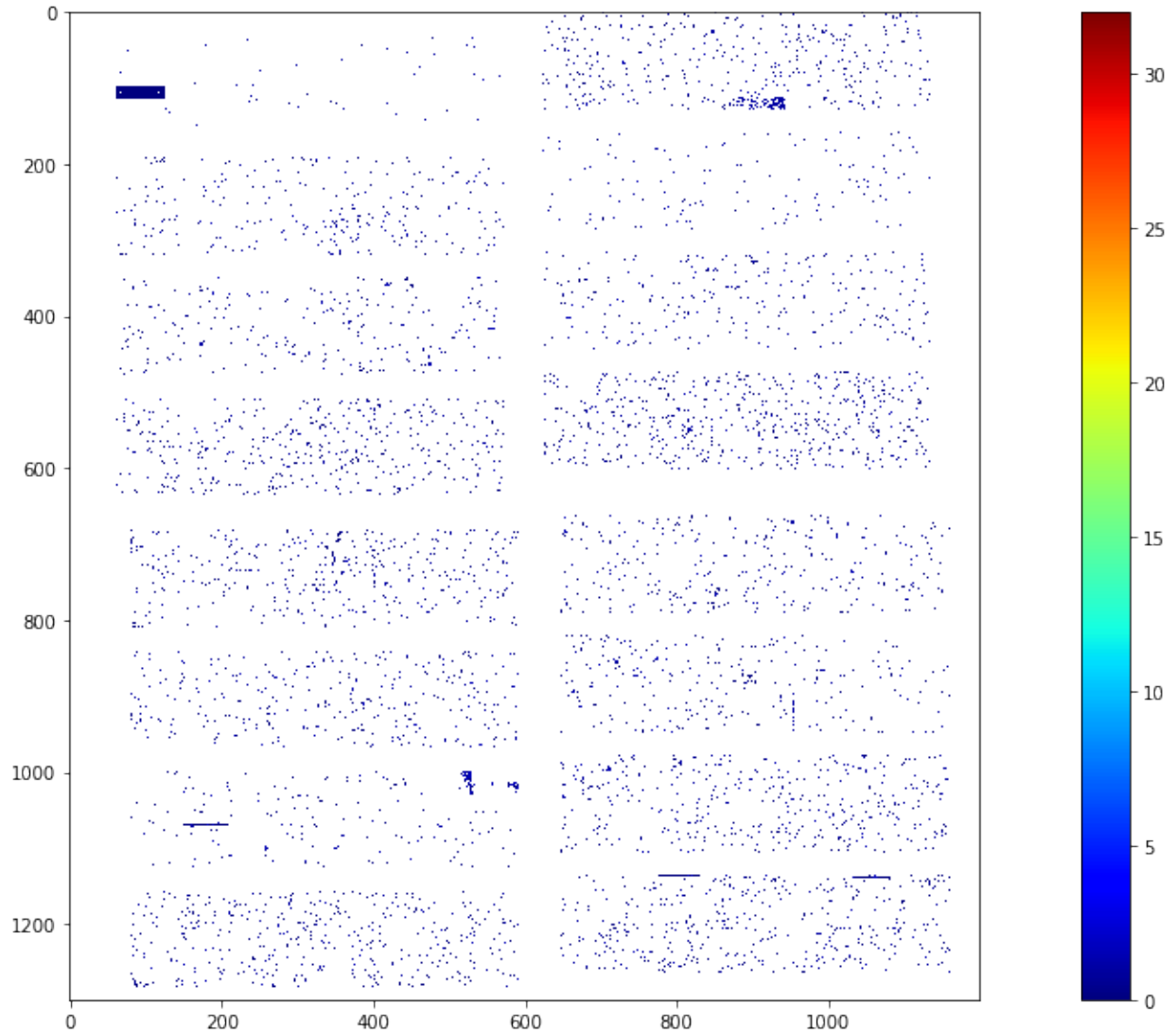


3.5.2 Full Train Bad Pixels



3.5.3 Full Train Bad Pixels - Only Dark Char. Related





AGIPD OFFLINE CORRECTION, SEQUENCES = 18-20

```
Connecting to profile slurm_prof_clfef9b9-95f1-41b3-b833-37b073885cd7_18-20
Using 2020-03-08 06:57:31+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/r0085
Detector in use is SPB_DET_AGIPD1M-1
```

```
Gain setting: 0
```

4.1 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/r0085/RAW-R0085-AGIPD00-S00018.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00019.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00020.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00018.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00019.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00020.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00018.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00019.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00020.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00018.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00019.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00020.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00018.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00019.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00020.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00018.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00019.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00020.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00018.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00019.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00020.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00018.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00019.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00020.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00018.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00019.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00020.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00018.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00019.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00020.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00018.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00019.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00020.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00018.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00019.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00020.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00018.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00019.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00020.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00018.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00019.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00020.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00018.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00019.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00020.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00018.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00019.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-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.... 20-03-05 18:50  
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.... 20-03-05 18:22  
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.... 20-03-05 18:10  
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.... 20-03-05 19:13  
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.... 20-03-05 18:20  
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.... 20-03-05 18:21  
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.... 20-03-05 18:24  
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.... 20-03-05 18:52  
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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
```

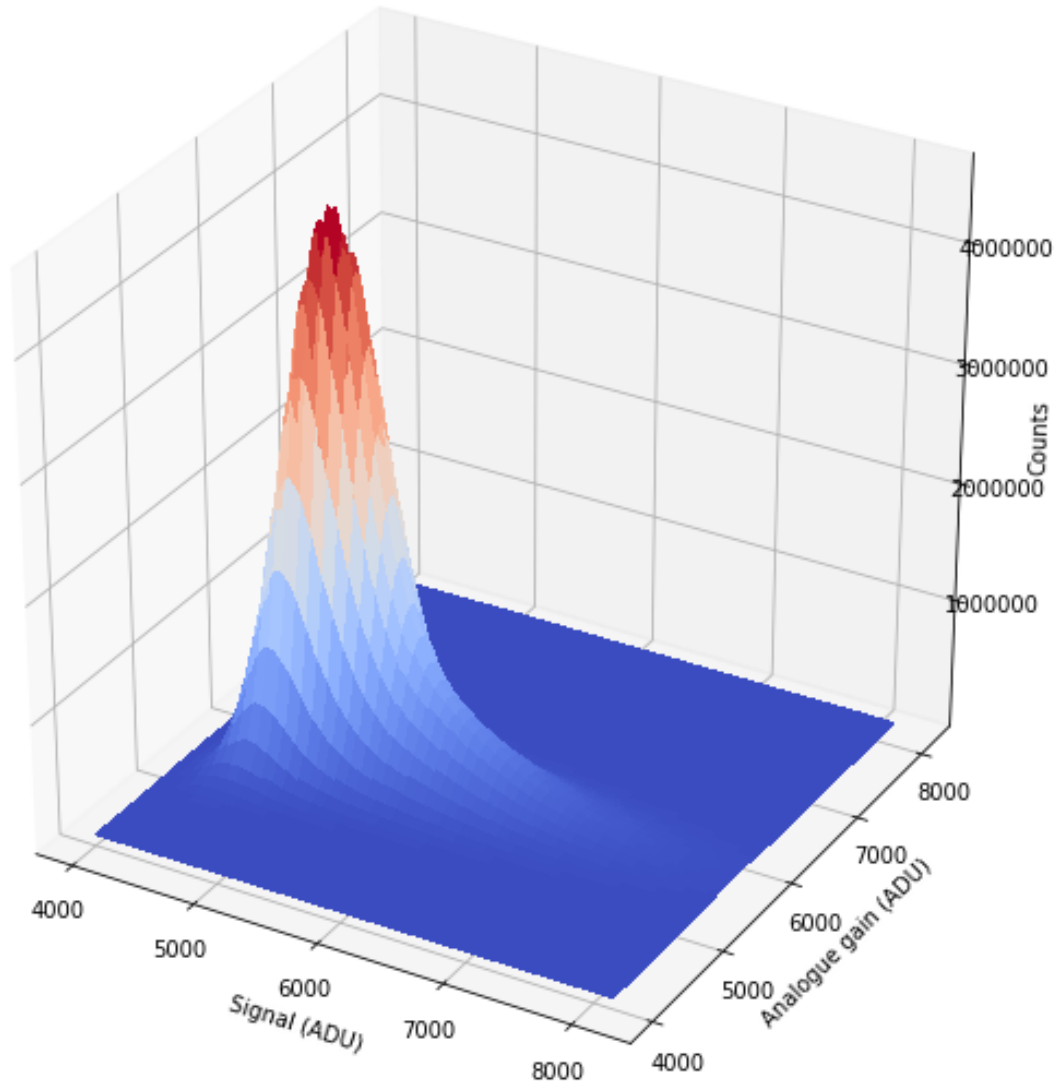
```
bppc..... None
slopesPC.... None
Q3M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:19
slopesPC.... 20-03-05 18:19
Q3M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:38
slopesPC.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
```

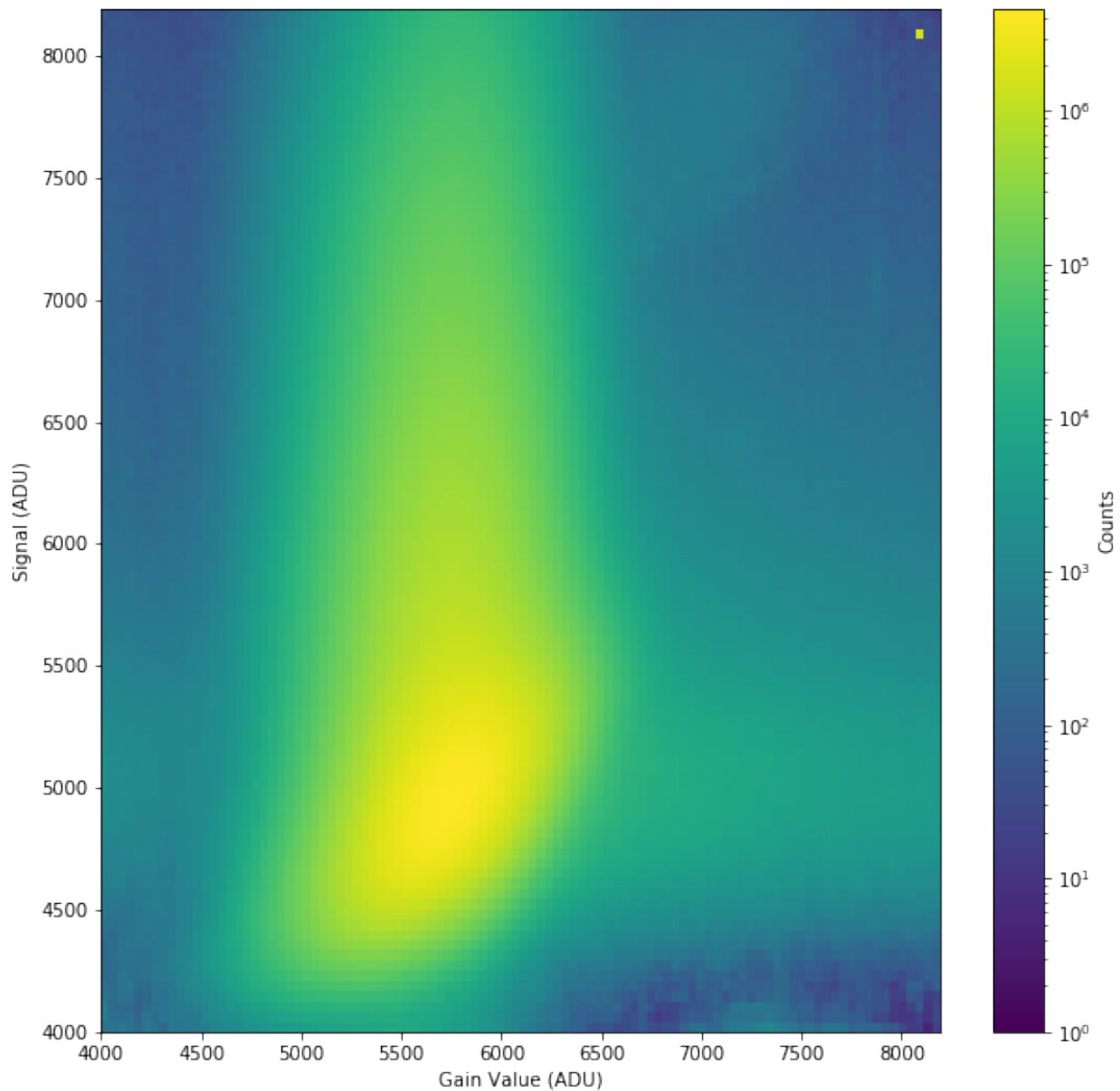
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 20-03-05 18:22
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
```

4.2 Signal vs. Analogue Gain

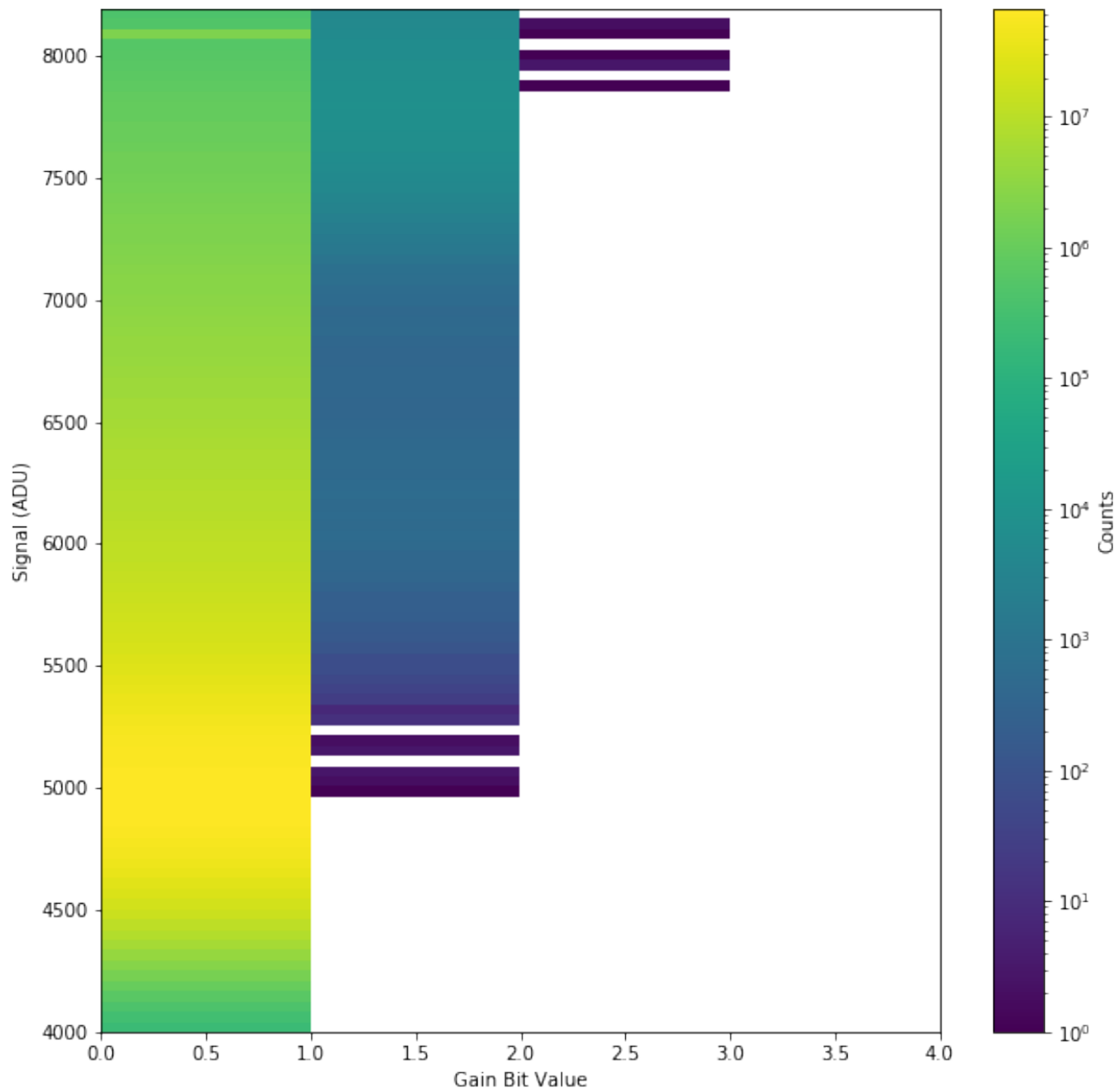
The following plot shows plots signal vs. gain for the first 128 images.

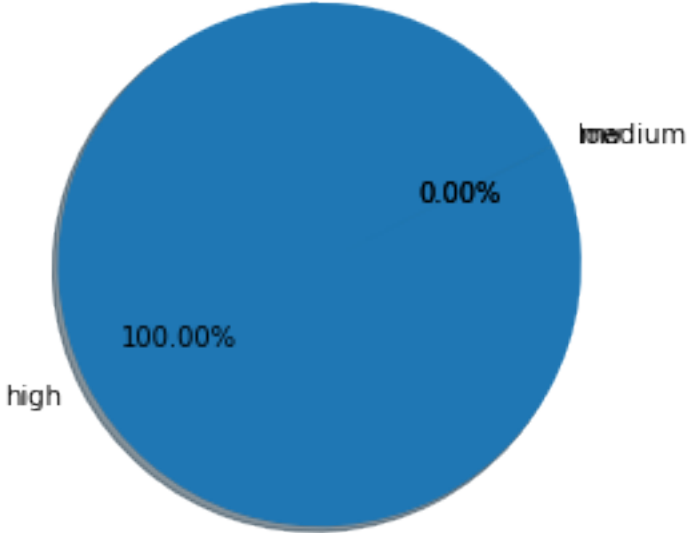




4.3 Signal vs. Digitized Gain

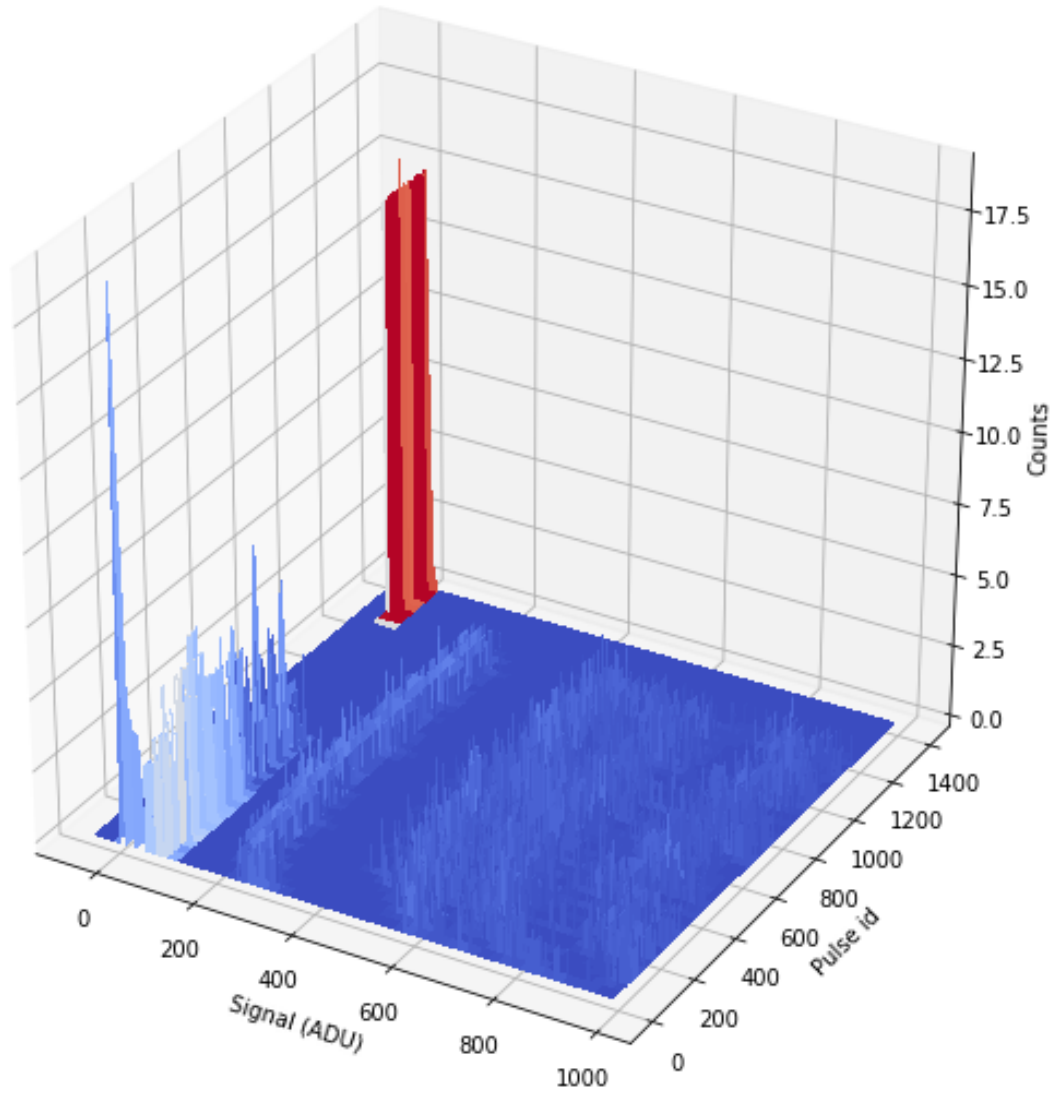
The following plot shows plots signal vs. digitized gain for the first 128 images.

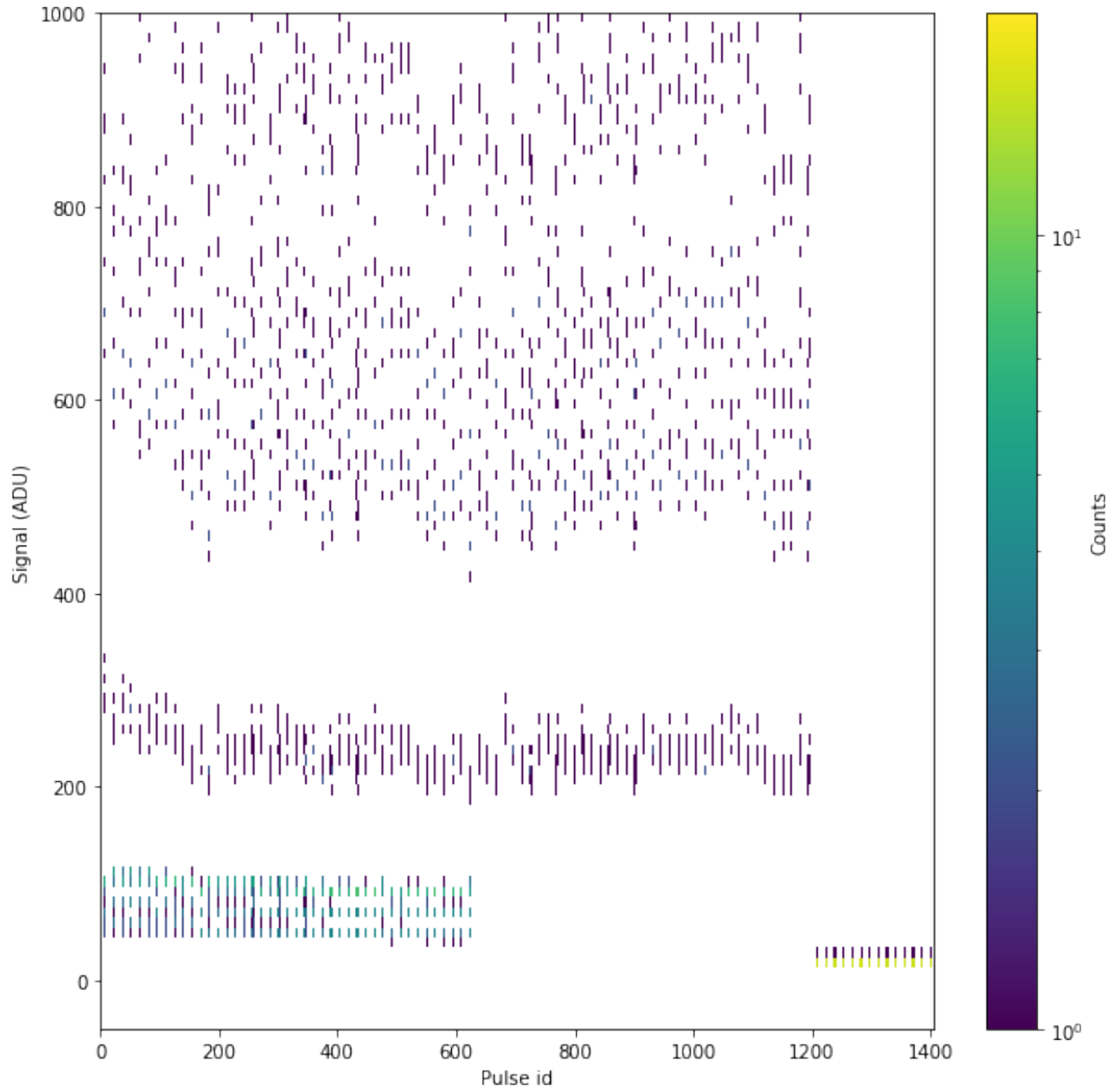


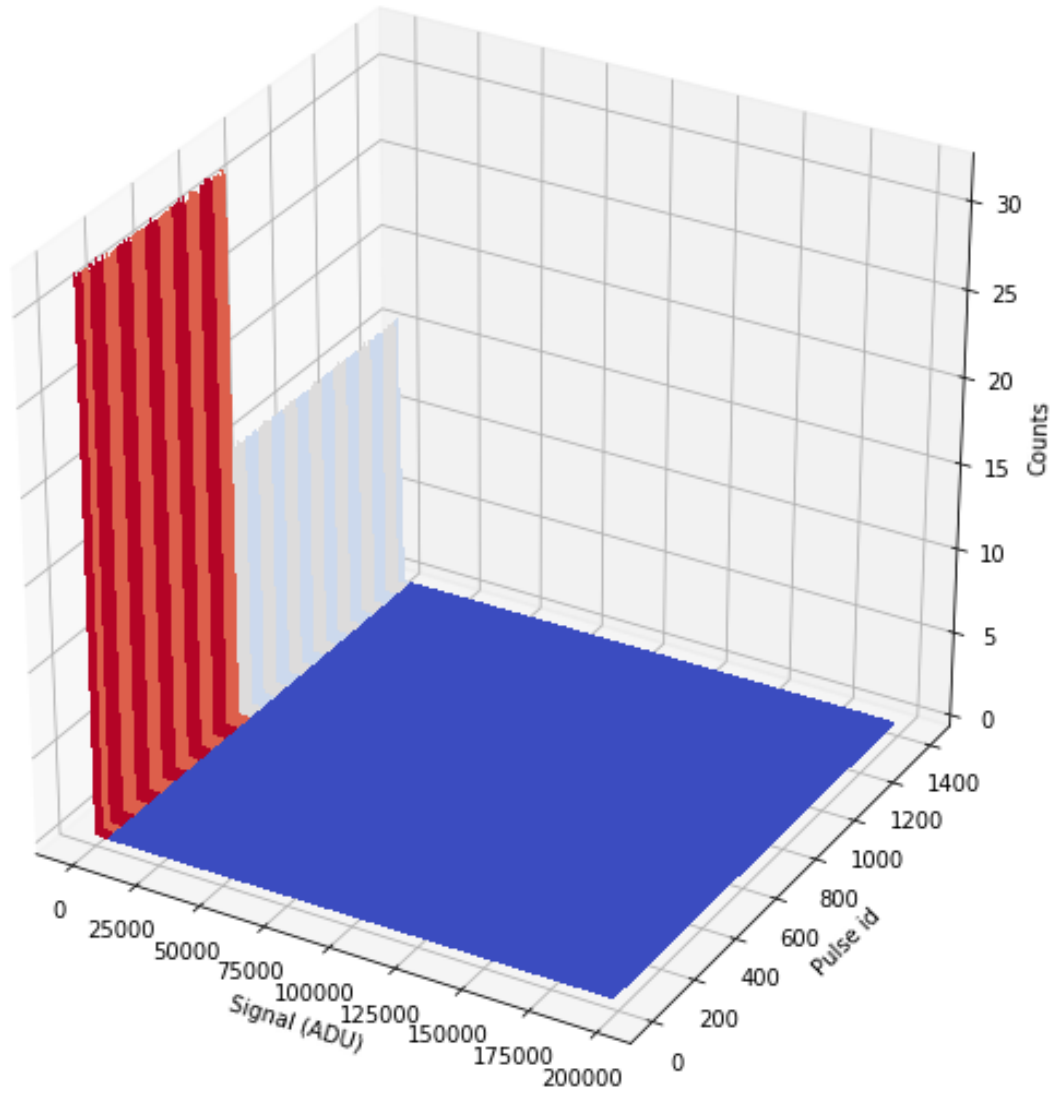


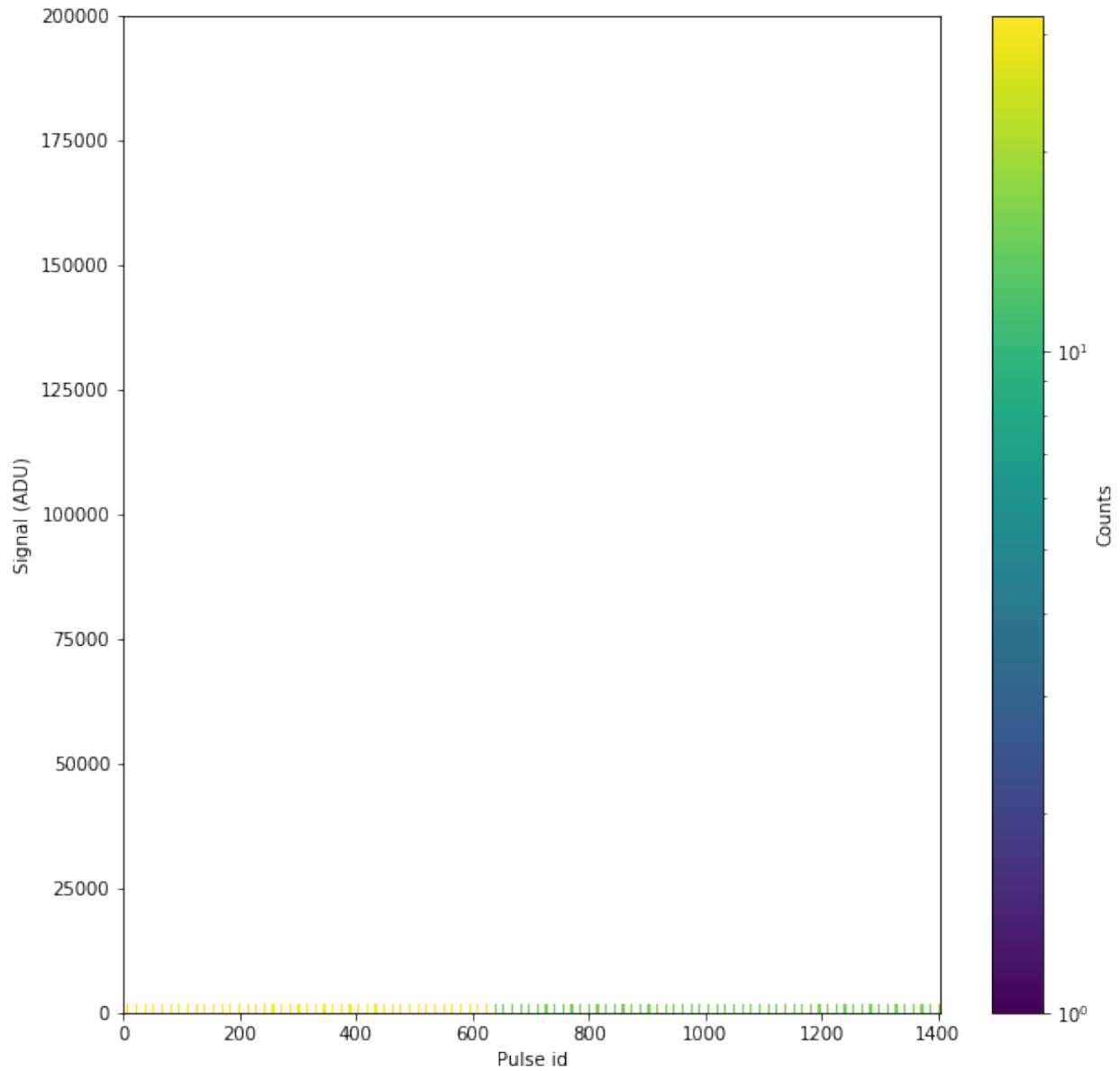
4.4 Mean Intensity per Pulse

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



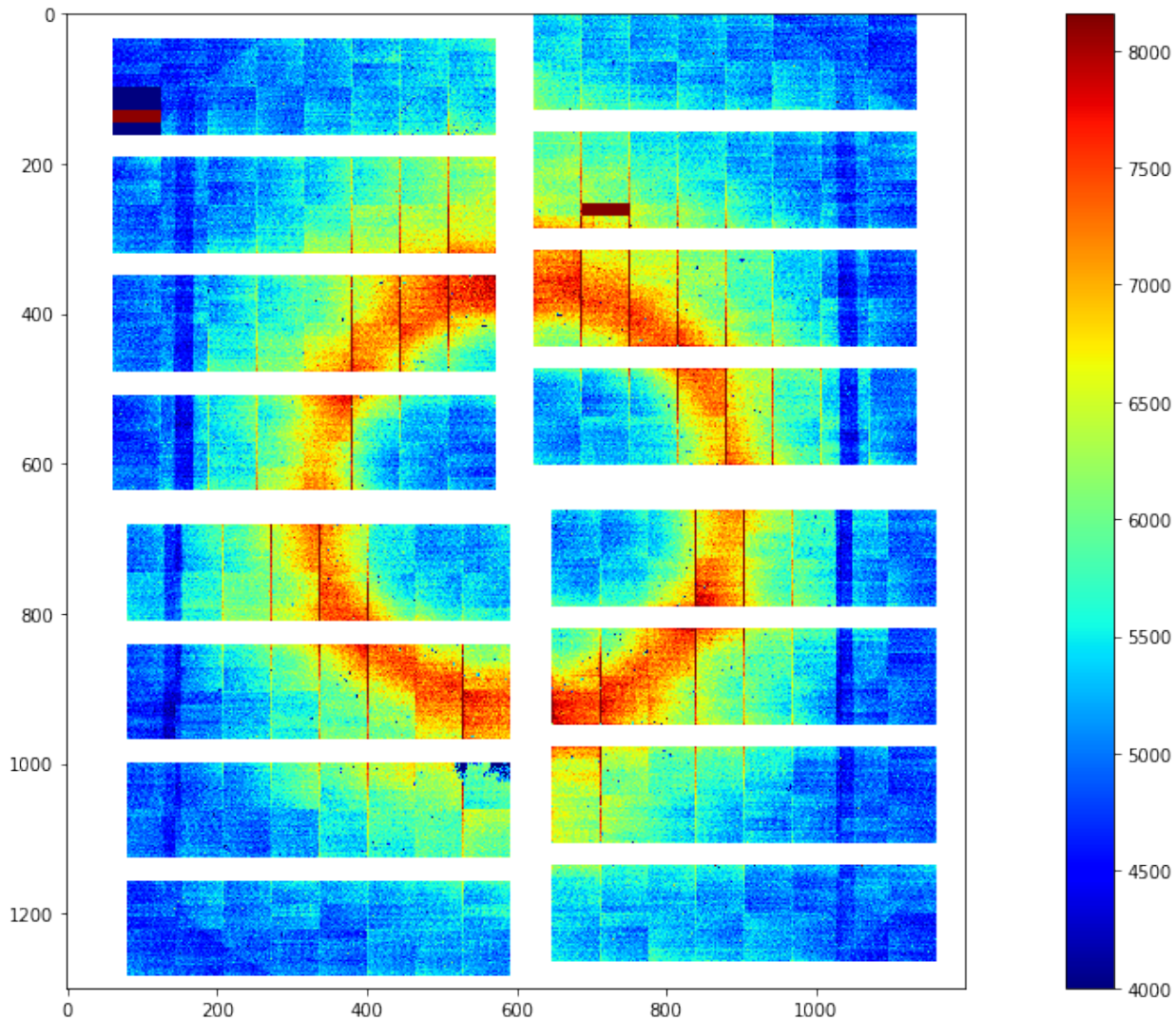






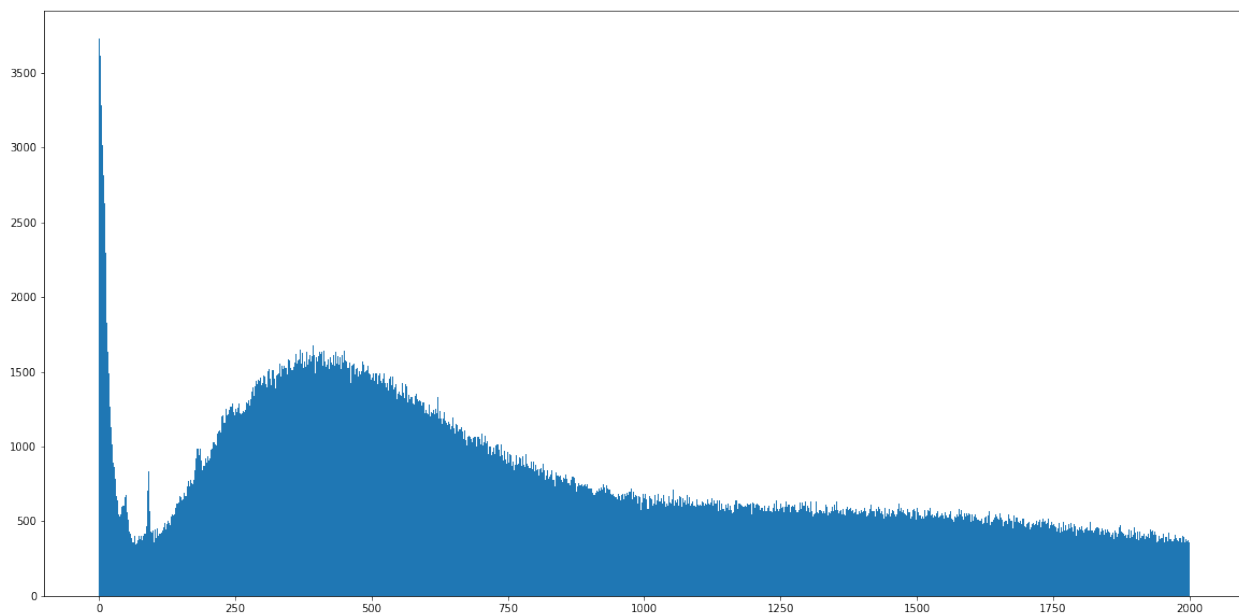
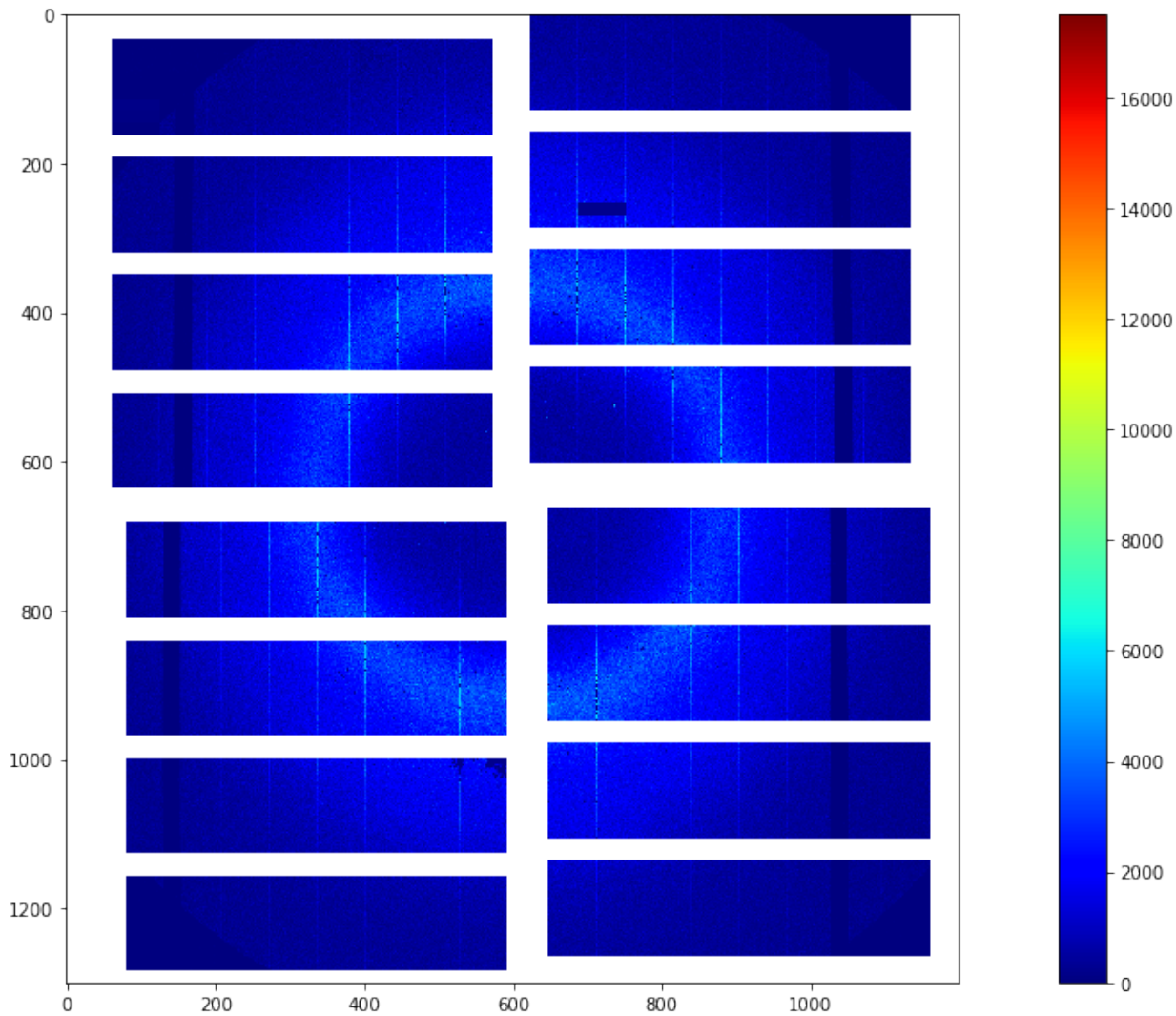
4.4.1 Mean RAW Preview

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



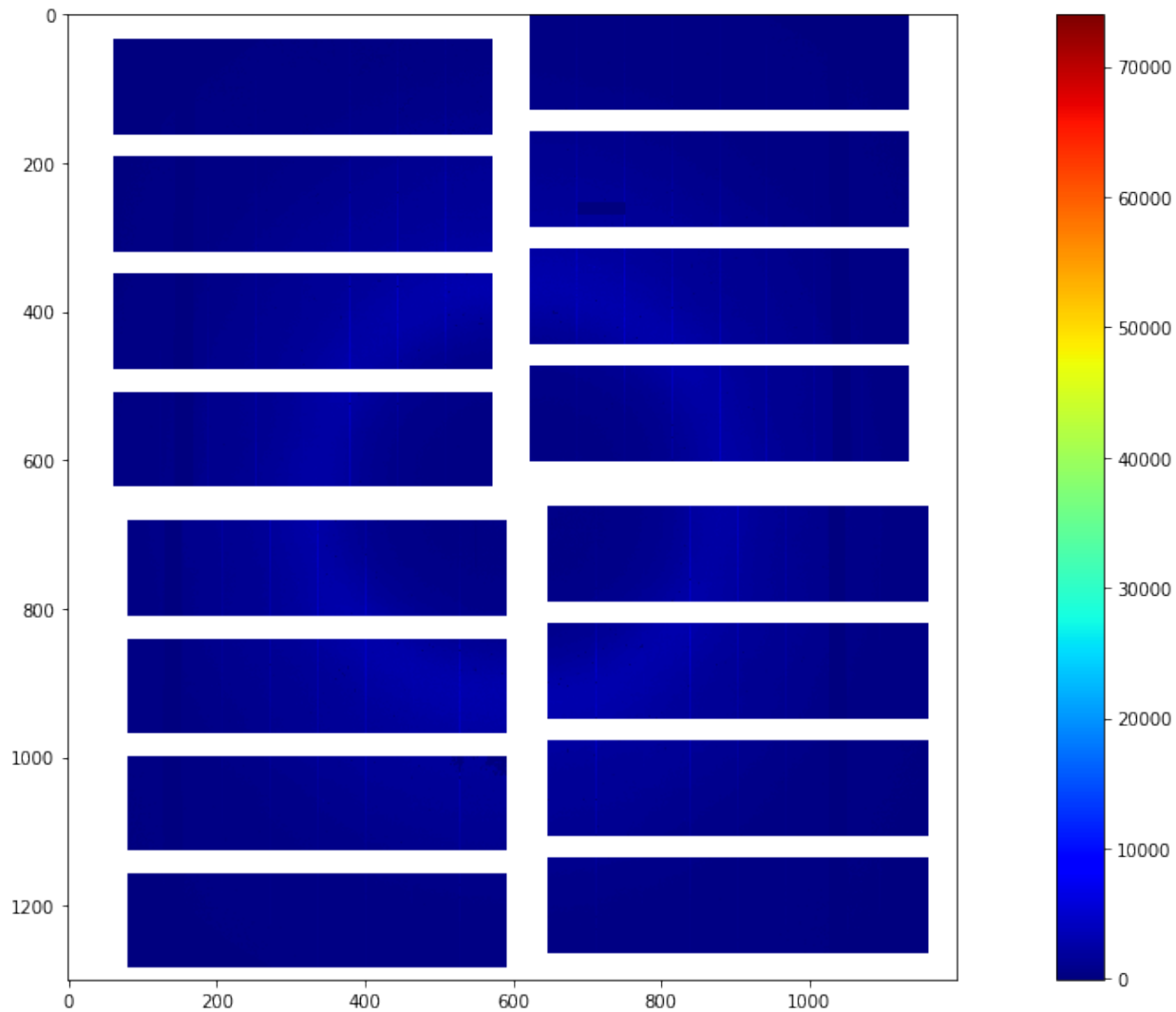
4.4.2 Single Shot Preview

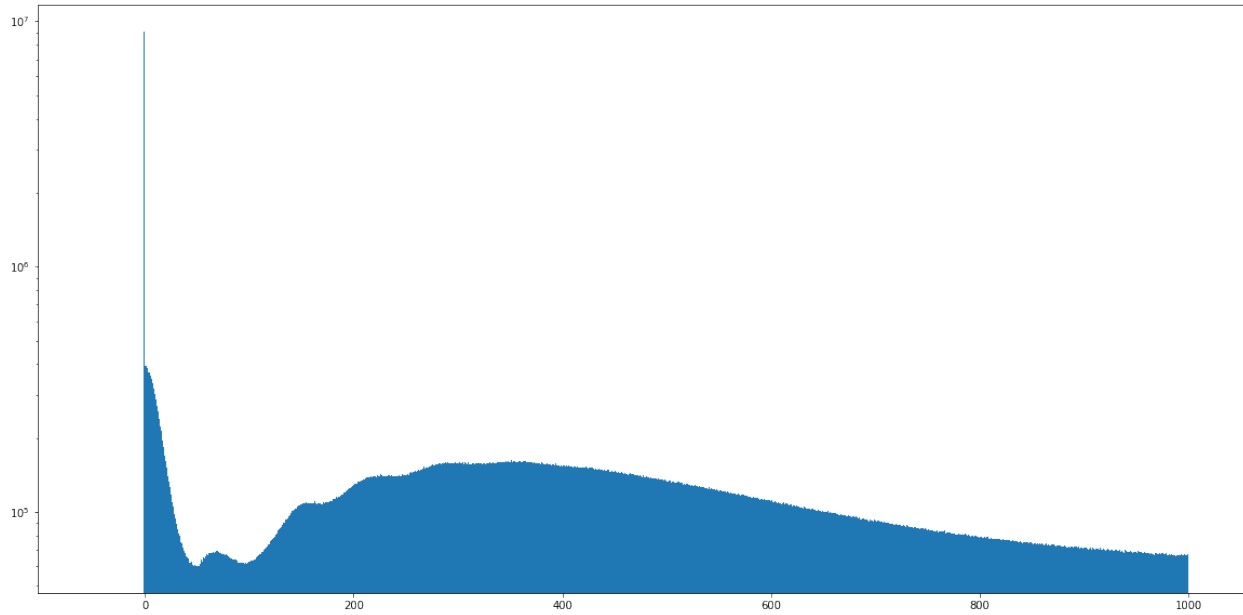
A single shot image from cell 12 of the first train



4.4.3 Mean CORRECTED Preview

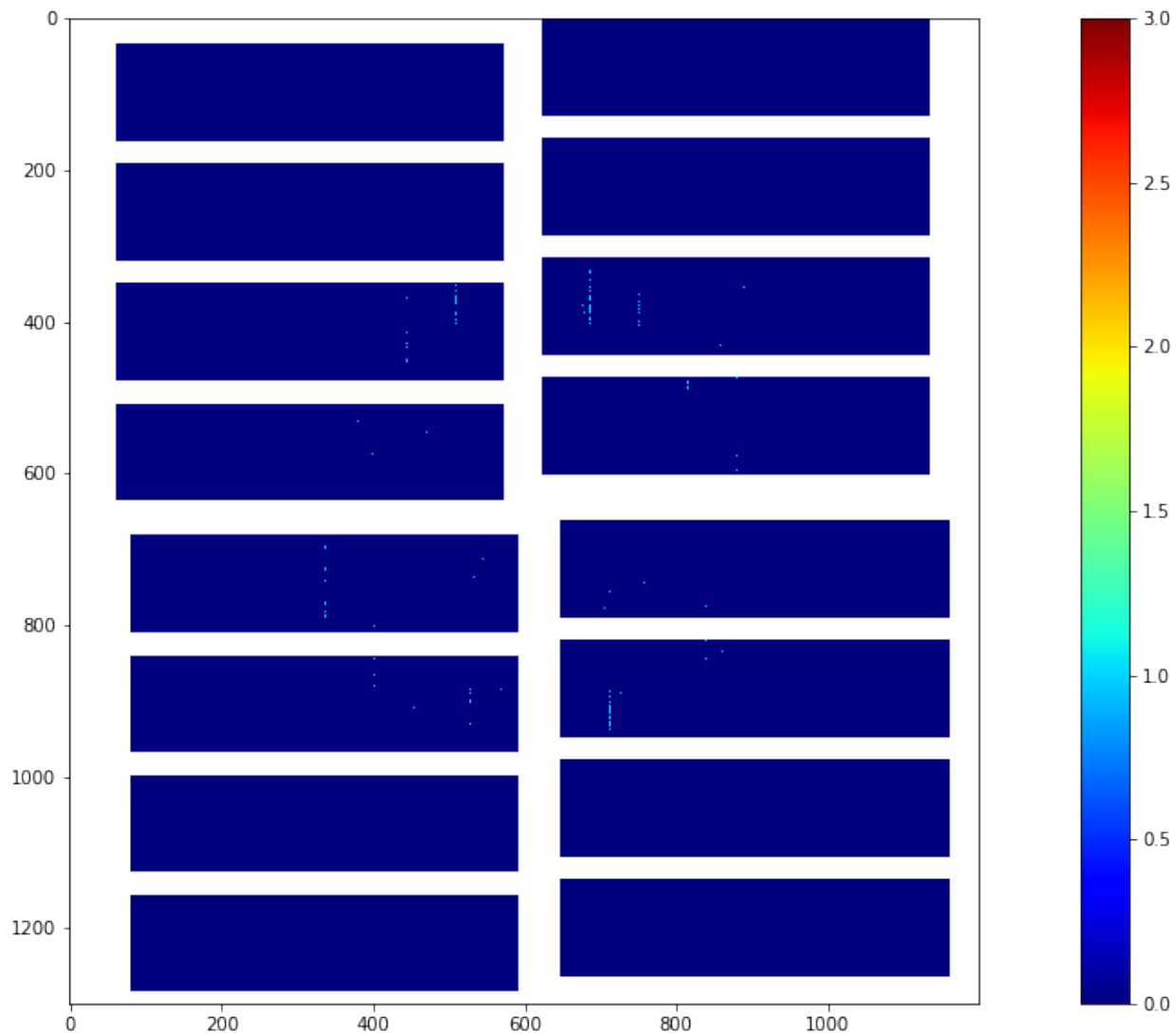
The per pixel mean of the first 128 images of the CORRECTED data





4.4.4 Maximum GAIN Preview

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



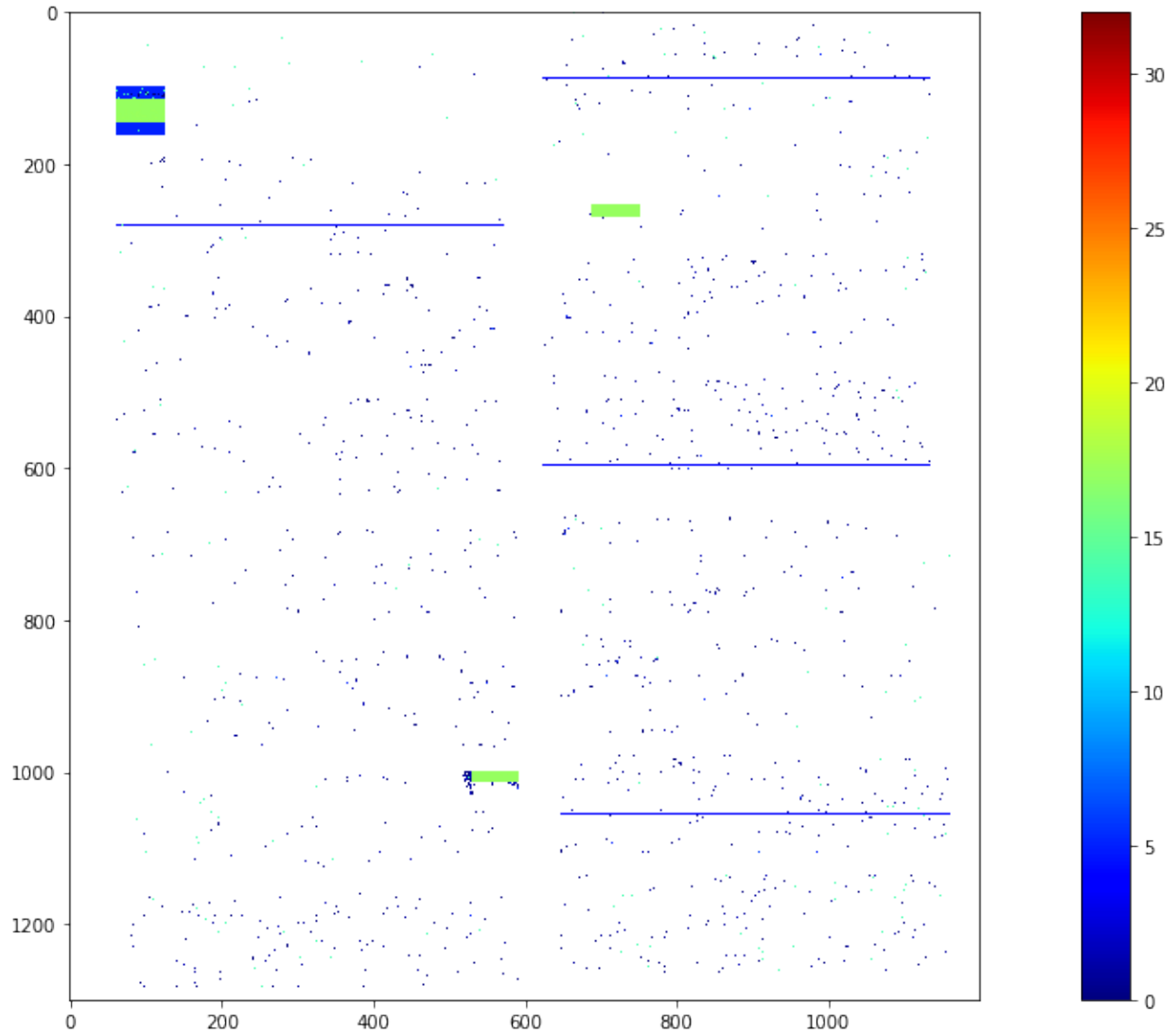
4.5 Bad Pixels

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:

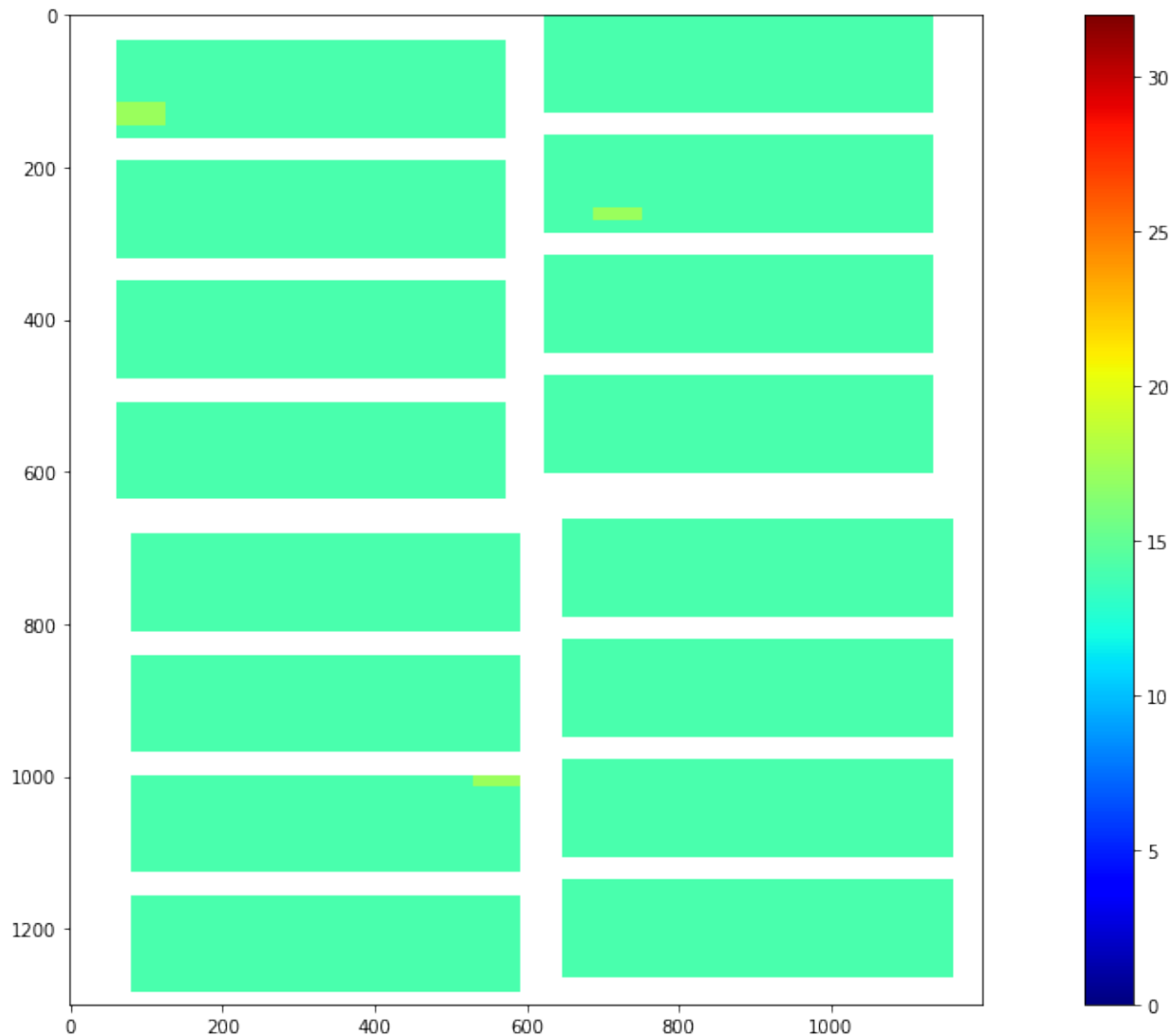
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	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

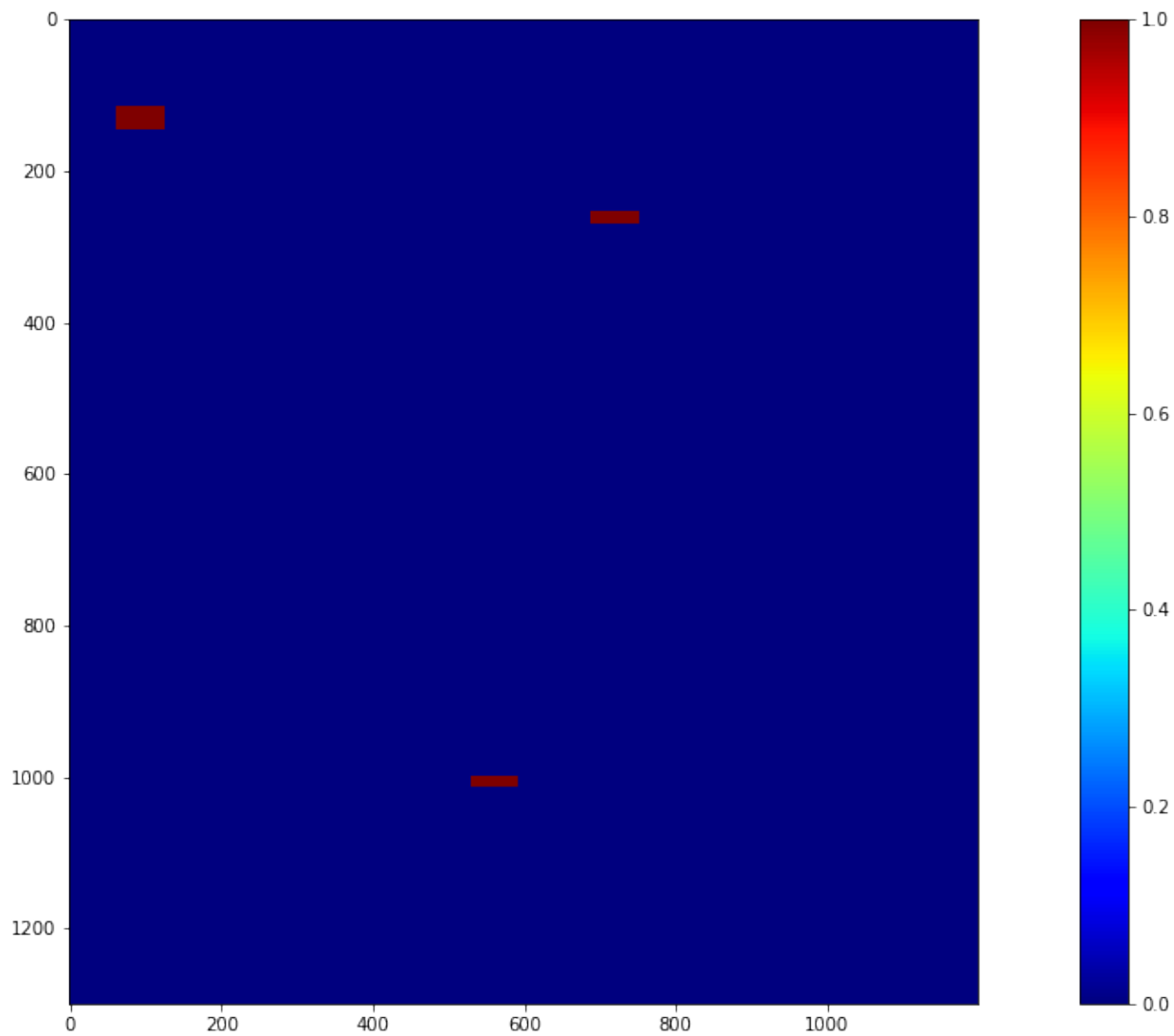
A single shot bad pixel map from cell 4 of the first train

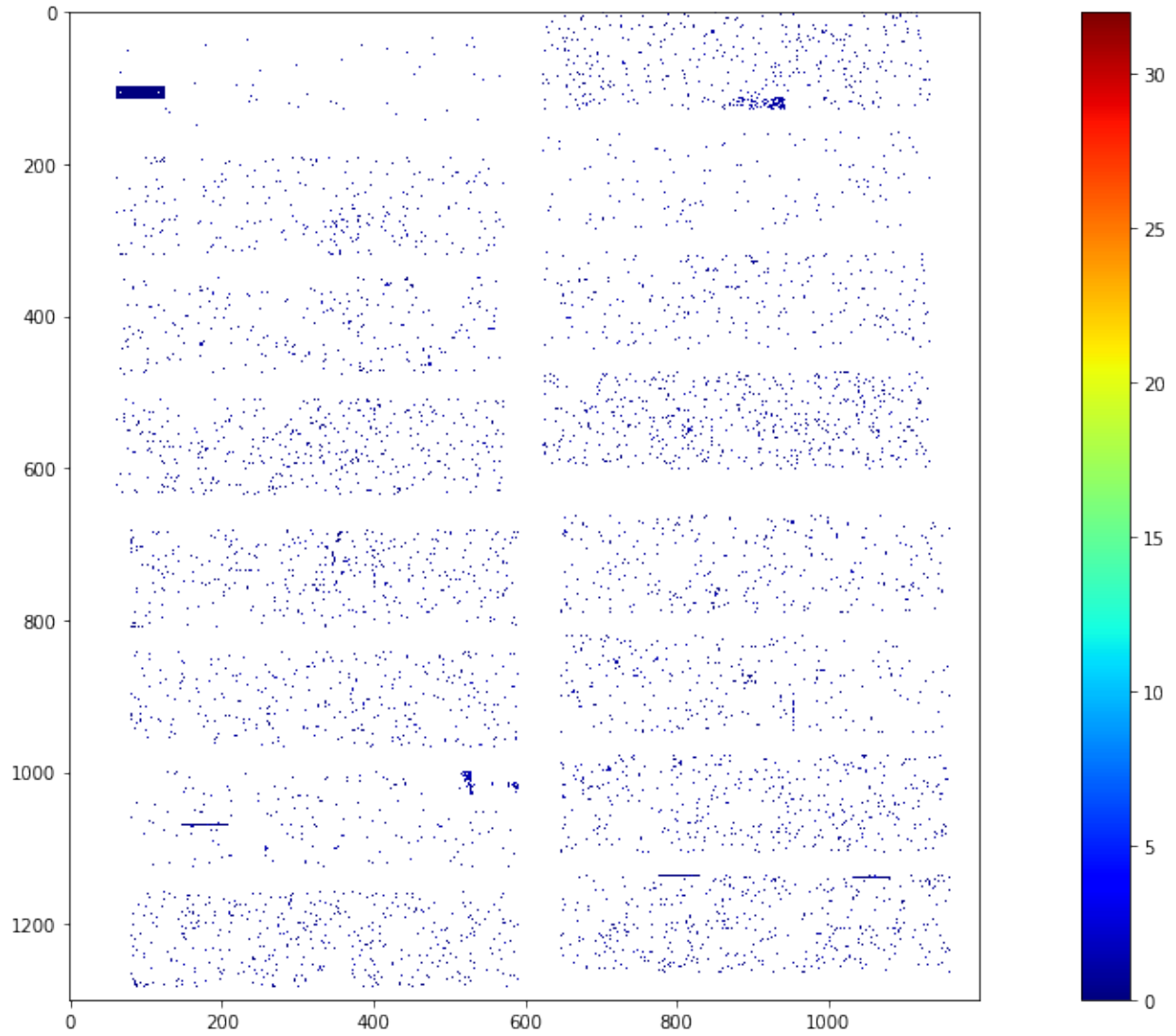


4.5.2 Full Train Bad Pixels



4.5.3 Full Train Bad Pixels - Only Dark Char. Related





AGIPD OFFLINE CORRECTION, SEQUENCES = 21-23

```
Connecting to profile slurm_prof_clfef9b9-95f1-41b3-b833-37b073885cd7_21-23
Using 2020-03-08 06:57:31+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/r0085
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/r0085/RAW-R0085-AGIPD00-S00021.h5
1		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00022.h5
2		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD00-S00023.h5
3	Q1M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00021.h5
4		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00022.h5
5		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD01-S00023.h5
6	Q1M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00021.h5
7		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00022.h5
8		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD02-S00023.h5
9	Q1M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00021.h5
10		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00022.h5
11		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD03-S00023.h5
12	Q2M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00021.h5
13		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00022.h5
14		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD04-S00023.h5
15	Q2M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00021.h5
16		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00022.h5
17		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD05-S00023.h5
18	Q2M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00021.h5
19		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00022.h5
20		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD06-S00023.h5
21	Q2M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00021.h5
22		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00022.h5
23		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD07-S00023.h5
24	Q3M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00021.h5
25		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00022.h5
26		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD08-S00023.h5
27	Q3M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00021.h5
28		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00022.h5
29		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD09-S00023.h5
30	Q3M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00021.h5
31		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00022.h5
32		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD10-S00023.h5
33	Q3M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00021.h5
34		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00022.h5
35		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD11-S00023.h5
36	Q4M1	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00021.h5
37		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00022.h5
38		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD12-S00023.h5
39	Q4M2	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00021.h5
40		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00022.h5
41		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD13-S00023.h5
42	Q4M3	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00021.h5
43		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00022.h5
44		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD14-S00023.h5
45	Q4M4	0	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00021.h5
46		1	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-AGIPD15-S00022.h5
47		2	/gpfs/xfel/exp/SPB/202030/p900119/raw/r0085/RAW-R0085-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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
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.... 20-03-05 18:22
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.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
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.... 20-03-05 18:50
```

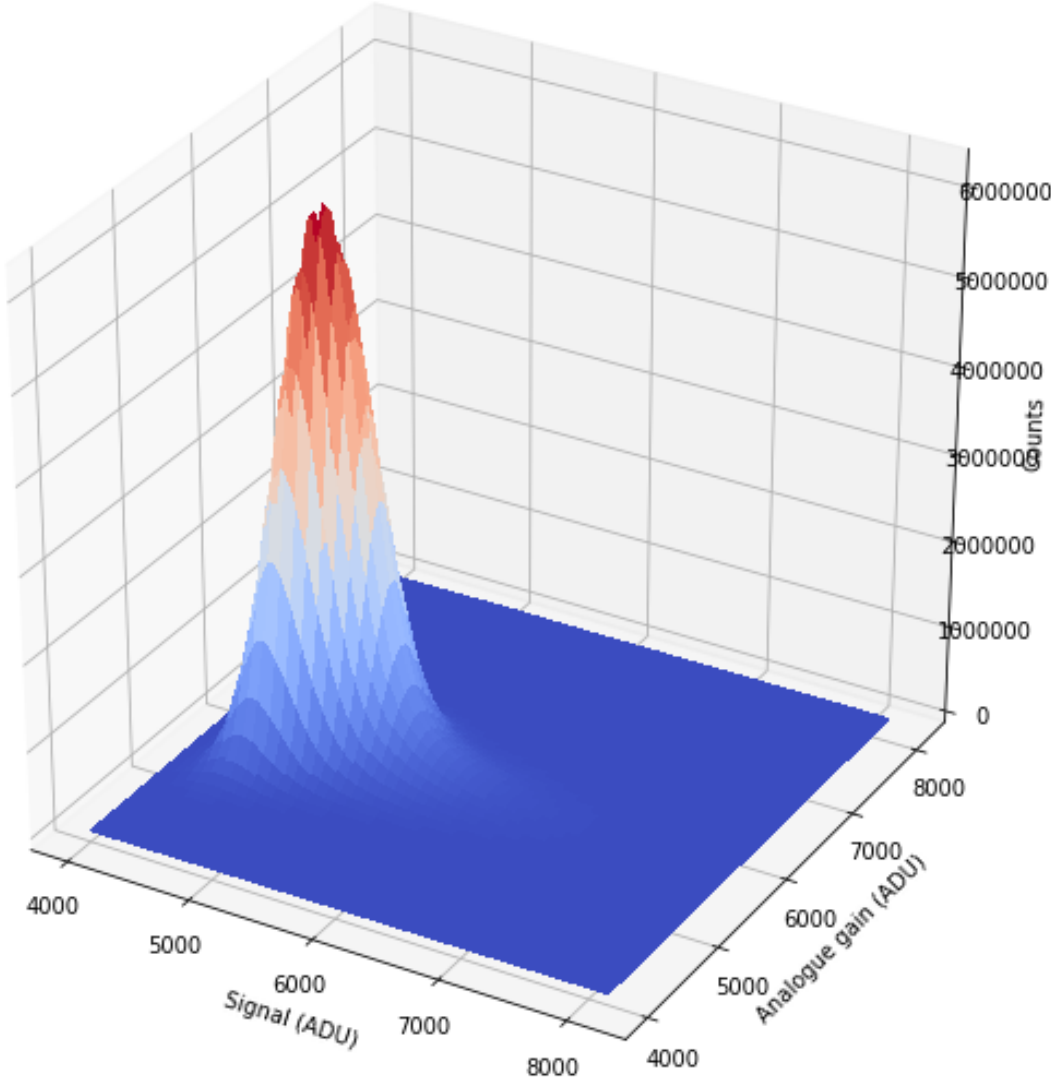


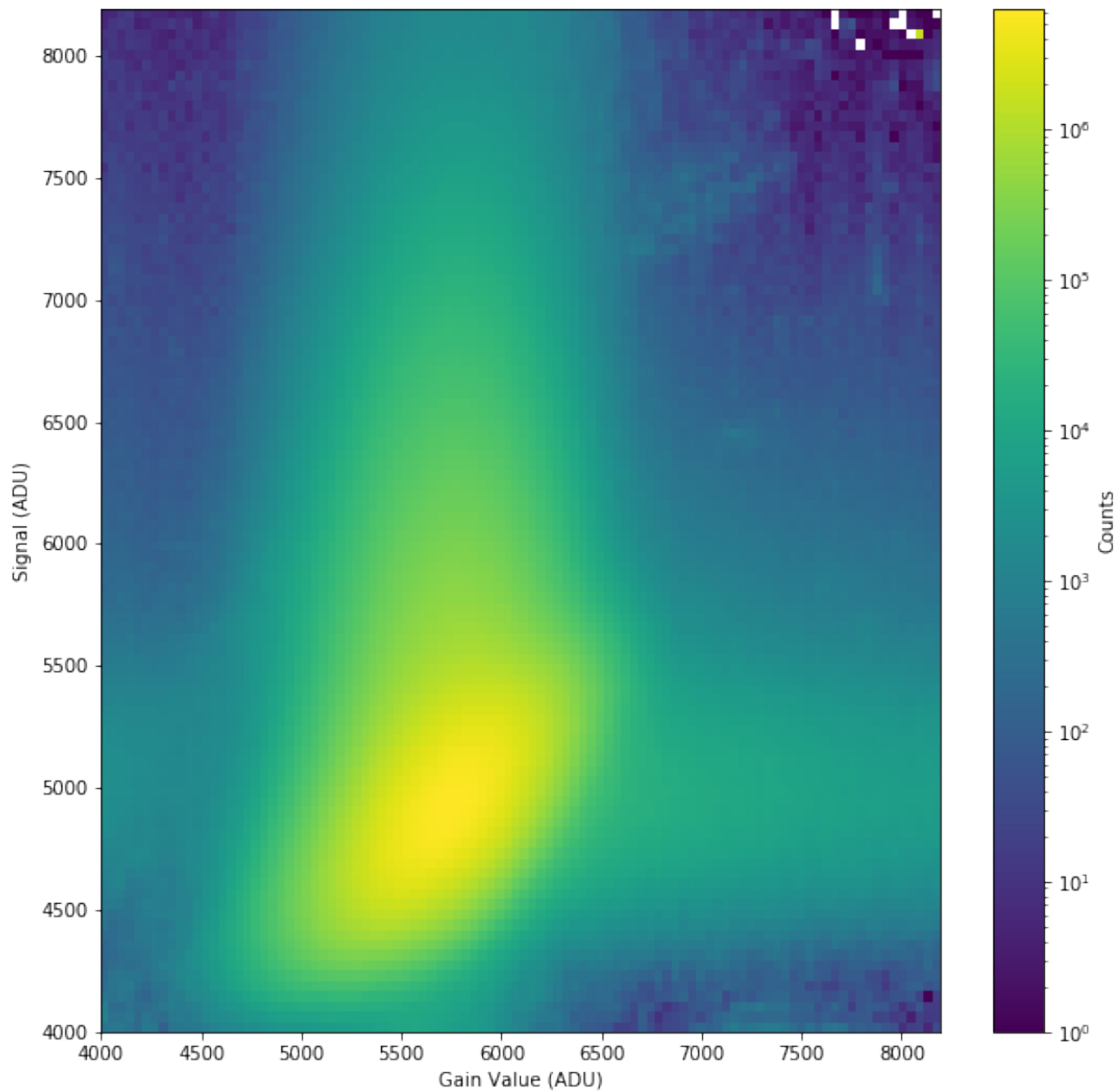
```
Q1M2
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:22
slopesPC.... 20-03-05 18:22
Q1M3
offset..... 20-03-04 15:33
noise..... 20-03-04 15:33
bpixels..... 20-03-04 15:33
thresholds.. 20-03-04 15:33
bppc..... 20-03-05 18:10
slopesPC.... 20-03-05 18:10
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.... 20-03-05 19:13
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.... 20-03-05 18:20
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.... 20-03-05 18:21
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.... 20-03-05 18:24
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.... 20-03-05 18:52
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.... None
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.... 20-03-05 18:19
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.... 20-03-05 18:37
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.... 20-03-05 18:25
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.... 20-03-05 18:40
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.... 20-03-05 18:19
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.... 20-03-05 18:18
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.... 20-03-05 18:21
```

5.2 Signal vs. Analogue Gain

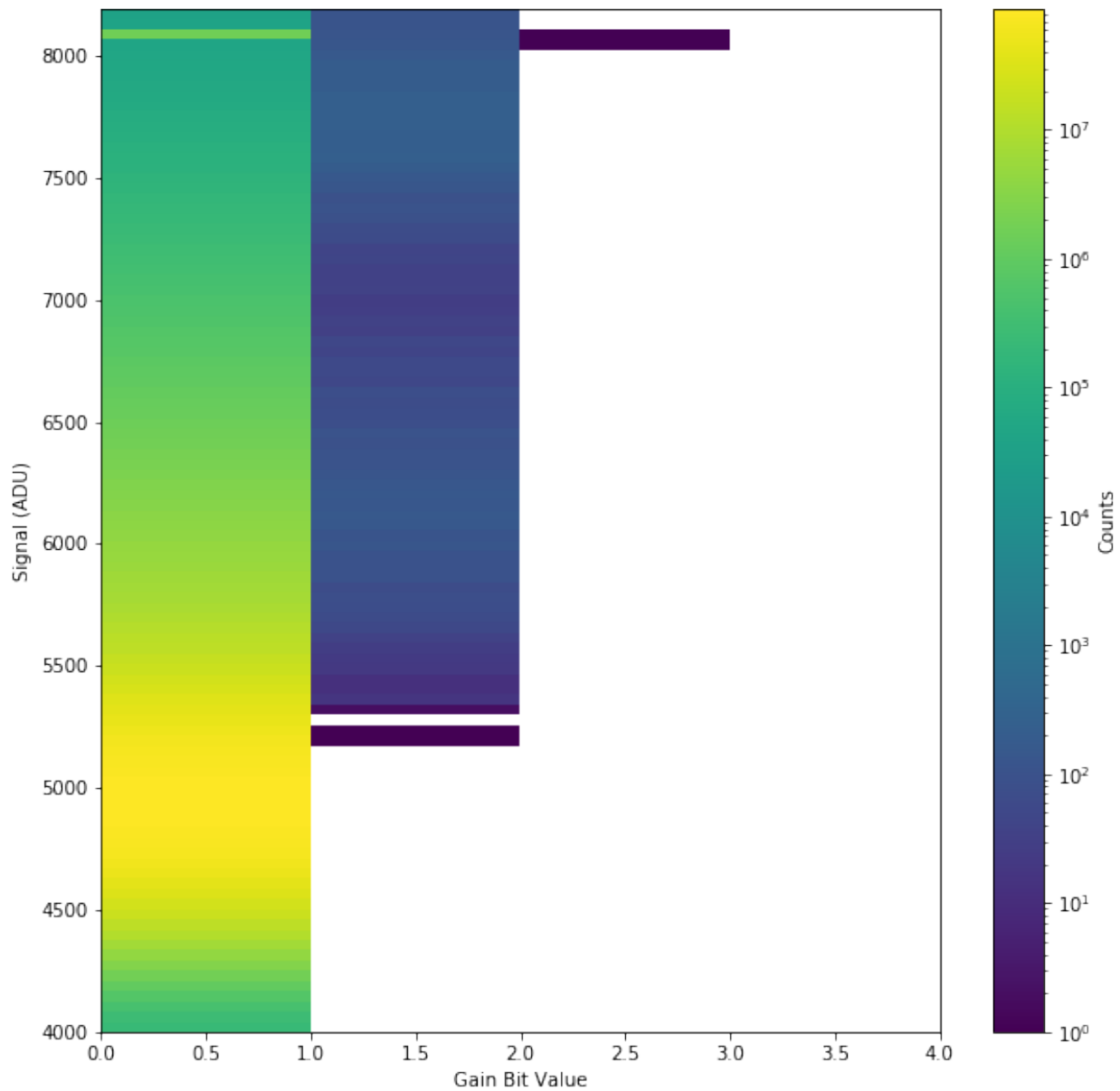
The following plot shows plots signal vs. gain for the first 128 images.

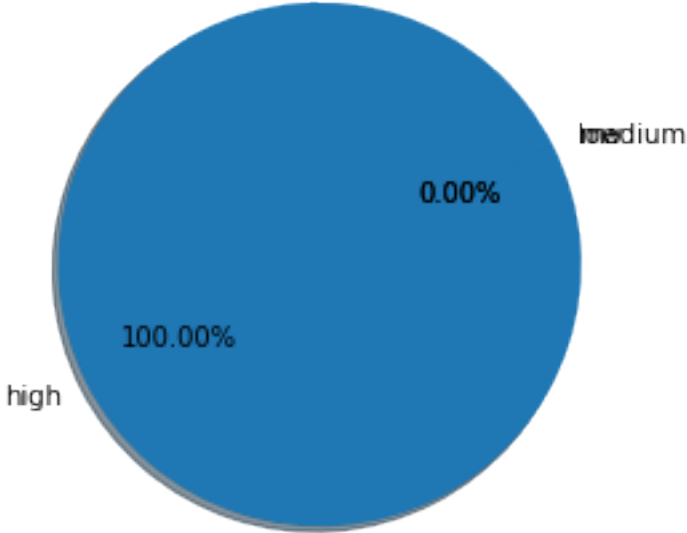




5.3 Signal vs. Digitized Gain

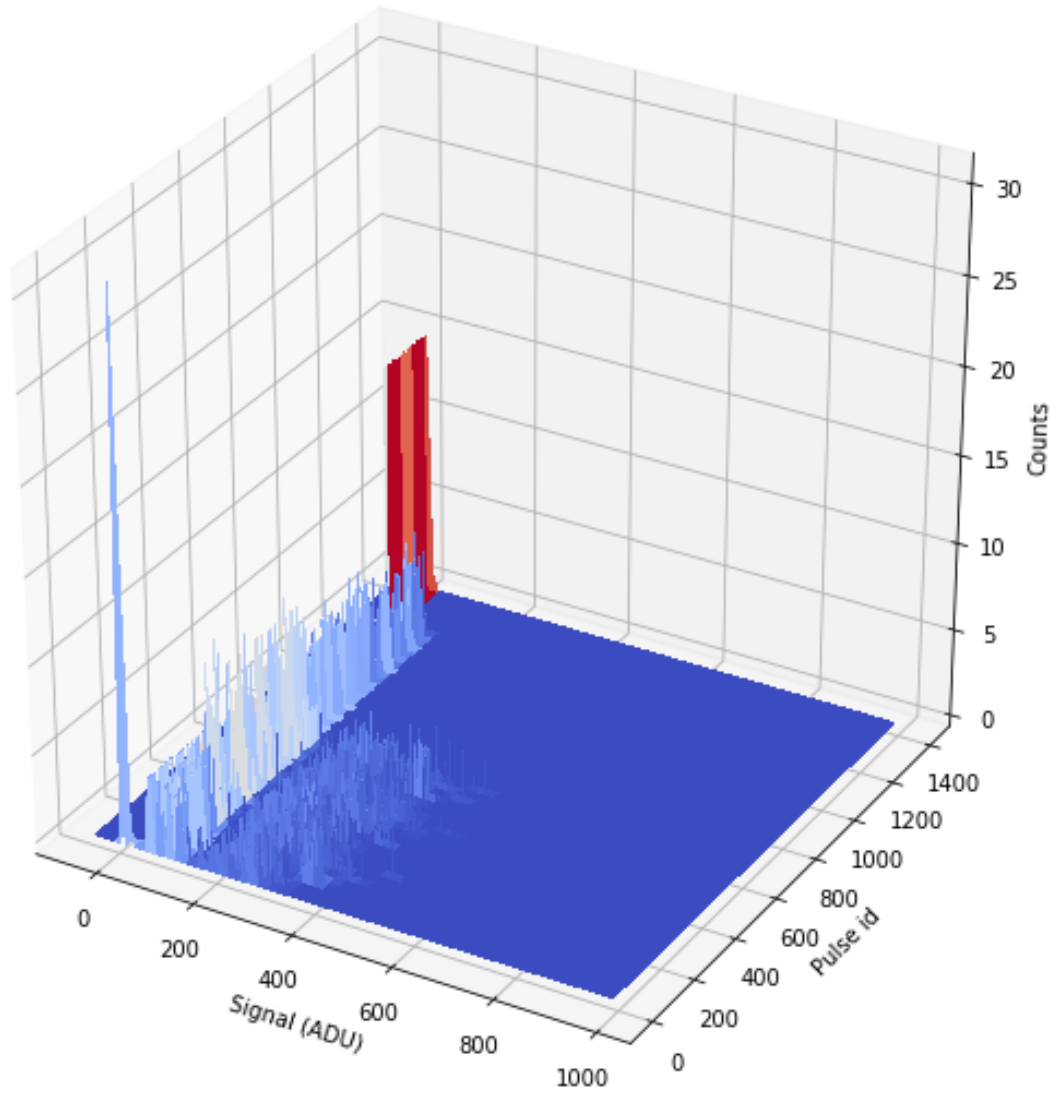
The following plot shows plots signal vs. digitized gain for the first 128 images.

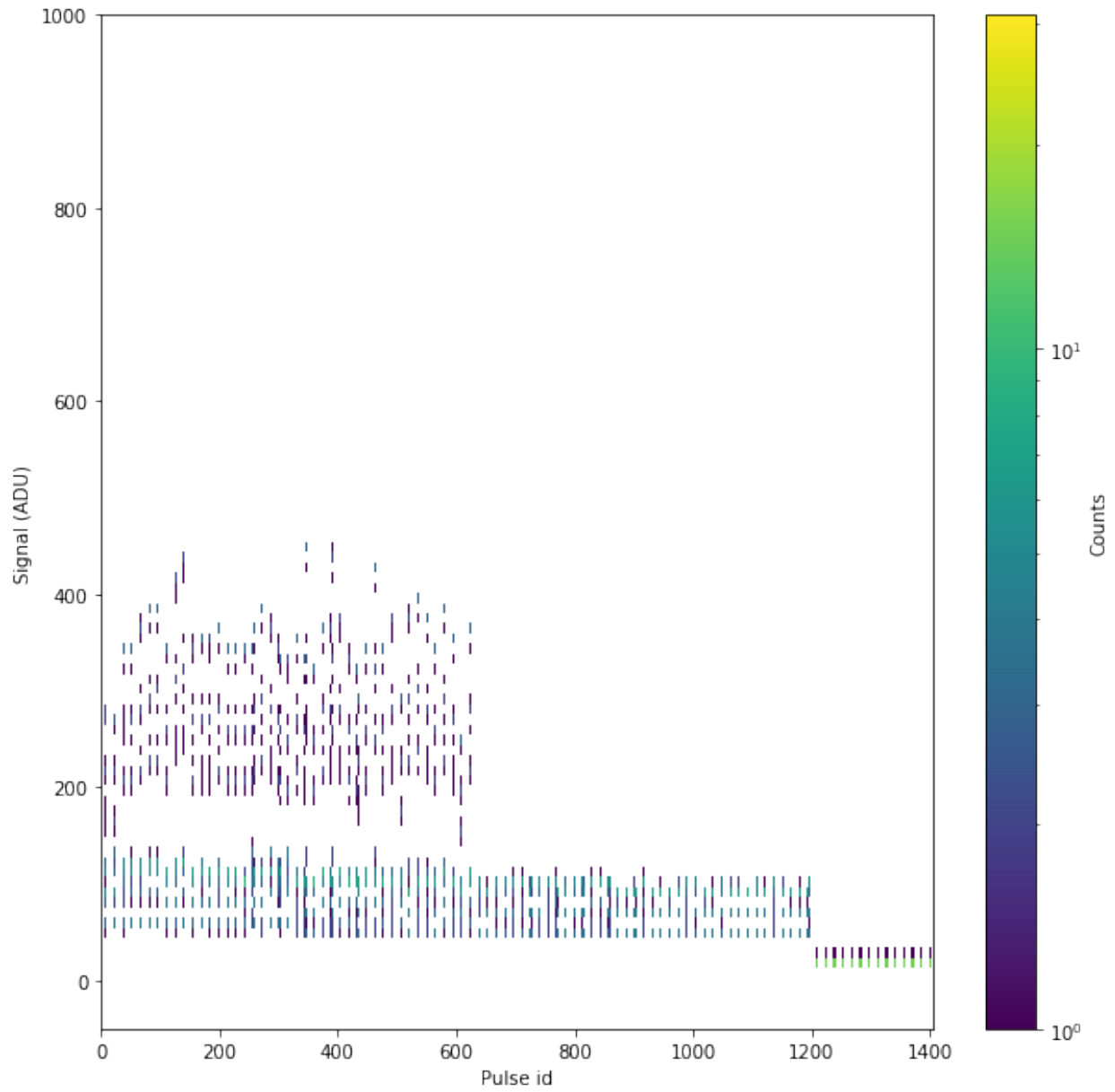


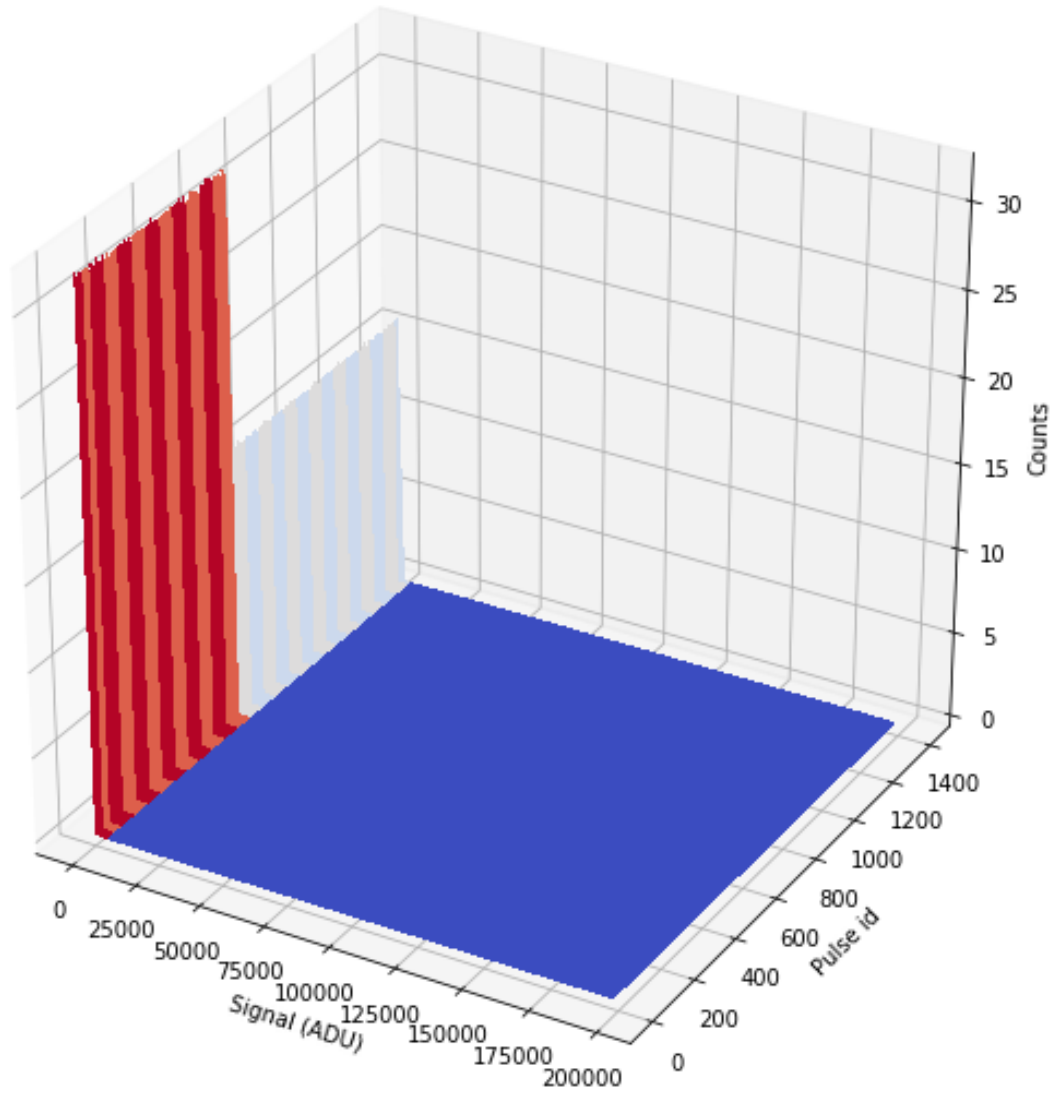


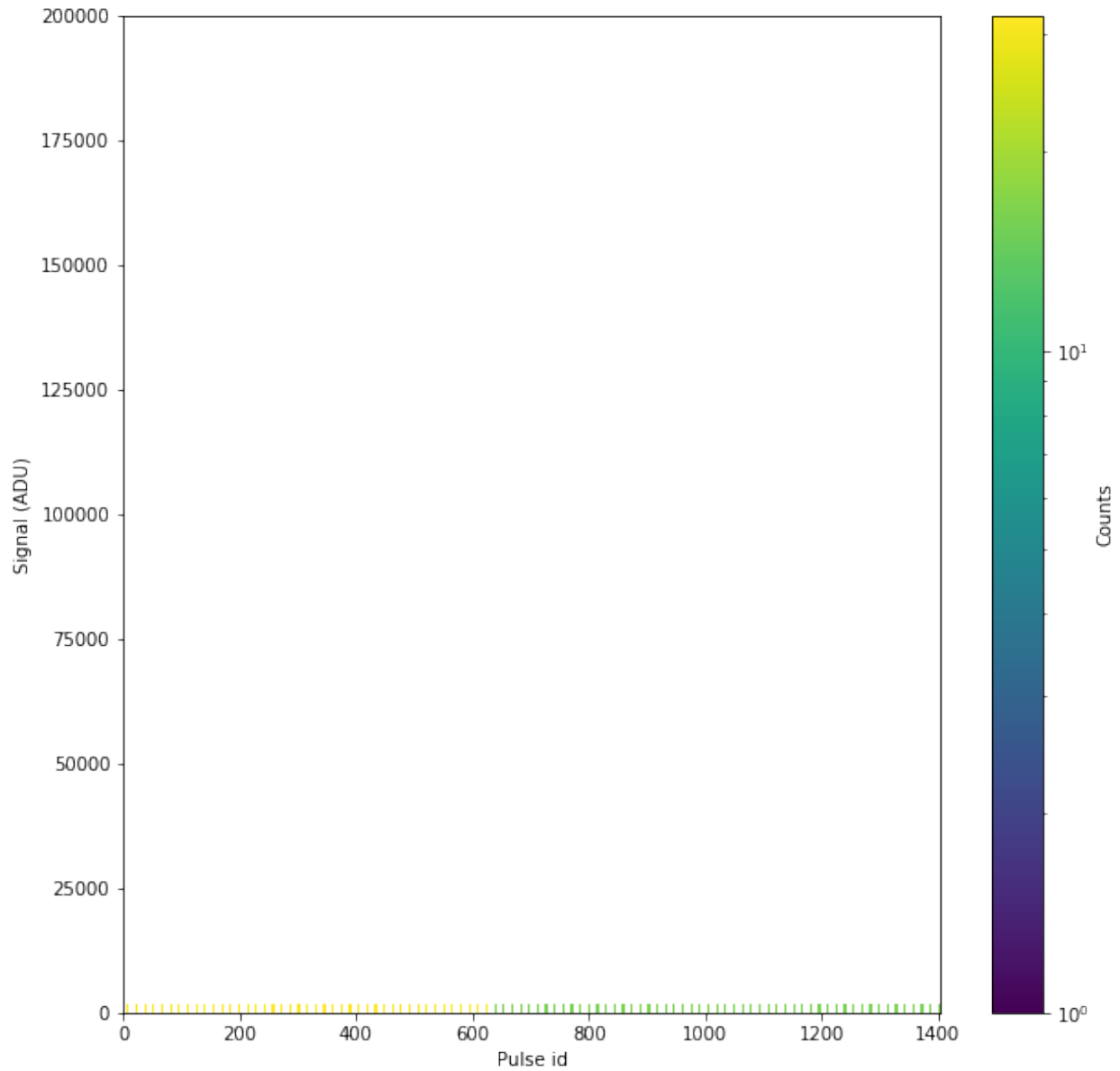
5.4 Mean Intensity per Pulse

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



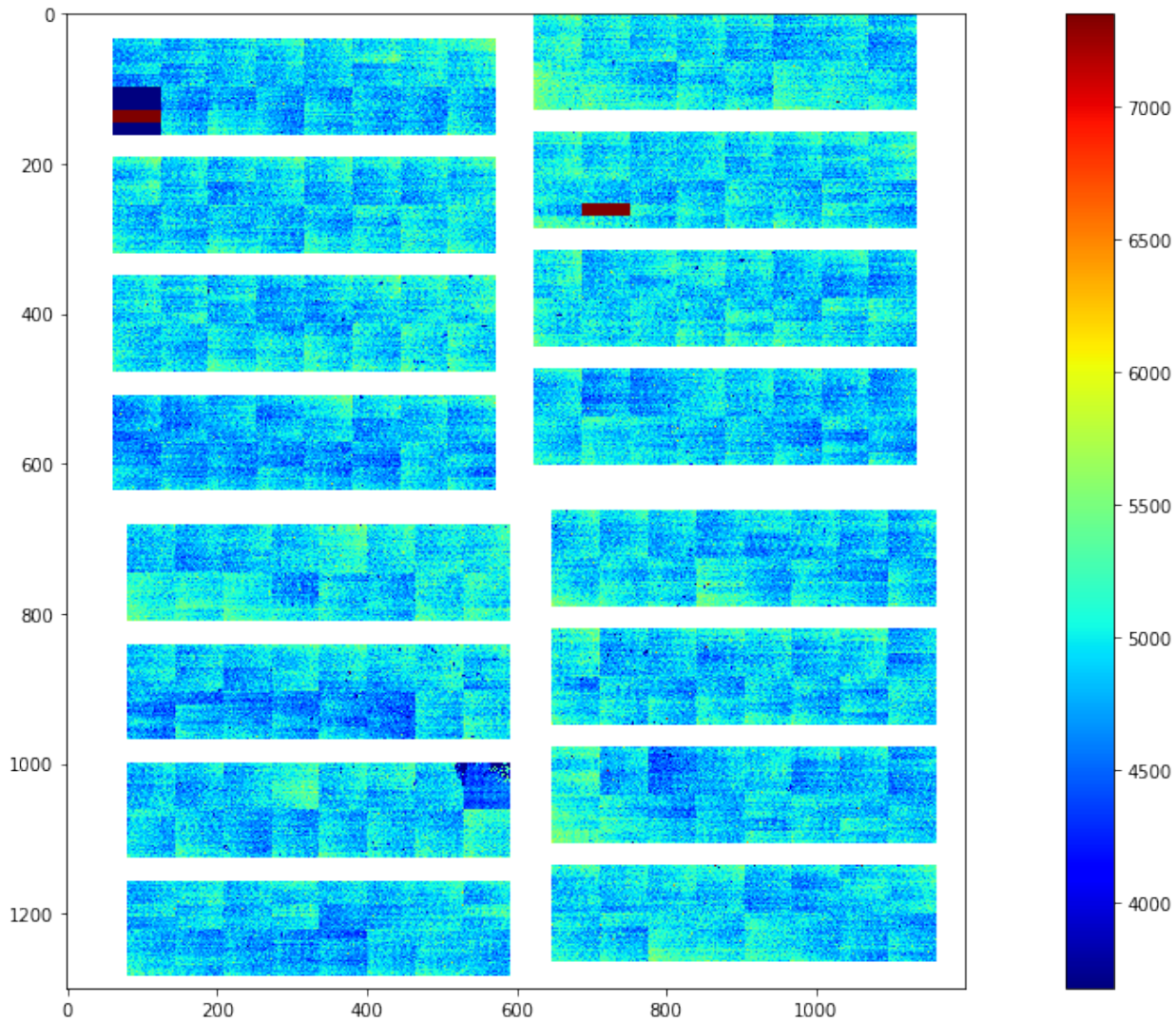






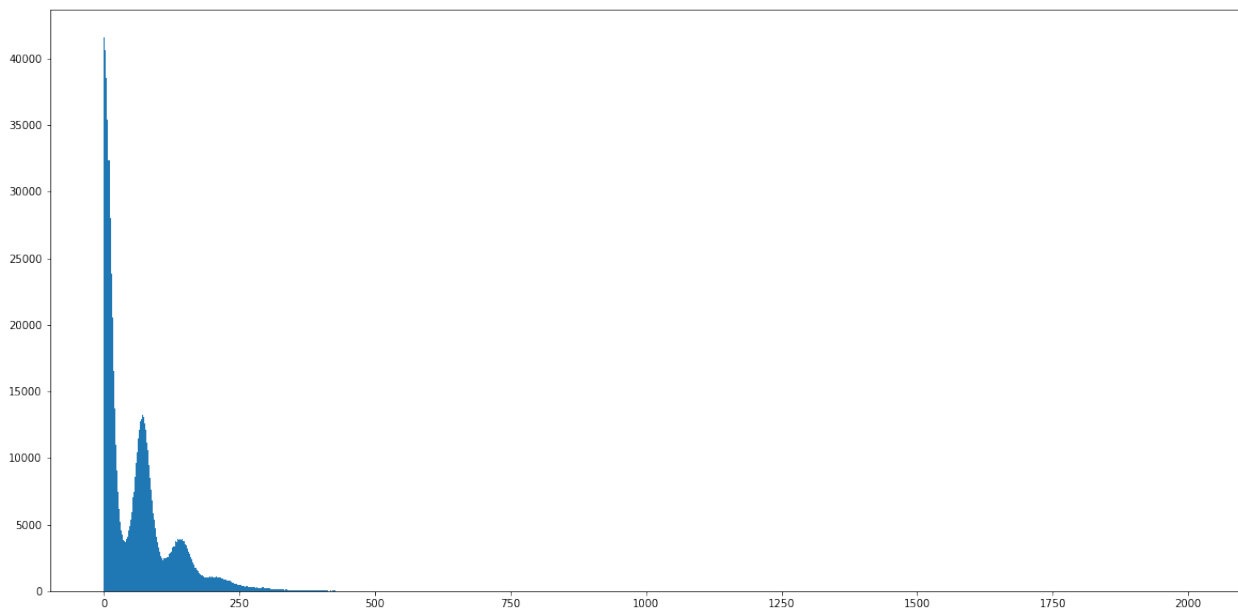
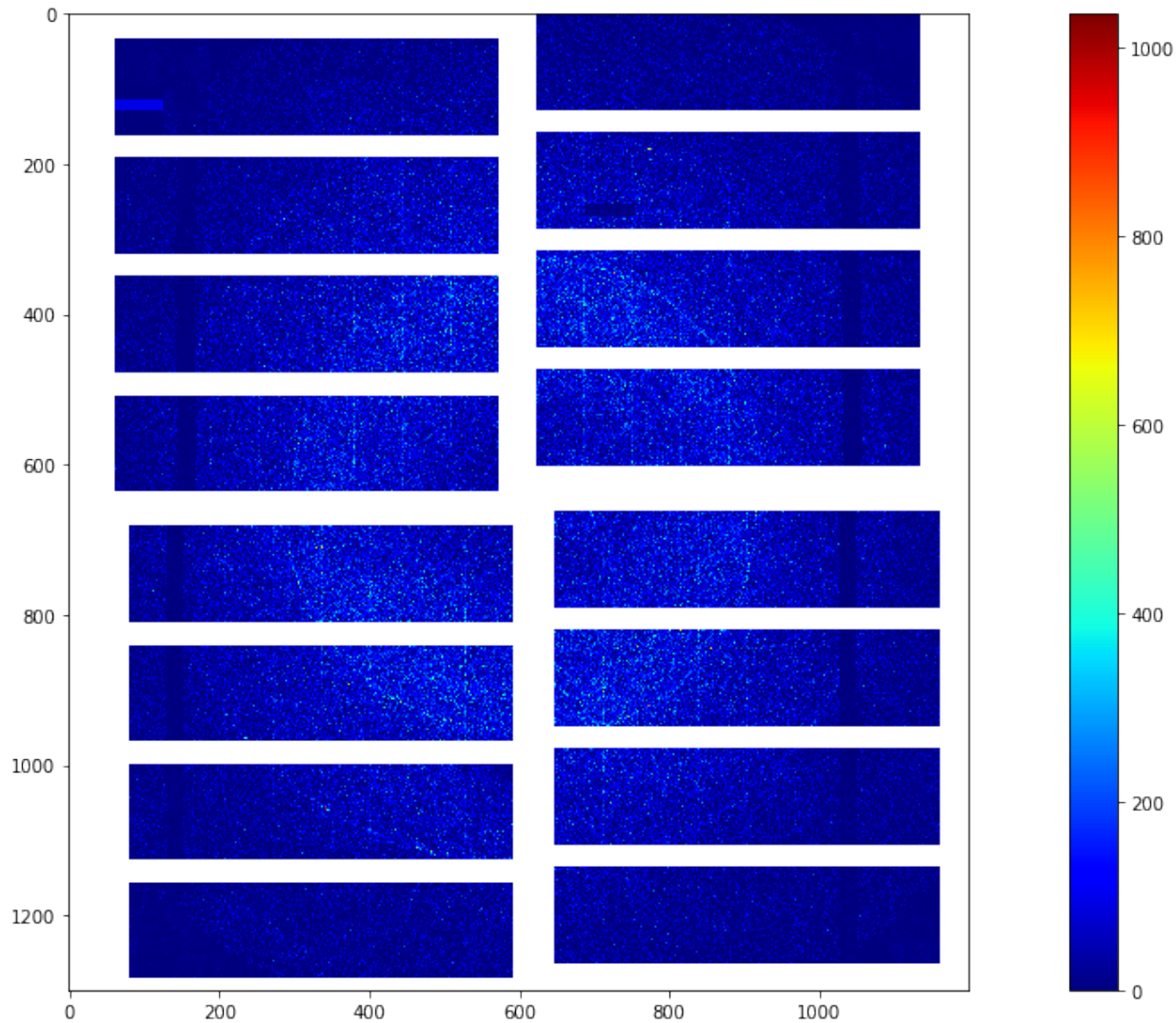
5.4.1 Mean RAW Preview

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



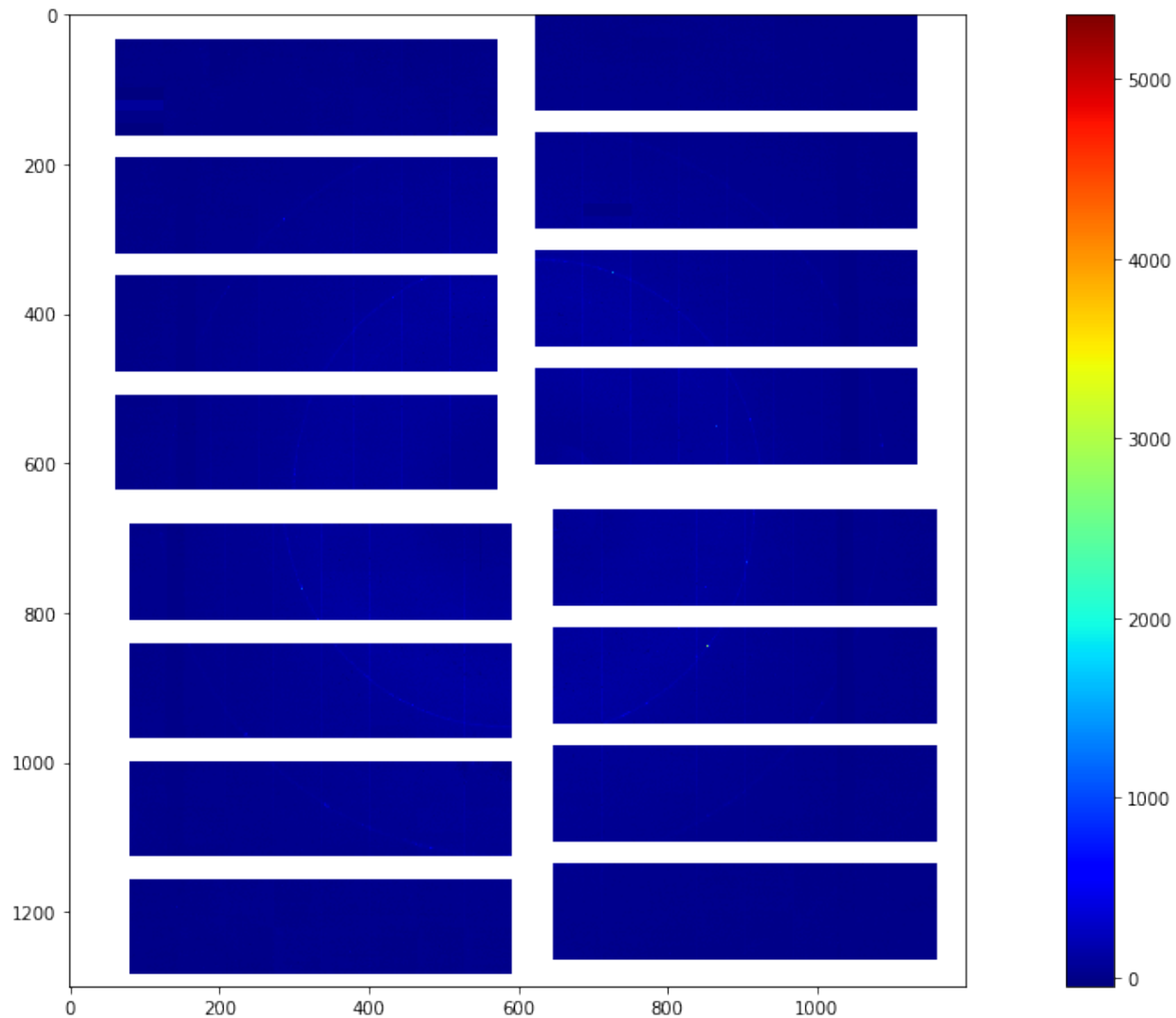
5.4.2 Single Shot Preview

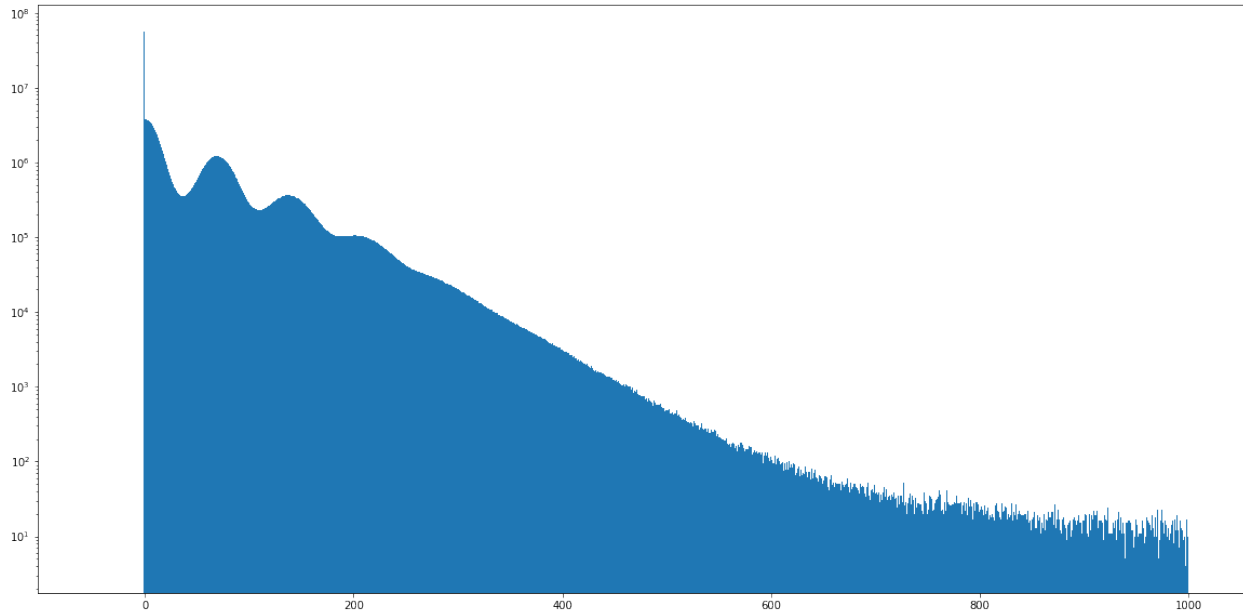
A single shot image from cell 12 of the first train



5.4.3 Mean CORRECTED Preview

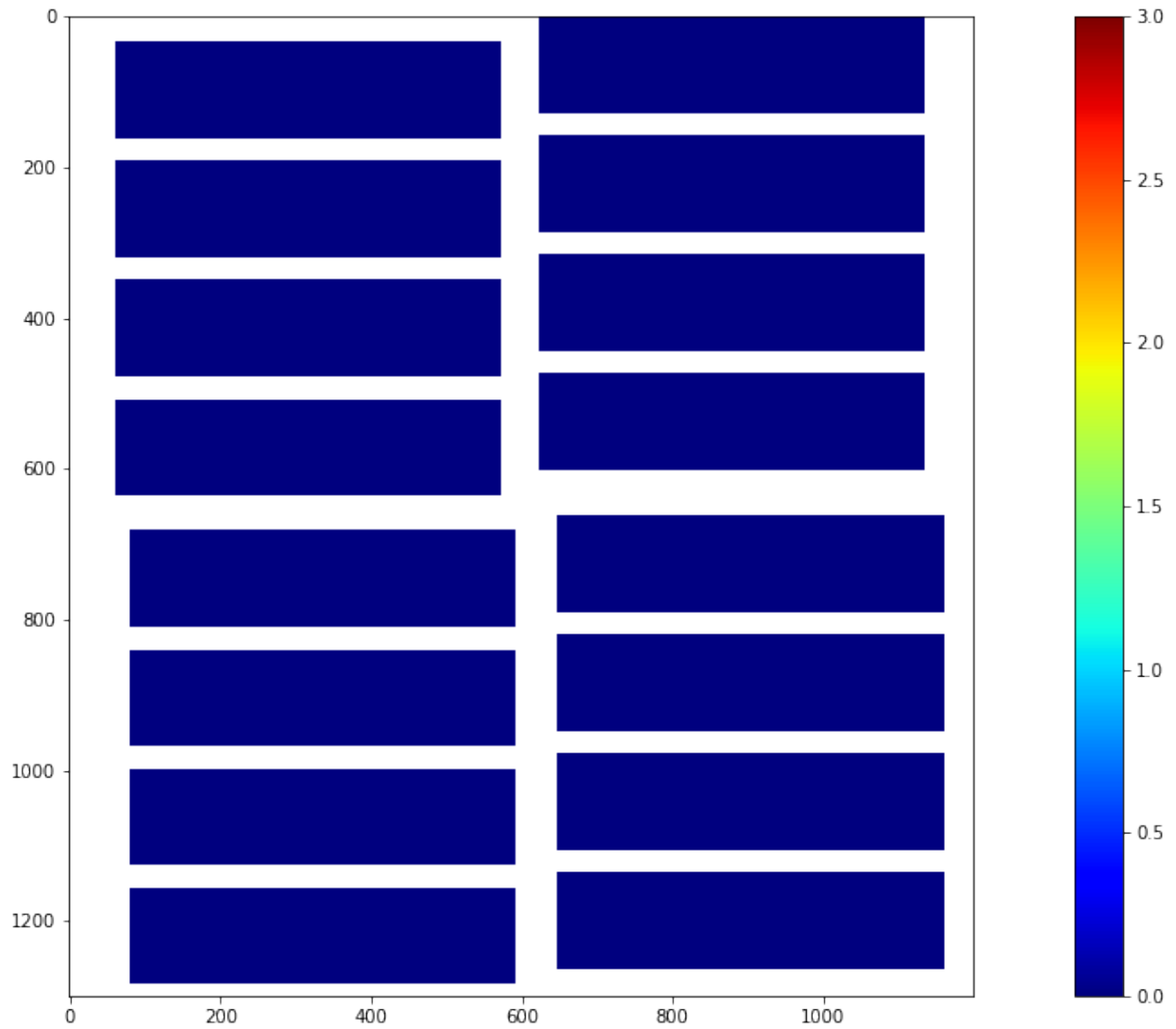
The per pixel mean of the first 128 images of the CORRECTED data





5.4.4 Maximum GAIN Preview

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



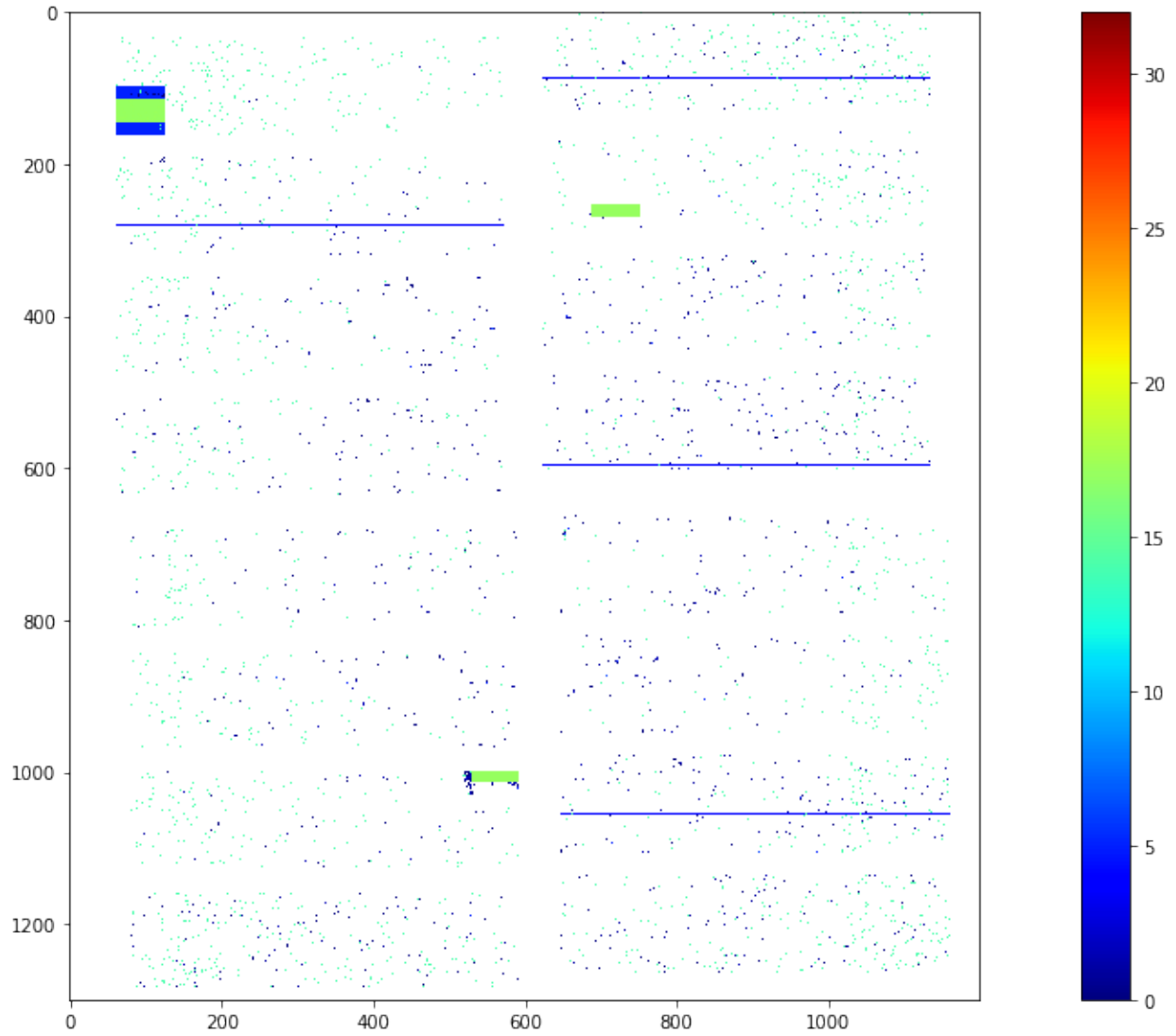
5.5 Bad Pixels

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:

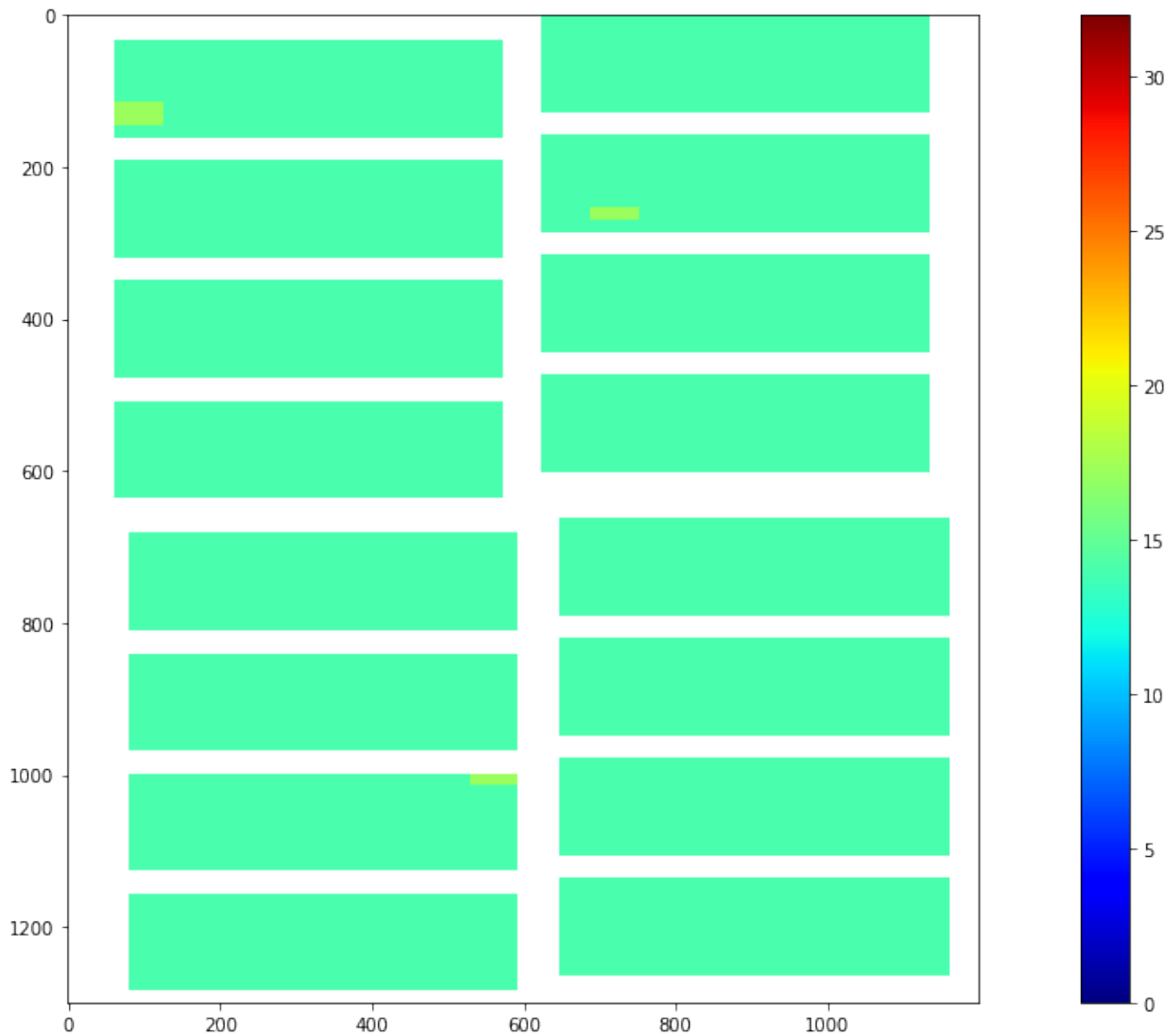
Bad pixel type	Bit mask
OFFSET_OUT_OF_THRESHOLD	0000000000000001
NOISE_OUT_OF_THRESHOLD	0000000000000010
OFFSET_NOISE_EVAL_ERROR	0000000000000100
NO_DARK_DATA	0000000000001000
CI_GAIN_OF_OF_THRESHOLD	0000000000010000
CI_LINEAR_DEVIATION	000000000100000
CI_EVAL_ERROR	000000001000000
FF_GAIN_EVAL_ERROR	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

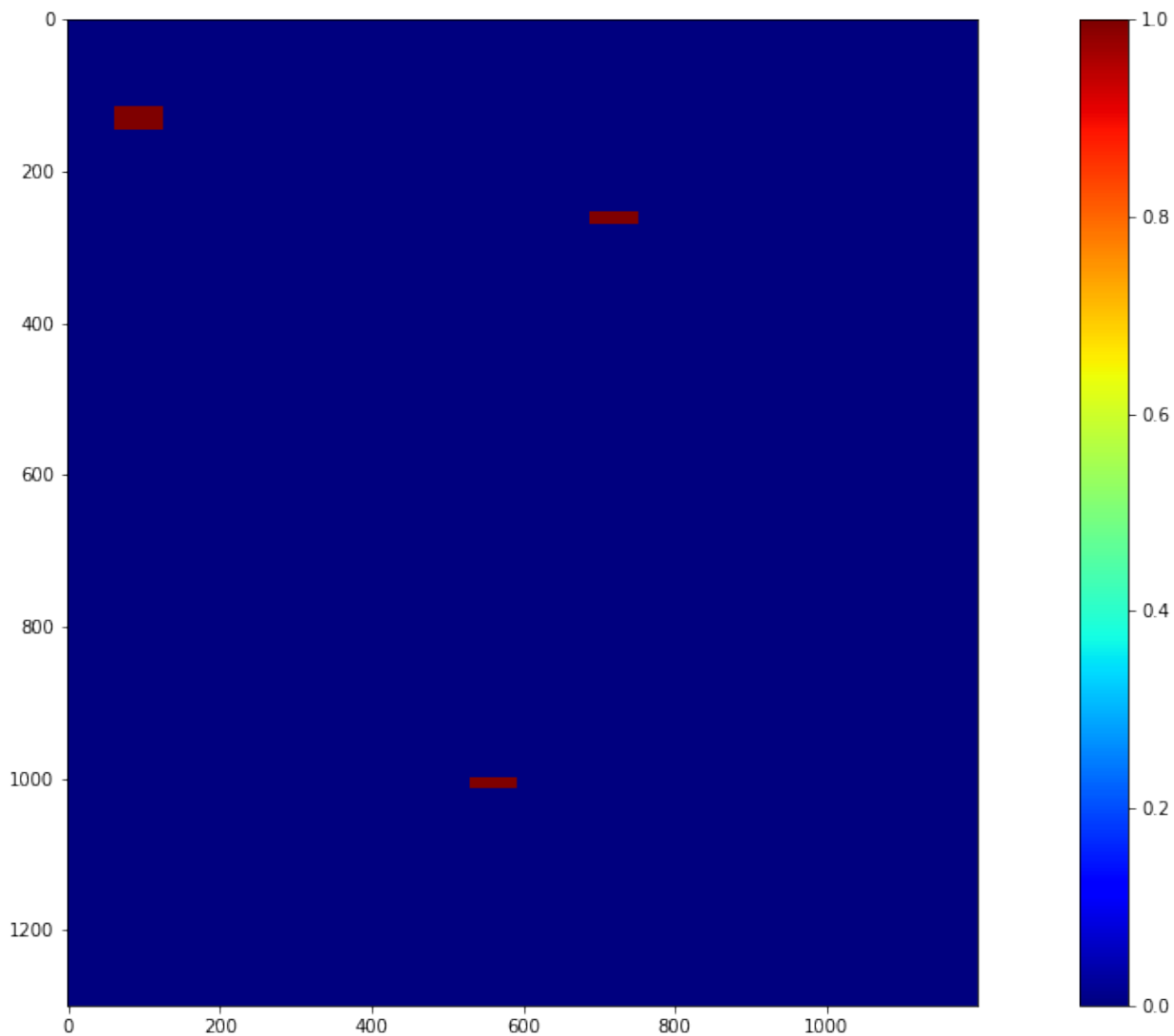
A single shot bad pixel map from cell 4 of the first train

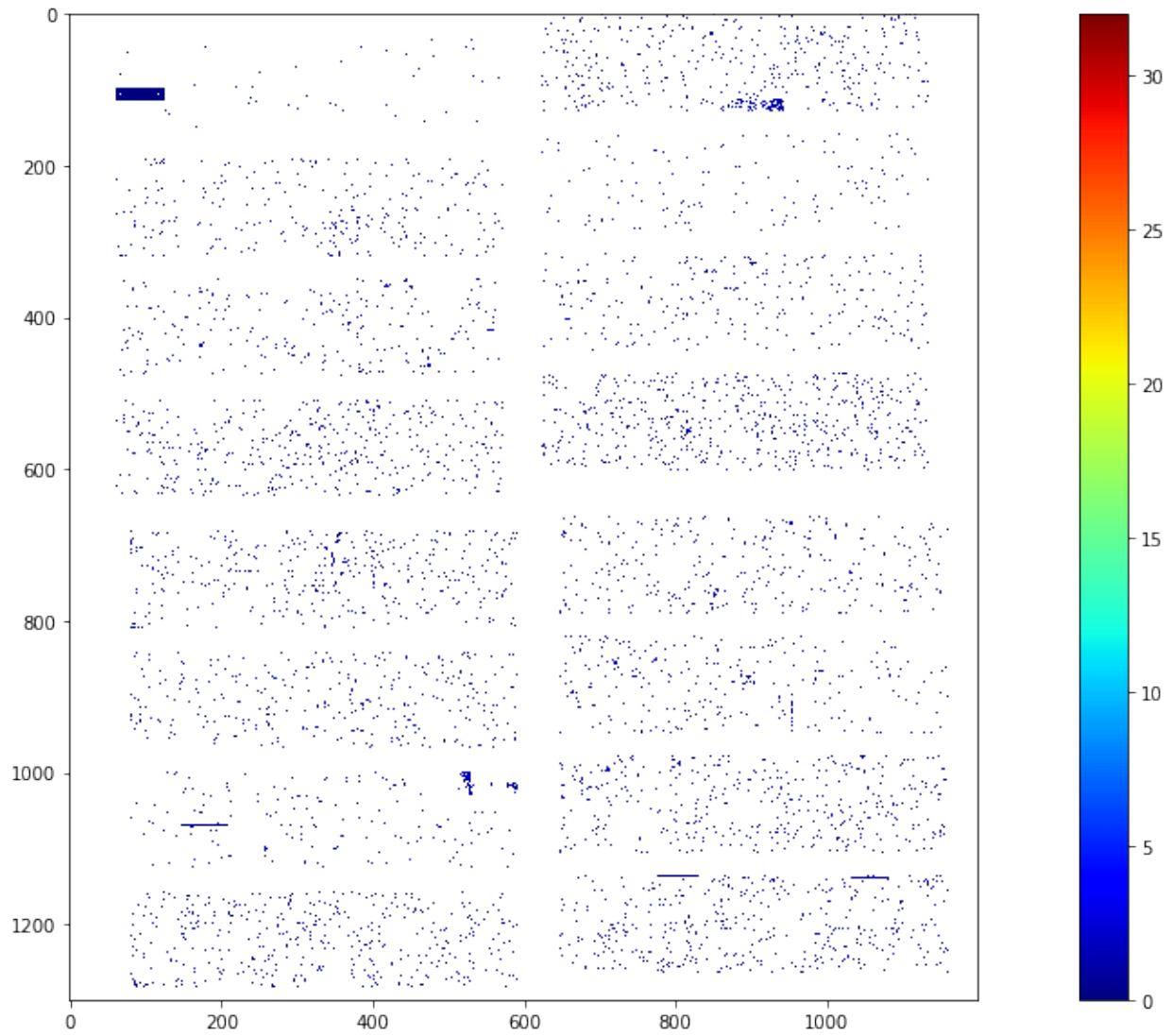


5.5.2 Full Train Bad Pixels



5.5.3 Full Train Bad Pixels - Only Dark Char. Related





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
20-03-05 18:10	S12: ['Q1M3'], S13: ['Q1M3'], S14: ['Q1M3'], S15: ['Q1M3'], S16: ['Q1M3'], S17: ['Q1M3'], S18: ['Q1M3'],
20-03-05 18:18	S12: ['Q4M3'], S13: ['Q4M3'], S14: ['Q4M3'], S15: ['Q4M3'], S16: ['Q4M3'], S17: ['Q4M3'], S18: ['Q4M3'],
20-03-05 18:19	Rest of the modules
20-03-05 18:20	S12: ['Q2M1'], S13: ['Q2M1'], S14: ['Q2M1'], S15: ['Q2M1'], S16: ['Q2M1'], S17: ['Q2M1'], S18: ['Q2M1'],
20-03-05 18:21	S12: ['Q2M2' 'Q4M4'], S13: ['Q2M2' 'Q4M4'], S14: ['Q2M2' 'Q4M4'], S15: ['Q2M2' 'Q4M4'], S16: ['Q2M2' 'Q4M4'],
20-03-05 18:22	S12: ['Q1M2'], S13: ['Q1M2'], S14: ['Q1M2'], S15: ['Q1M2'], S16: ['Q1M2'], S17: ['Q1M2'], S18: ['Q1M2'],
20-03-05 18:24	S12: ['Q2M3'], S13: ['Q2M3'], S14: ['Q2M3'], S15: ['Q2M3'], S16: ['Q2M3'], S17: ['Q2M3'], S18: ['Q2M3'],
20-03-05 18:25	S12: ['Q3M4'], S13: ['Q3M4'], S14: ['Q3M4'], S15: ['Q3M4'], S16: ['Q3M4'], S17: ['Q3M4'], S18: ['Q3M4'],
20-03-05 18:37	S12: ['Q3M3'], S13: ['Q3M3'], S14: ['Q3M3'], S15: ['Q3M3'], S16: ['Q3M3'], S17: ['Q3M3'], S18: ['Q3M3'],
20-03-05 18:40	S12: ['Q4M1'], S13: ['Q4M1'], S14: ['Q4M1'], S15: ['Q4M1'], S16: ['Q4M1'], S17: ['Q4M1'], S18: ['Q4M1'],
20-03-05 18:50	S12: ['Q1M1'], S13: ['Q1M1'], S14: ['Q1M1'], S15: ['Q1M1'], S16: ['Q1M1'], S17: ['Q1M1'], S18: ['Q1M1'],
20-03-05 18:52	S12: ['Q2M4'], S13: ['Q2M4'], S14: ['Q2M4'], S15: ['Q2M4'], S16: ['Q2M4'], S17: ['Q2M4'], S18: ['Q2M4'],
20-03-05 19:13	S12: ['Q1M4'], S13: ['Q1M4'], S14: ['Q1M4'], S15: ['Q1M4'], S16: ['Q1M4'], S17: ['Q1M4'], S18: ['Q1M4'],
None	S12: ['Q3M1'], S13: ['Q3M1'], S14: ['Q3M1'], S15: ['Q3M1'], S16: ['Q3M1'], S17: ['Q3M1'], S18: ['Q3M1'],

slopesFF were injected on:

Time stamps	Modules and sequences
NA	All modules

RUNTIME SUMMARY

JobID	Elapsed	Suspended
4675320	10:00:41	00:00:00
4675321	10:00:40	00:00:00
4675322	10:00:41	00:00:00
4675323	01:41:27	00:00:00
4675324	01:42:42	00:00:00
4675325	02:23:41	00:00:00
4675326	01:29:56	00:00:00
4675327	00:00:29	00:00:00