X-Ray Detectors Comparison (TeledyneD42M2221,Teledyne-)

user

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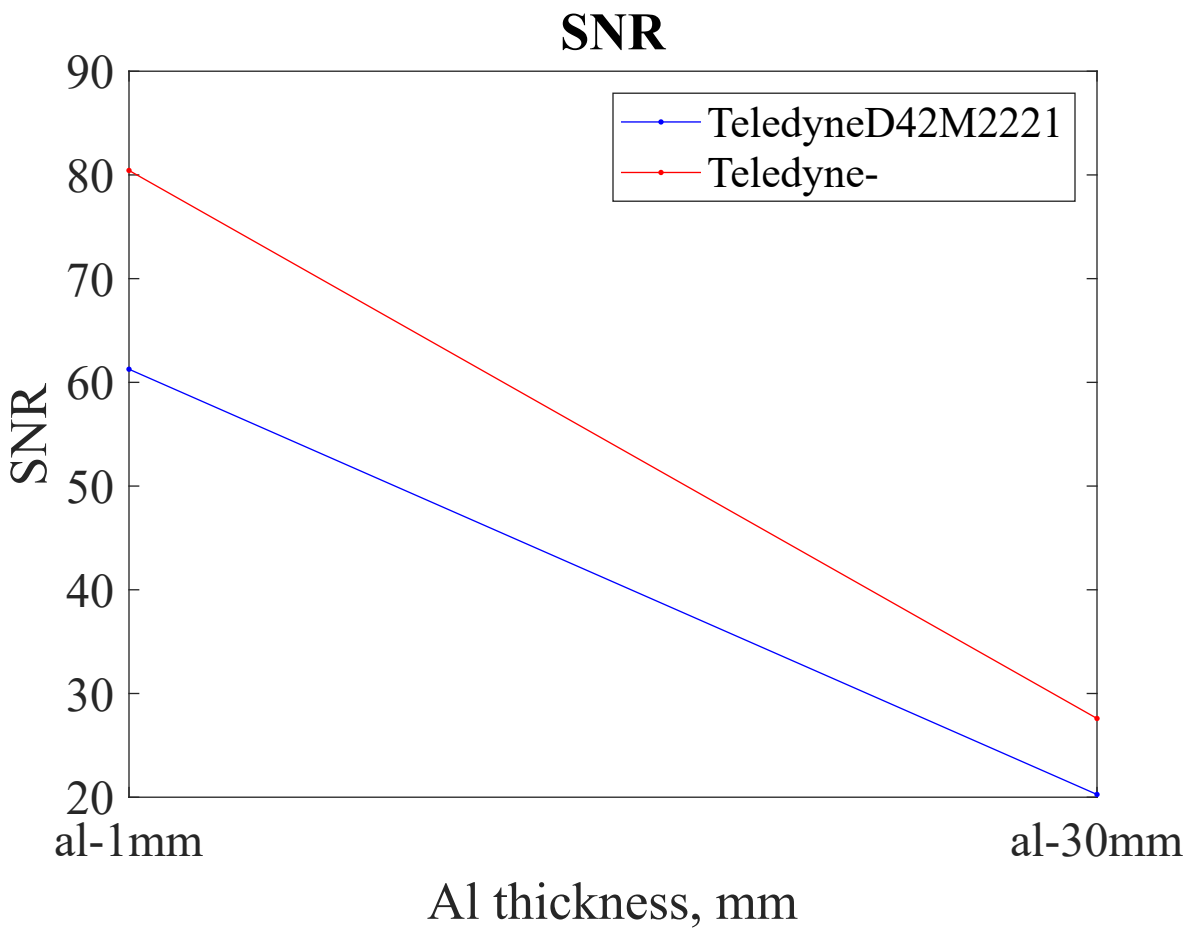
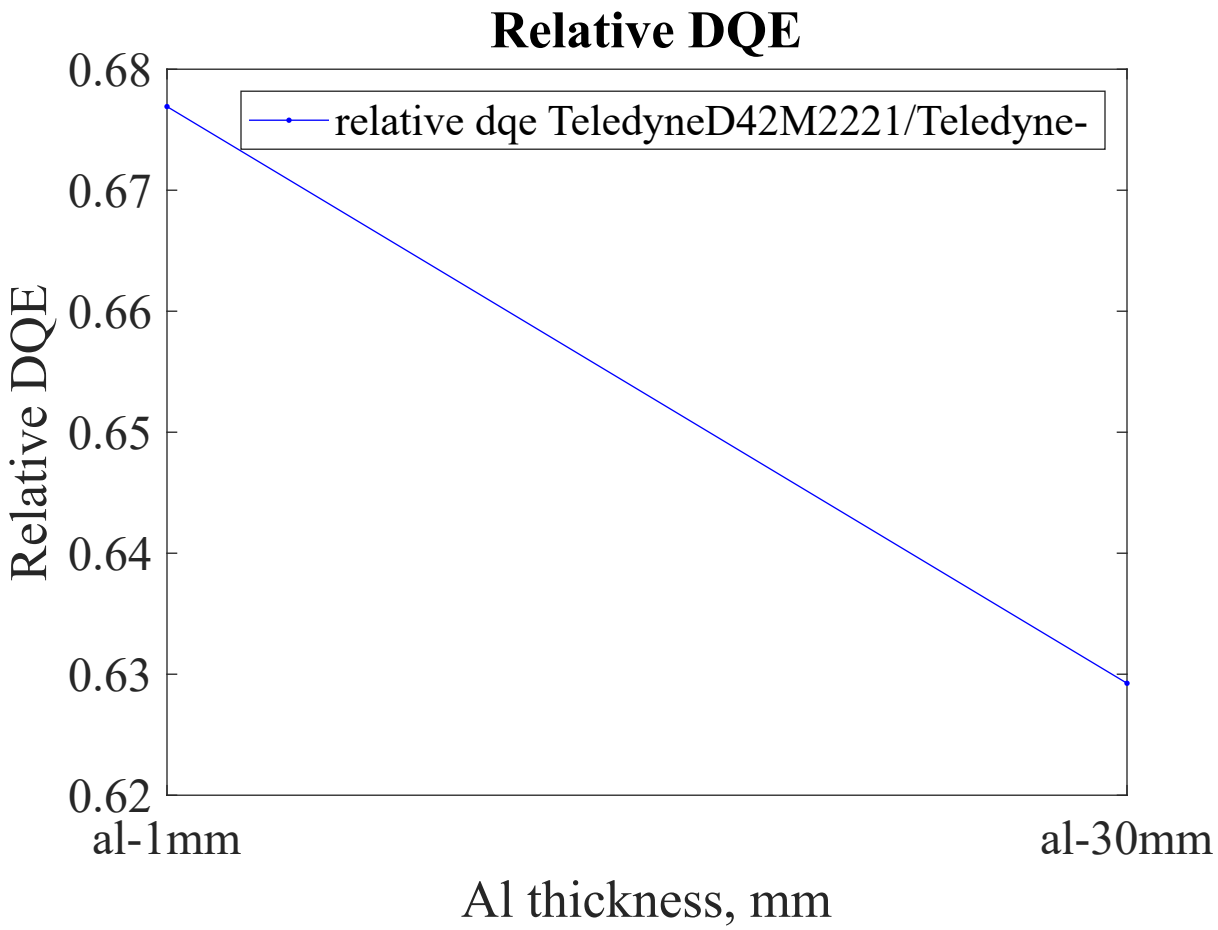


Рисунок 1. SNR is calculated as division of the signal by its deviation. Can be compared with other detectors to estimate relative DQE.


Relative DQE
relative dqe TeledyneD42M2221/Teledyne-
0.68
0.67
0.66
0.65
0.64
0.63
0.62
Relative DQE
al-1mm
al-30mm
Al thickness, mm

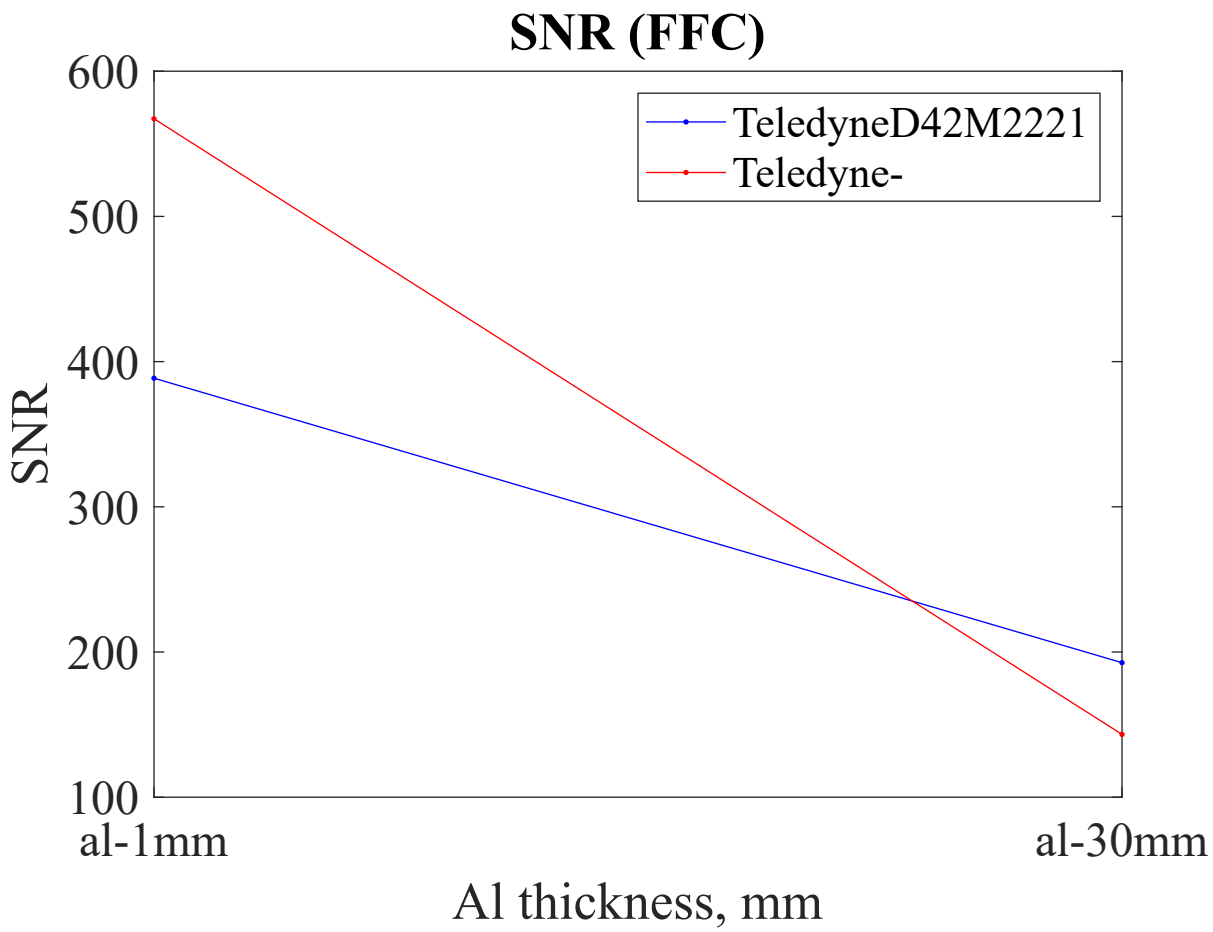


Рисунок 2. One of the most important characteristic for CT. It estimates fundamental detector heterogeneity over pixels. Its impossible to get image with noise less than this characteristic, because averaging has no effect on it.

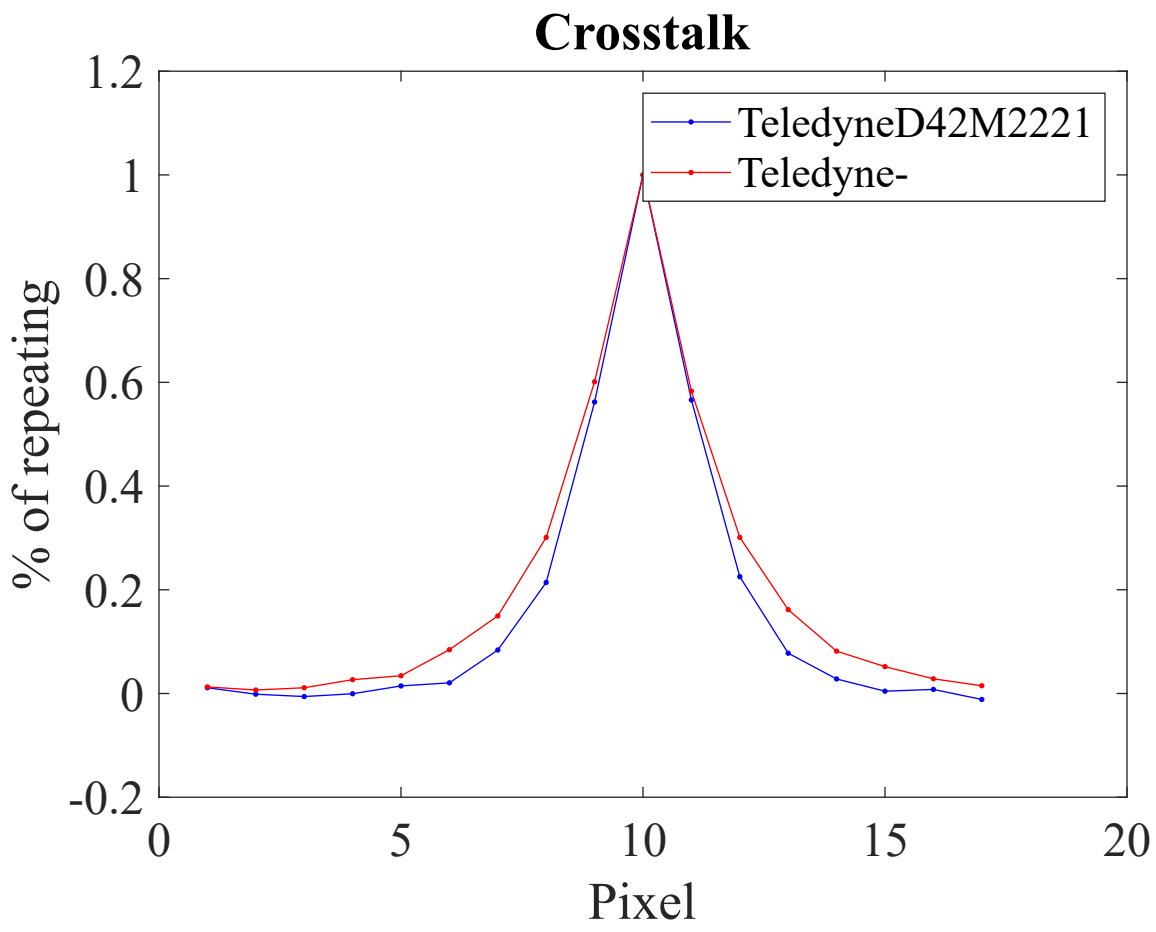


Рисунок 3. Crosstalk is calculated by stat analyse. It effects on binning effeciency as well as on spatial resolution.

Таблица 1. Full frame params

Parameter name	• TeledyneD42 M2221	• Teledyne-
Dead pixels (<0.5mean)	30279 (0.1116 %)	10 (0.0003 %)
Hot pixels (<0.5mean)	17 (0.0001 %)	0 (0.0000 %)
Heterogeneous pixels (<0.5mean)	262 (0.0010 %)	0 (0.0000 %)
Instability pixels (>0.02 dev/mean)	4816 (0.0178 %)	18 (0.0006 %)
Instability pixels x2 current test (>0.02 change)	113603 (0.4190 %)	427439 (14.2708 %)
Resolution M1	67.33 um	83.34 um
Resolution M23	4.84 um	6.84 um