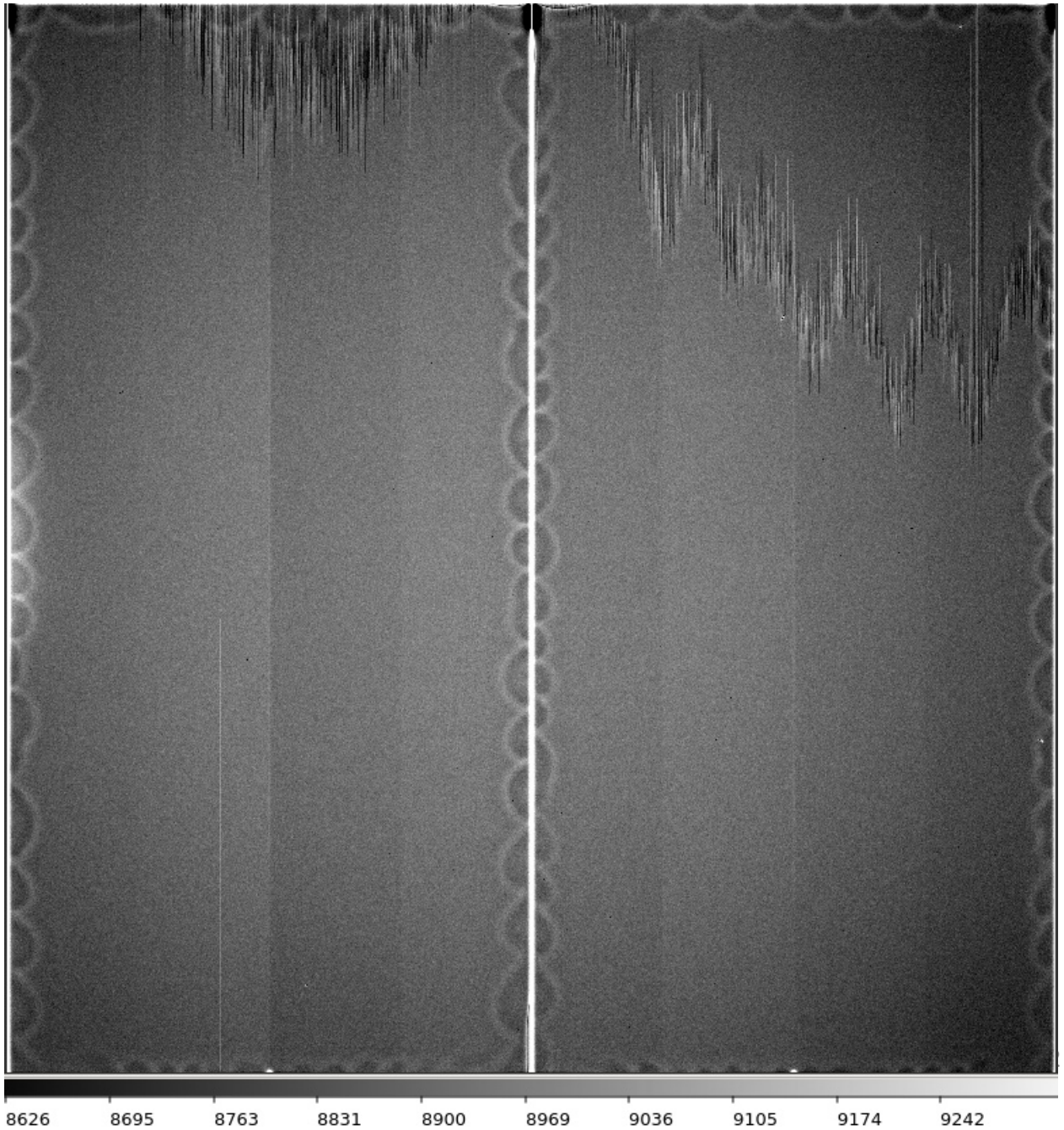
PFS

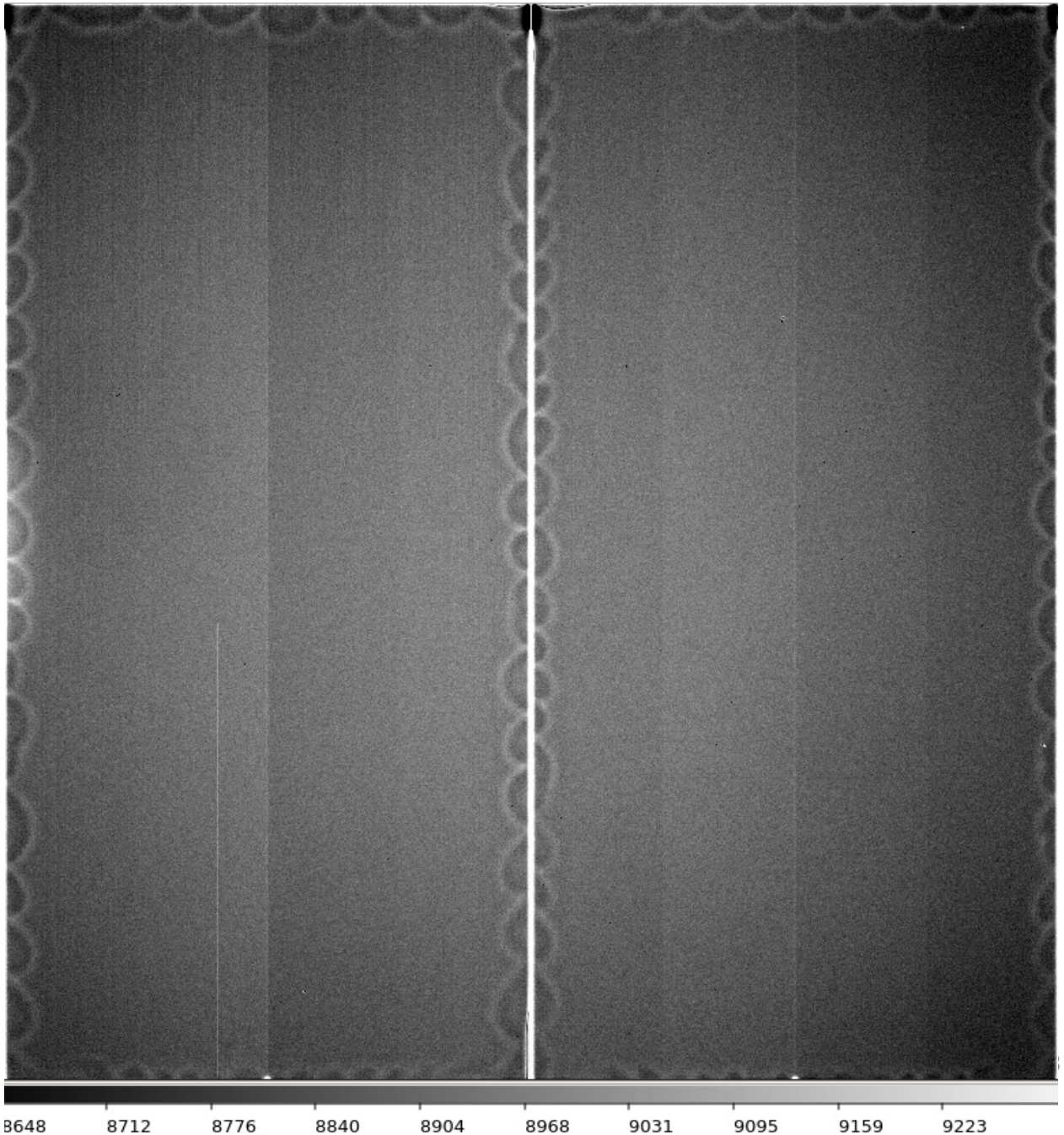
R4 CCD characterization 2022

Arnaud Le Fur

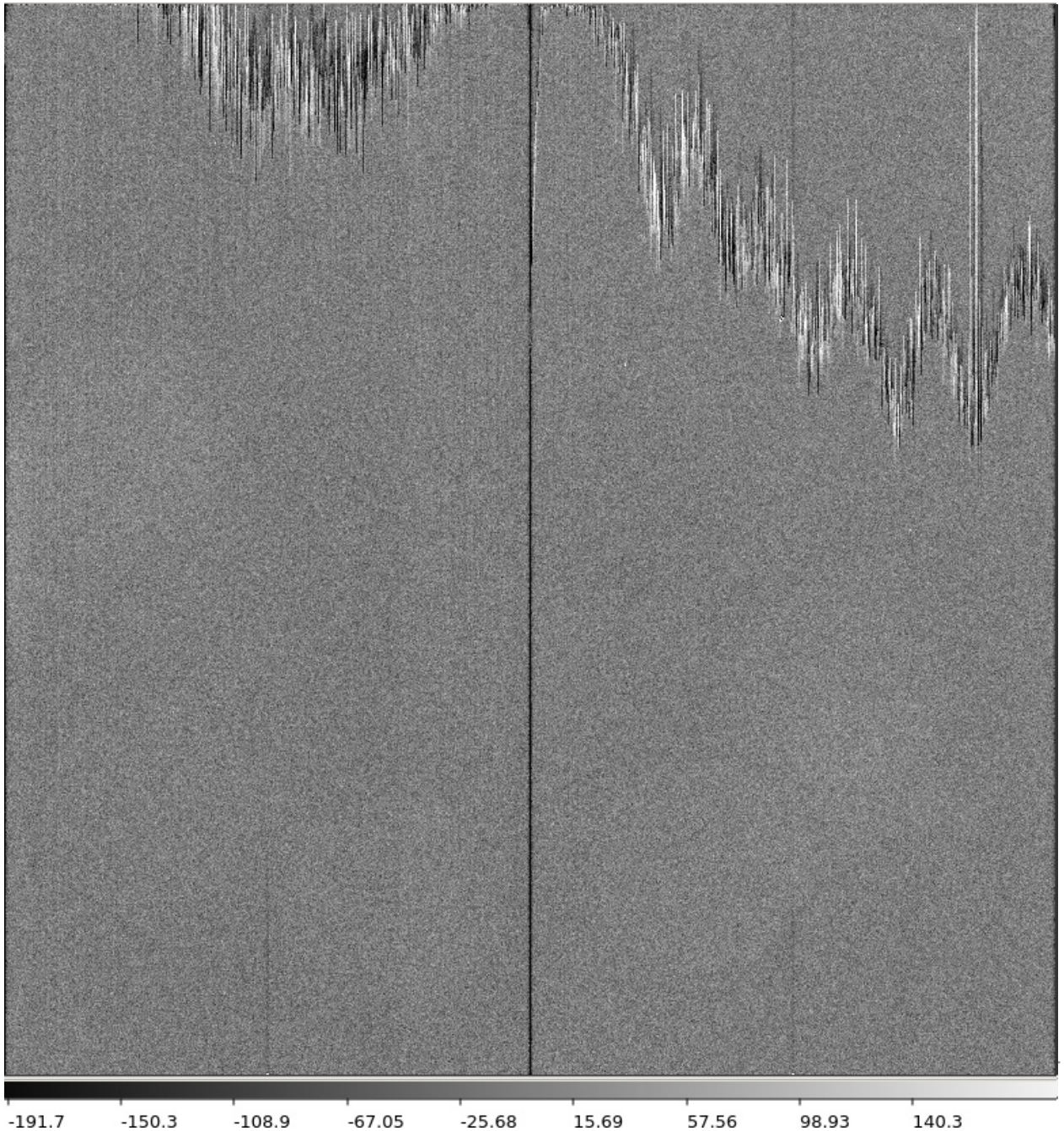
R4 : Tearing-before correction (2021-02-17)

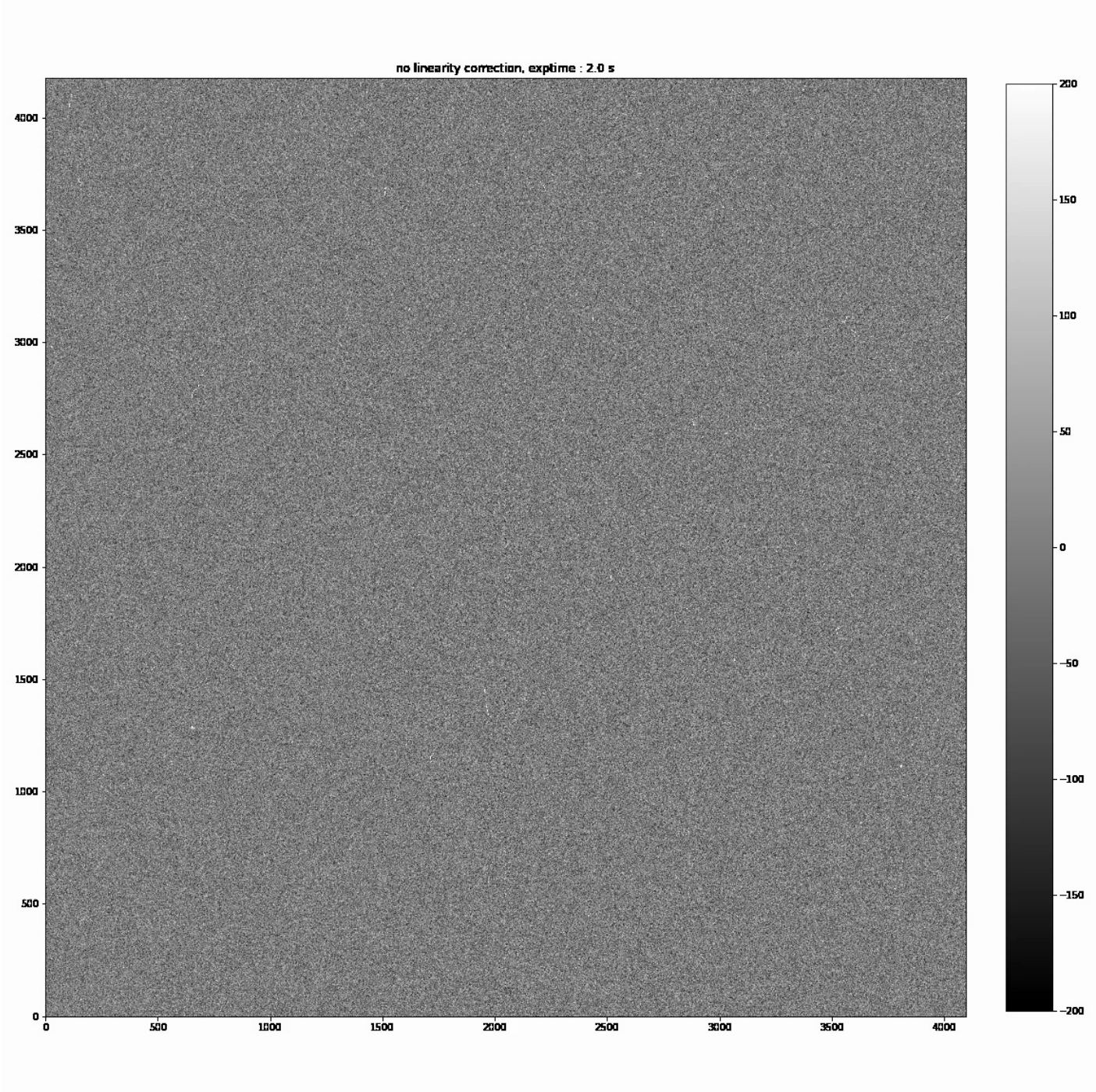


R4 : Tearing-after correction (2022-04-20)



R4 : Tearing-residuals

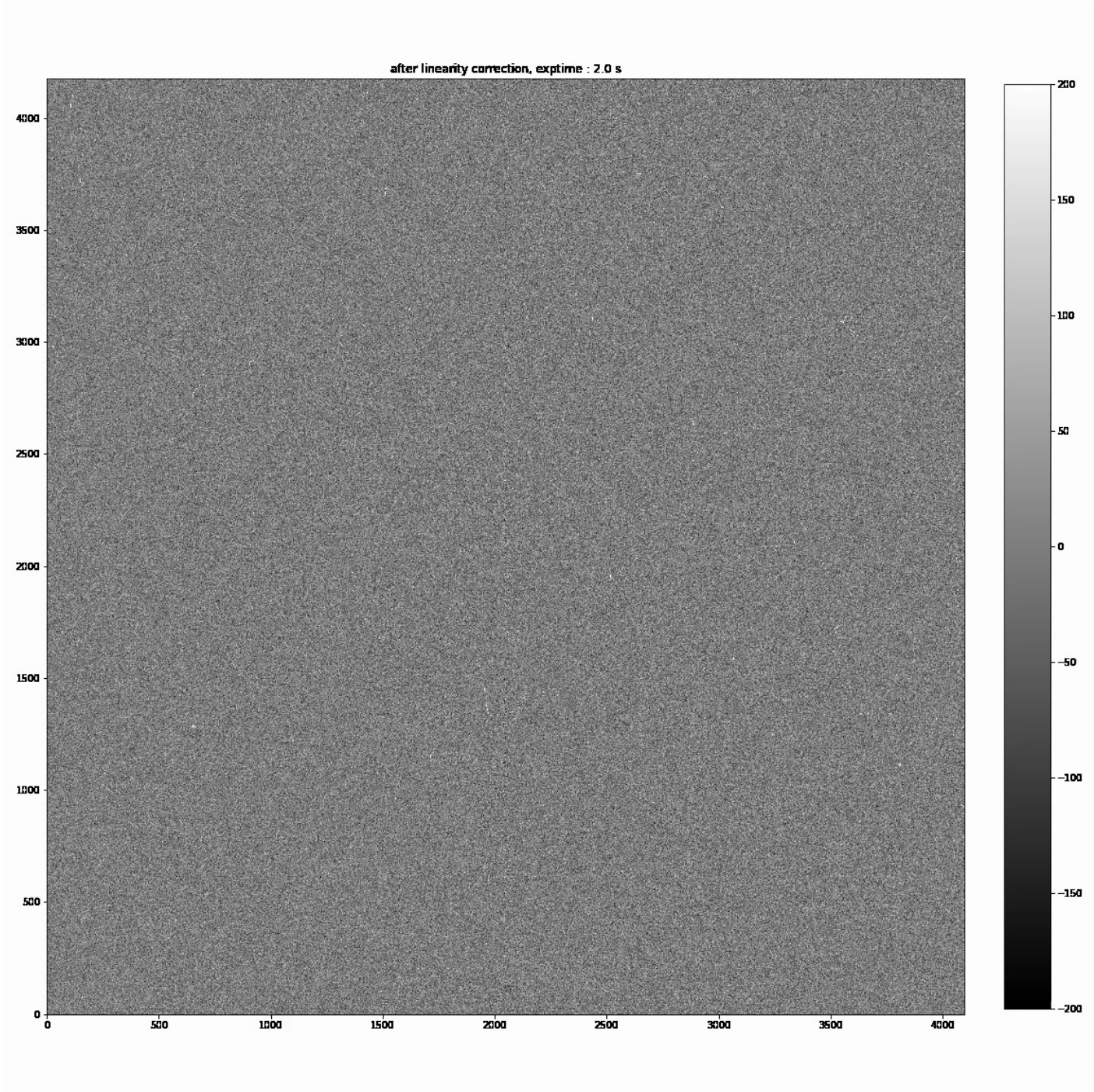




Flats with increasing exptime

→ superFlat subtracted.

→ non-linearity effect



Flats with increasing exptime

→ superFlat subtracted.

→ corrected for non-linearity

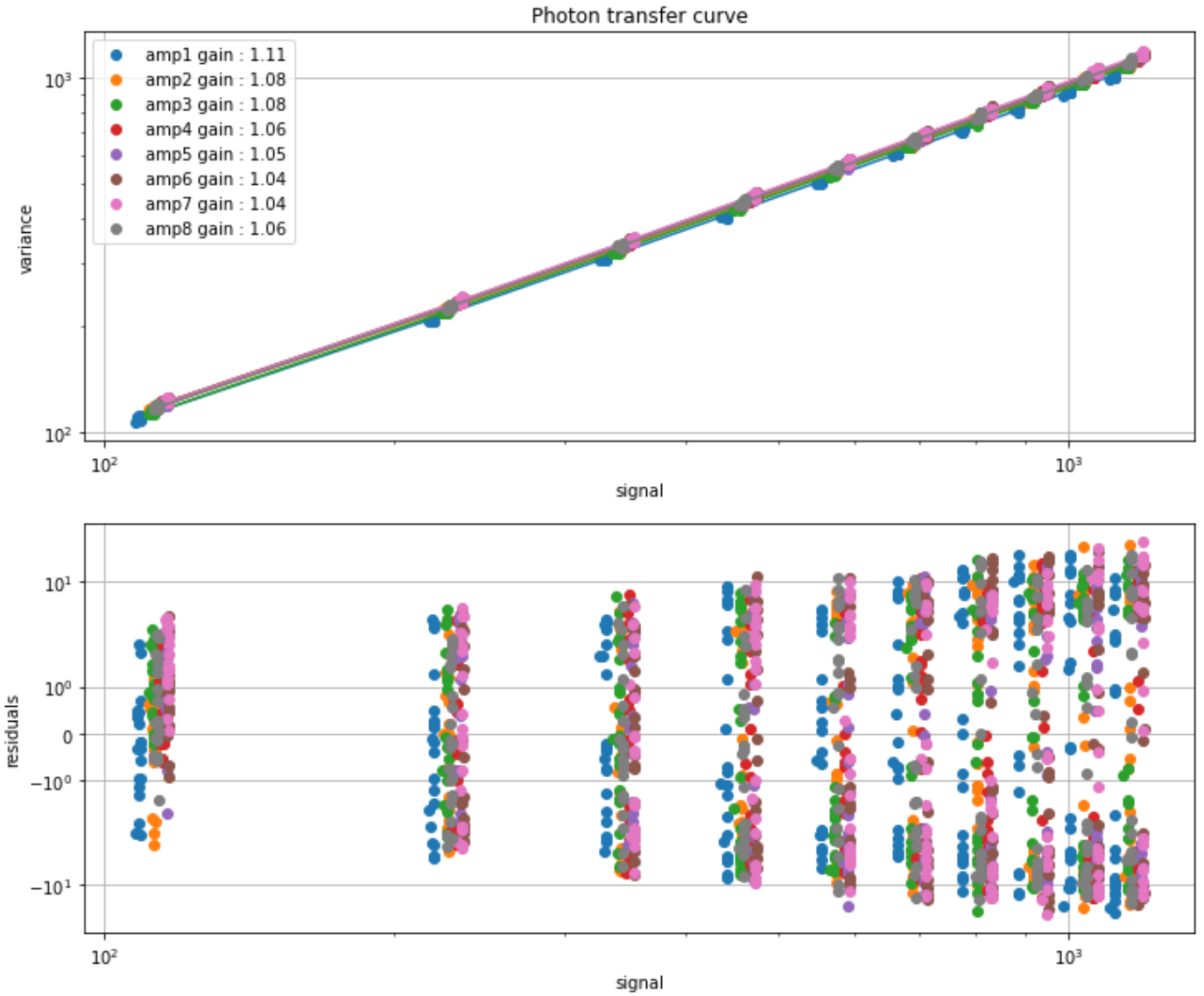
→ noise increasing as a function of shotnoise

→ no visible spatial structure

R4 : Gain estimation

ampId	gain
1	1.109926
2	1.076936
3	1.079920
4	1.058622
5	1.046681
6	1.041084
7	1.036013
8	1.055716

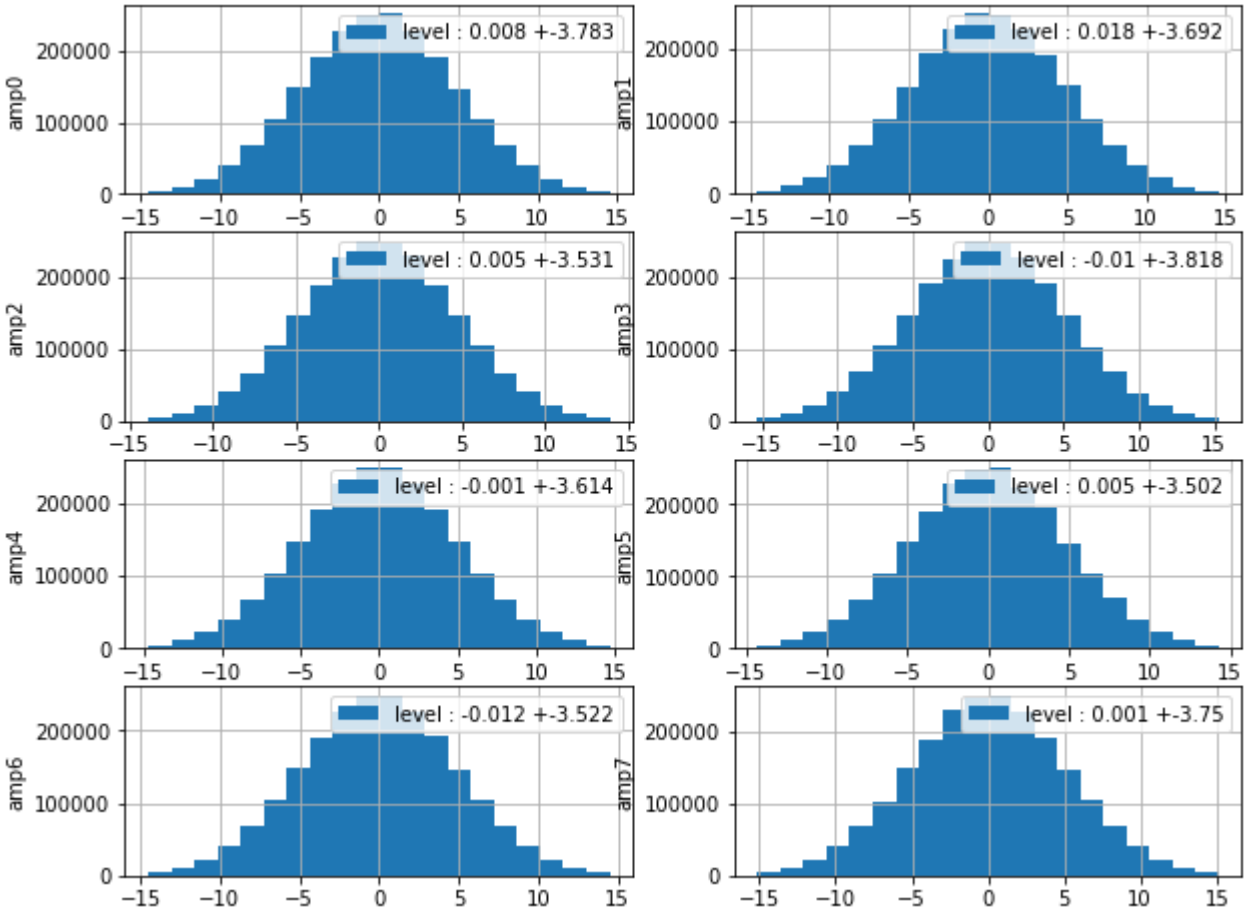
mean gain = 1.063 +- 0.025 e-/ADU



R4 : Readout Noise

ampId	readoutNoise
1	3.783244
2	3.691585
3	3.531120
4	3.817970
5	3.613541
6	3.502262
7	3.522184
8	3.750219

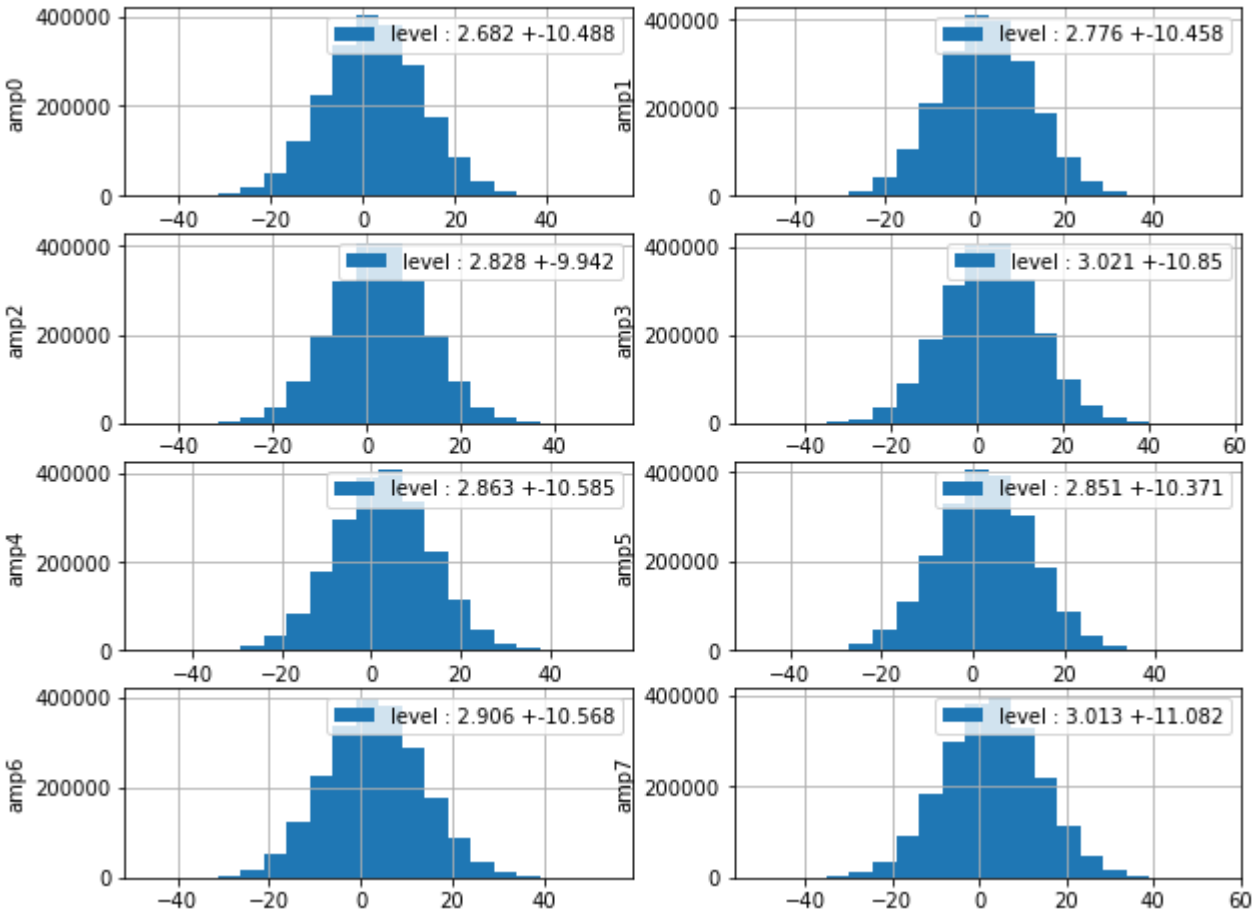
ReadoutNoise = 3.652 +- 0.126 e-/pixel



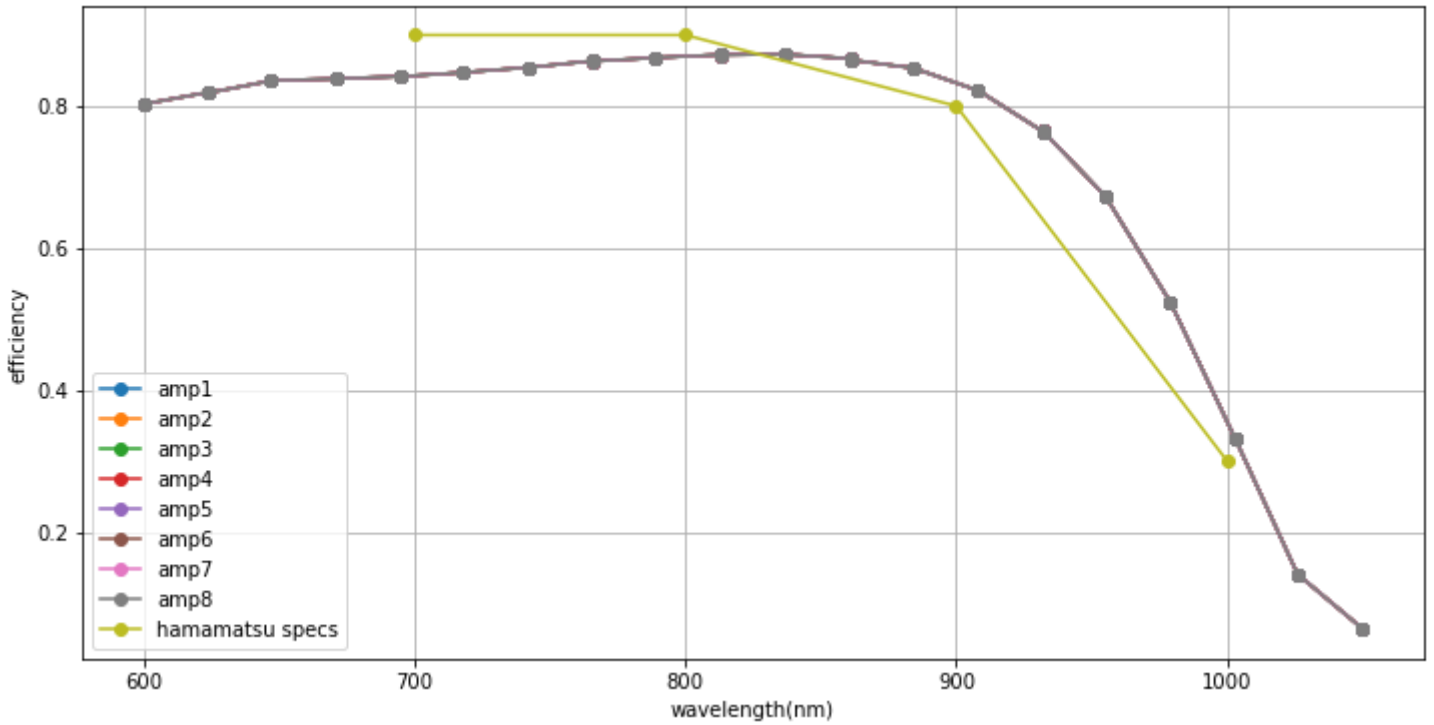
R4 : Dark Current

ampId	darkCurrent
1	2.681551
2	2.775656
3	2.827780
4	3.020892
5	2.863379
6	2.851295
7	2.905830
8	3.013229

DarkCurrent = 2.867 +- 0.114 e-/pixel/hour



R4 : QE



wavelength	hamamatsu	amp1	amp2	amp3	amp4	amp5	amp6	amp7	amp8
600.0	NaN	0.795517	0.798831	0.799282	0.802673	0.801567	0.801405	0.796166	0.791754
700.0	0.9	0.835430	0.838899	0.839187	0.842654	0.841134	0.840650	0.835099	0.830536
800.0	0.9	0.862864	0.866661	0.866485	0.869896	0.867851	0.866816	0.861073	0.856130
900.0	0.8	0.826460	0.829976	0.829507	0.832702	0.829369	0.828093	0.822568	0.817908
1000.0	0.3	0.352676	0.353922	0.353693	0.355522	0.352826	0.352011	0.349373	0.347087

R4 : CTE

#amp	HCTE	VCTE	ampCol	overCol	ampRow	overRow
0:	0.9999977	0.9999998	2291.22	2.728	5007.42	3.408
1:	0.9999980	0.9999998	2326.46	2.438	5287.38	4.844
2:	0.9999979	0.9999998	2363.43	2.552	5044.88	4.723
3:	0.9999992	0.9999998	6087.41	2.621	5413.63	5.160
4:	0.9999977	0.9999999	2434.18	2.877	5613.22	3.244
5:	0.9999984	0.9999998	2397.49	1.917	5265.50	3.395
6:	0.9999987	0.9999998	2436.14	1.574	5187.26	4.428
7:	0.9999990	0.9999999	5773.23	3.010	5210.96	3.207