

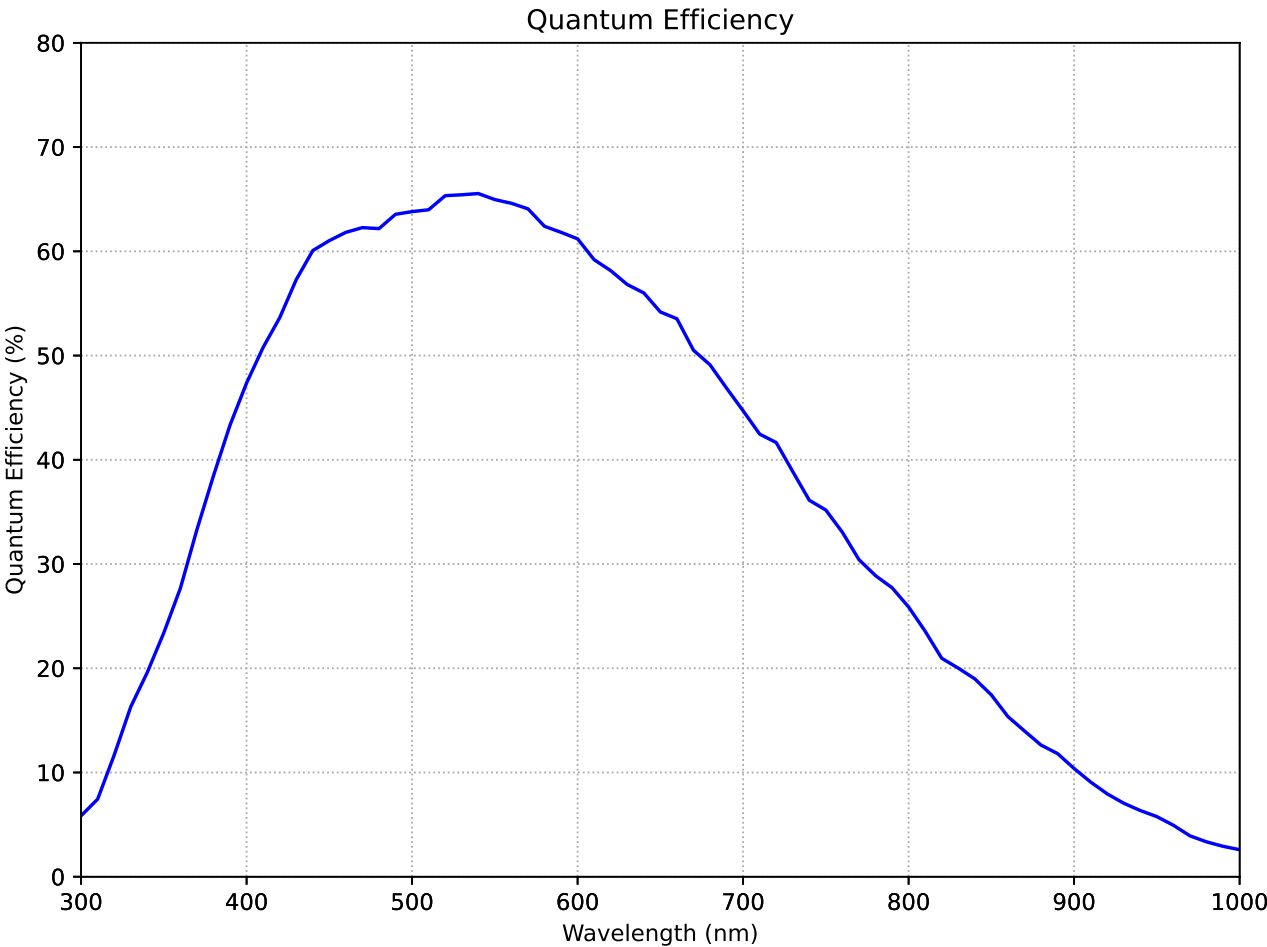
EMVA 1288 Datasheet

This datasheet describes the specification according to the standard 1288 Standard for Characterization and Presentation of Specification Data for Image Sensors and Cameras of European Machine Vision Association (EMVA) (See www.standard1288.org).

Vendor	Lucid Vision Labs	Pixel size	3.45x3.45 μm
Model	TRT120S-M	Shutter type	Global
Data type	Single camera	Interface type	2.5GBASE-T / 1000BASE-T M12 (8-Pin
Sensor	Sony IMX304	X-Coded), PoE	
Sensor type	CMOS	Framerate	22.6 FPS @ 12.3 MP
Diagonal	17.6 mm (Type 1.1")	Light source	LED, integrating sphere
Lens category	C-Mount	Irradiation calibration accuracy	$\pm 3\%$ (440 – 980nm)
Resolution	4096 x 3000 pixels	Standard version	3.1

Operation Point: **Green LED** (Page 2)

Camera setting		Operation point parameters	
Gain	0.0 dB	Illumination	Constant with variable exposure time
Black level	1.0%	Irradiation steps	50
Bit depth	12 bits	Wavelength	527.5 nm



Summary sheet for Operation Point: **Green LED** (@527.5 nm wavelength)

Camera setting

Gain	0.0 dB
Black level	1.0%
Bit depth	12 bits

Operation point parameters

Illumination	Constant with variable exposure time
Irradiation steps	50
Wavelength	527.5 nm

Performance

Quantum efficiency

η	67.07 %
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System gain

K	0.376 DN/e ⁻
1/K	2.662 e ⁻ /DN

Temporal dark noise

σ_d	2.173 e ⁻
$\sigma_{y.dark}$	0.866 DN

Signal-to-Noise Ratio

SNR_{max}	101
	40.12 dB
	6.7 bit
SNR_{max}^{-1}	0.987 %

Absolute sensitivity threshold

$\mu_{p.min}$	4.182 p
$\mu_{p.min.area}$	0.351 p/ μm^2
$\mu_{e.min}$	2.805 e ⁻
$\mu_{e.min.area}$	0.236 e ⁻ / μm^2

Saturation Capacity

$\mu_{p.sat}$	15315 p
$\mu_{p.sat.area}$	1287 p/ μm^2
$\mu_{e.sat}$	10272 e ⁻
$\mu_{e.sat.area}$	863 e ⁻ / μm^2

Dynamic Range

DR	3662
	71.3 dB
	11.8 bit

Spatial Nonuniformities

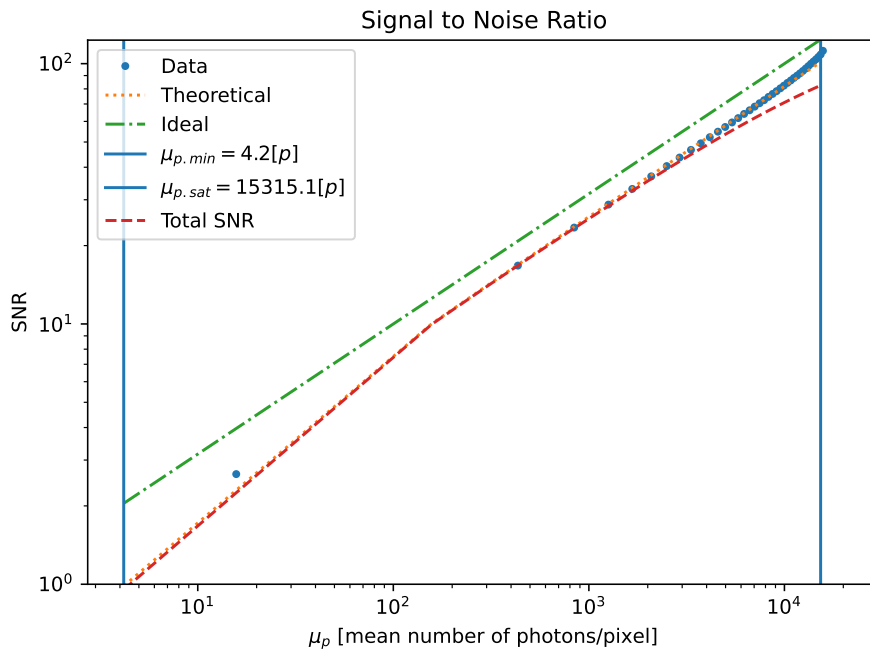
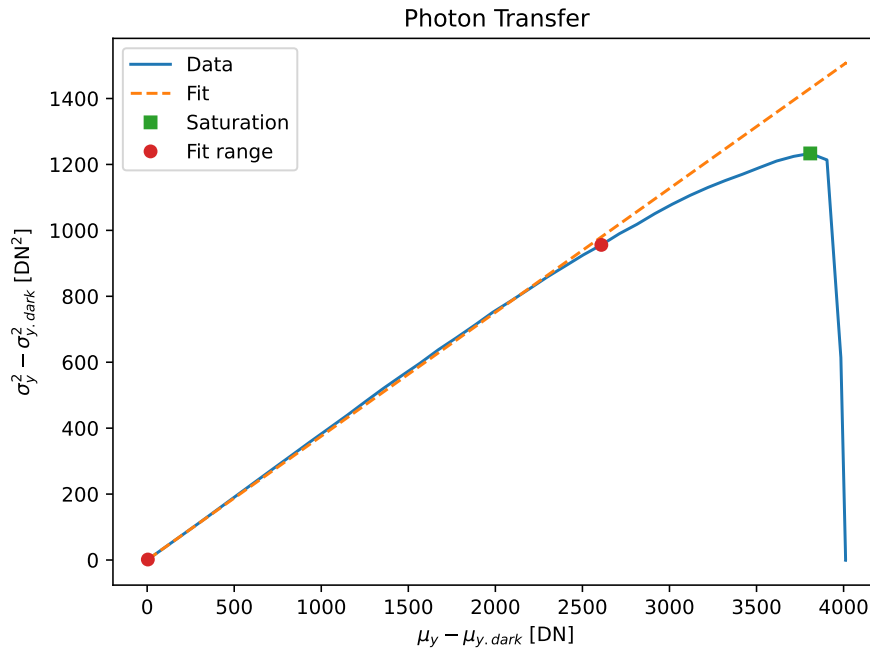
$DSNU_{1288}$	0.7 e ⁻
	0.3 DN
$PRNU_{1288}$	0.7 %

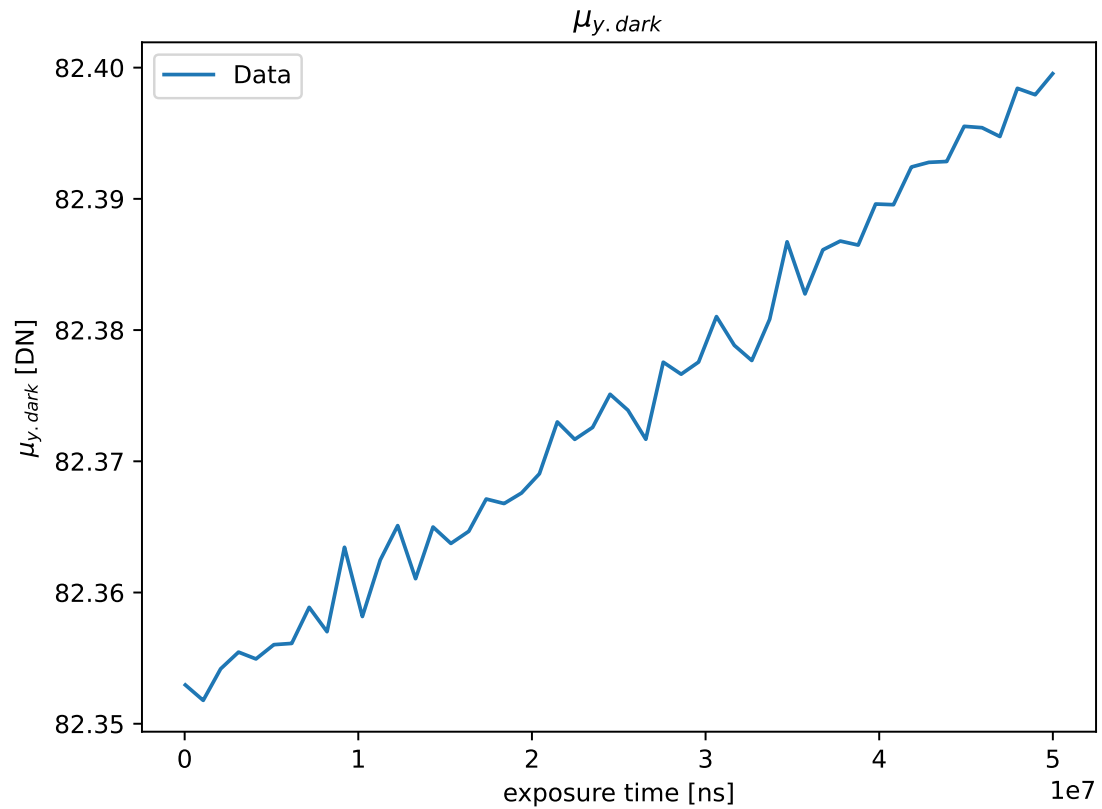
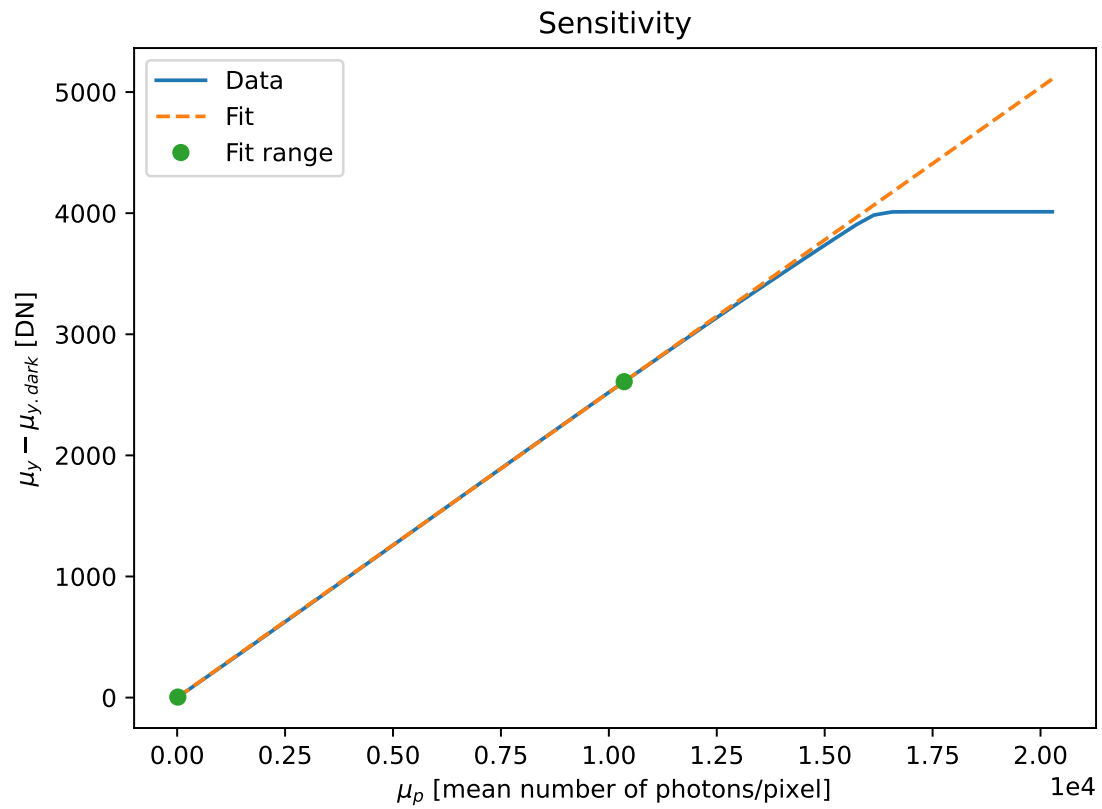
Linearity error

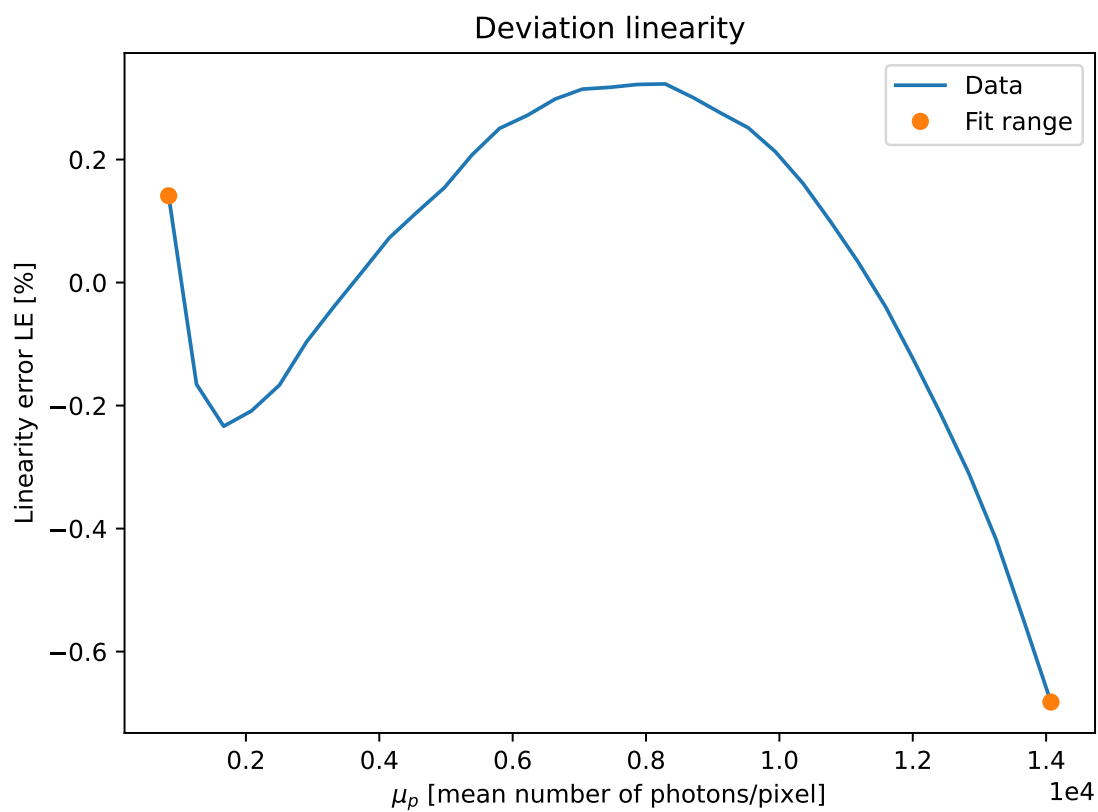
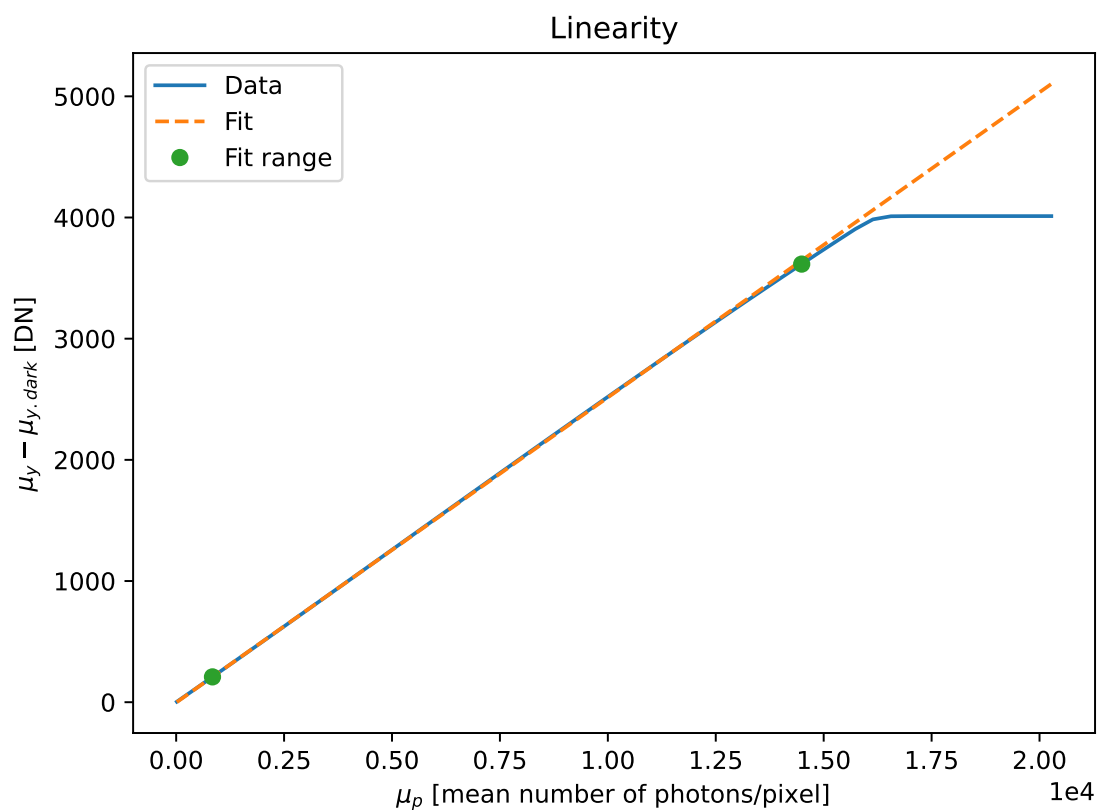
LE_{min}	-0.832 %
LE_{max}	0.323 %

Dark current

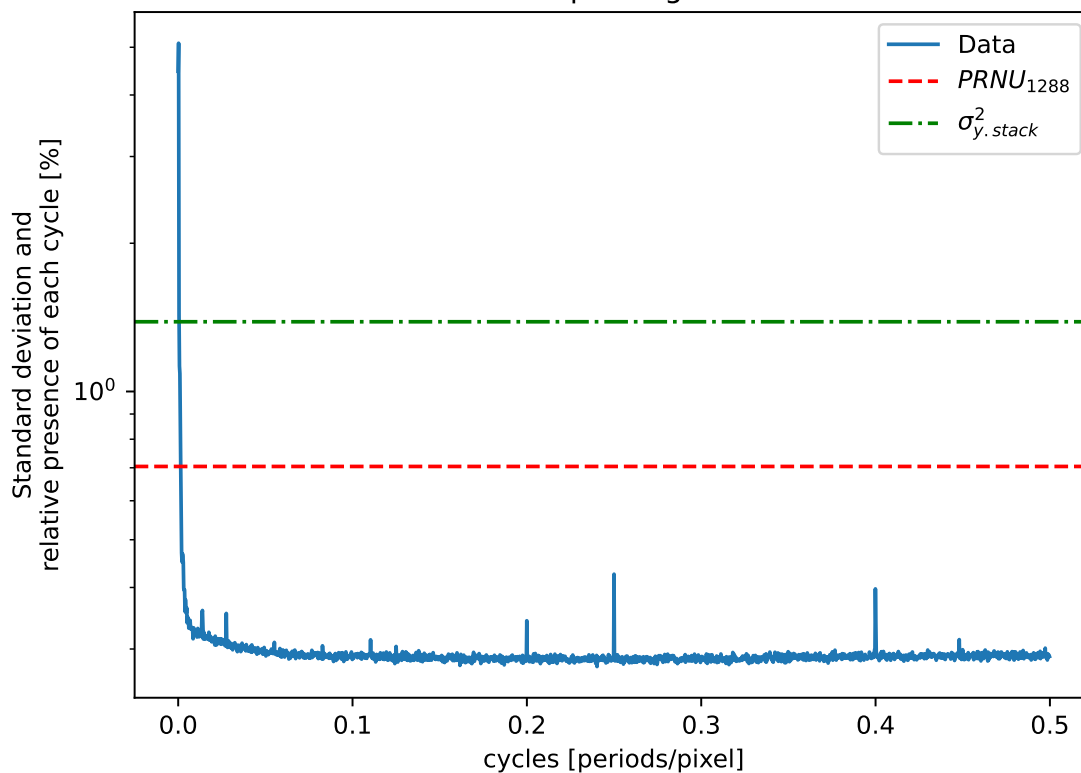
$\mu_{I.mean}$	2.533 e ⁻ /s
	0.952 DN/s
$\mu_{I.var}$	3.508 e ⁻ /s
	1.318 DN/s



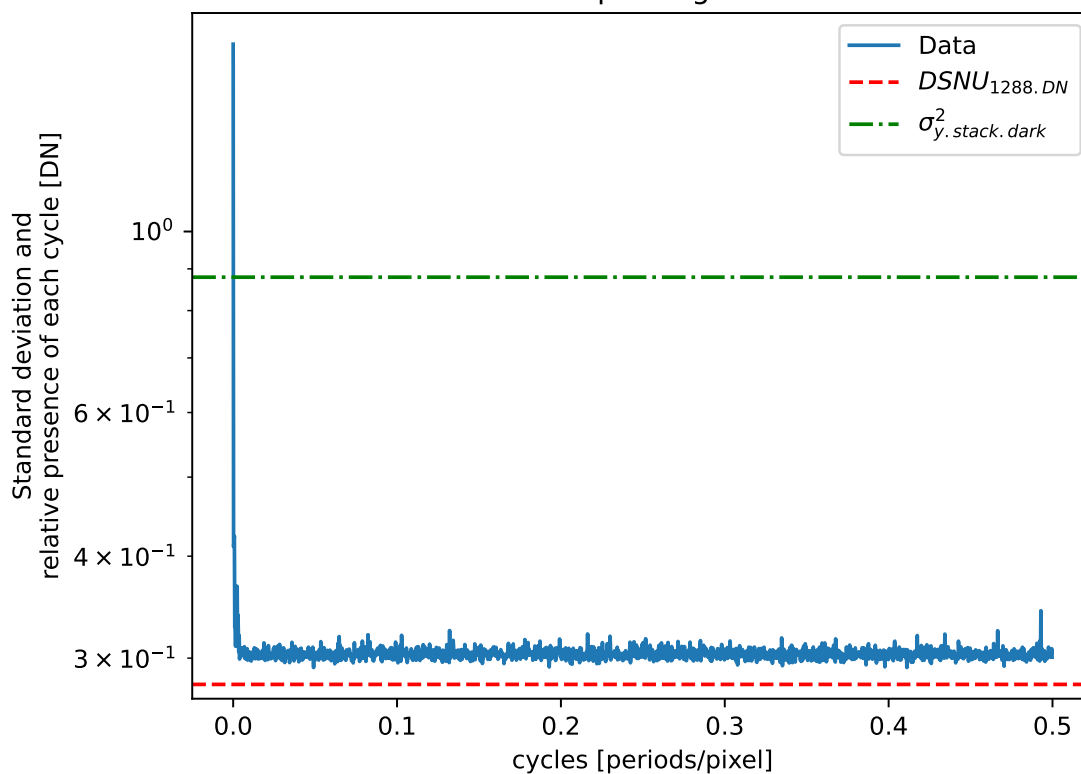




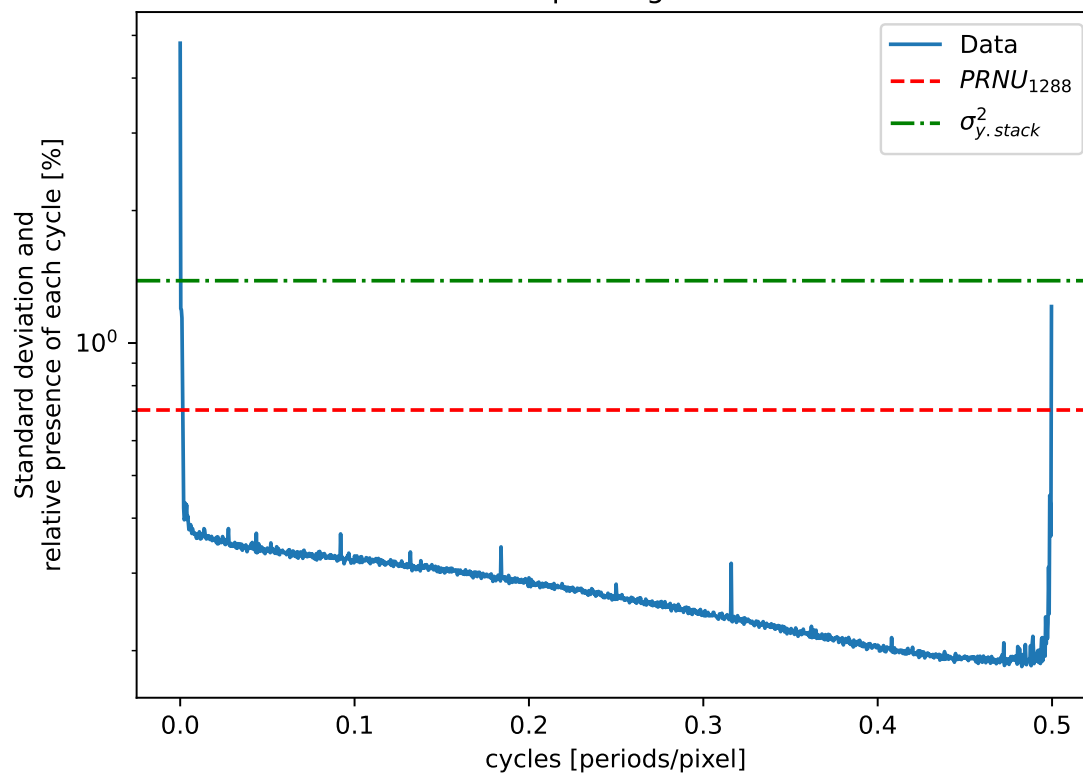
Horizontal spectrogram PRNU



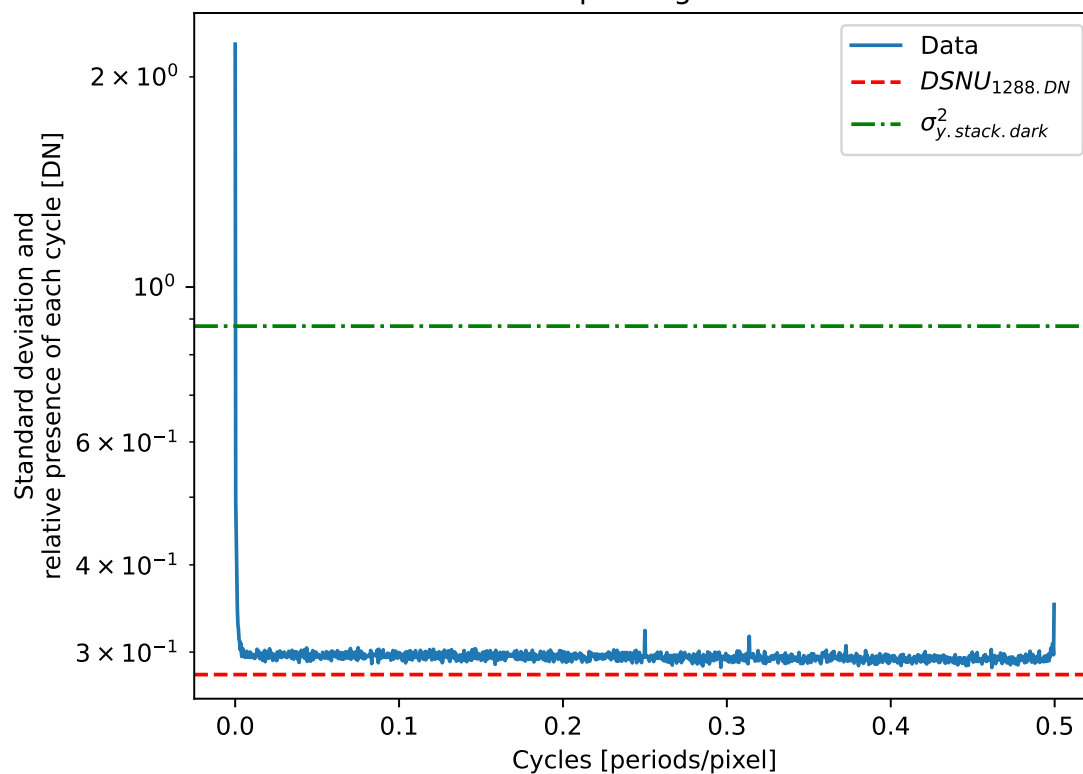
Horizontal spectrogram DSNU

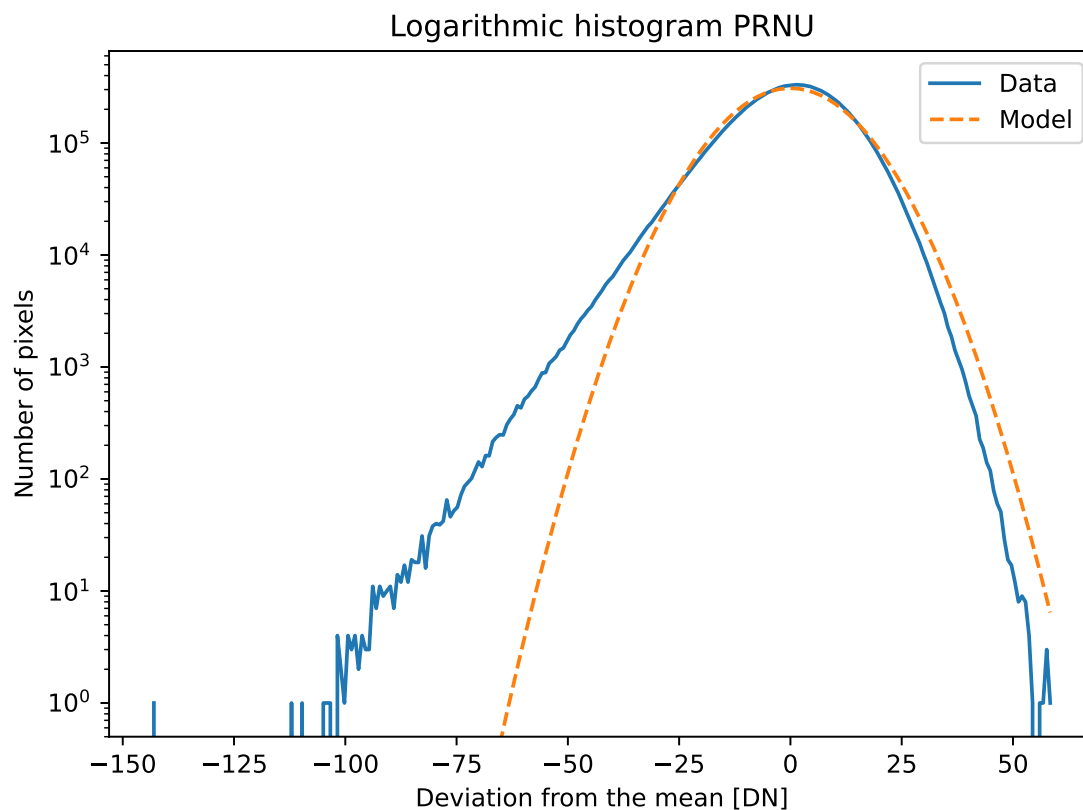
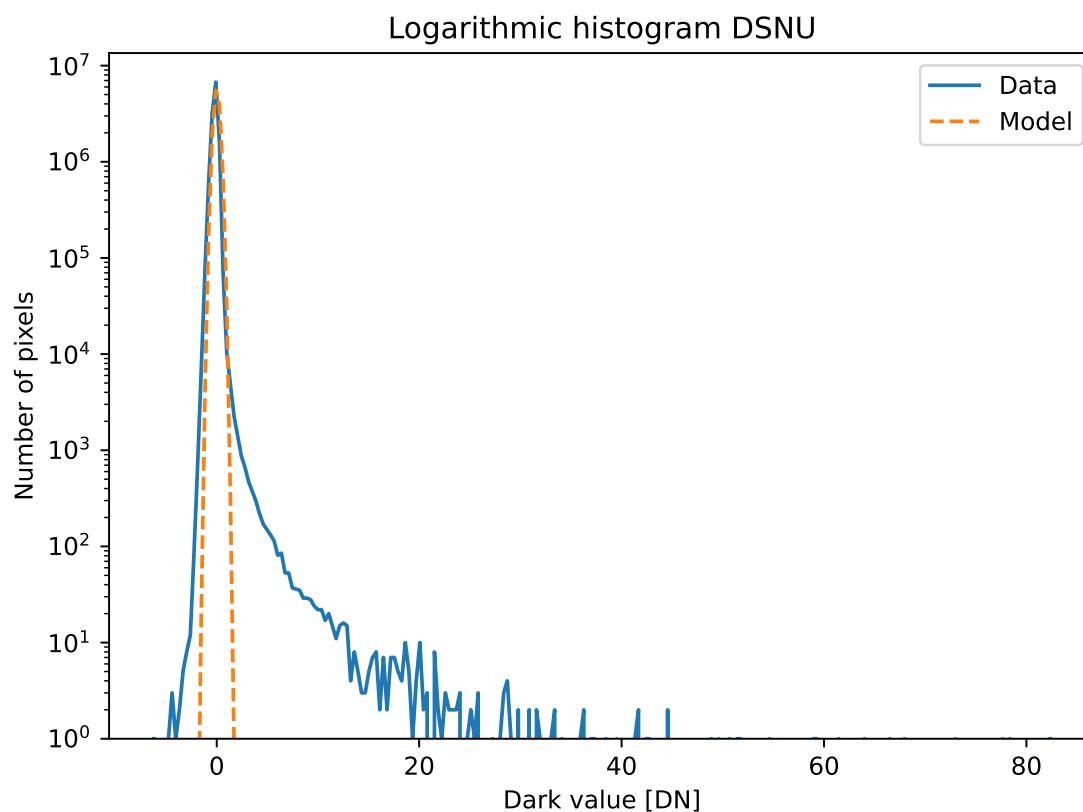


Vertical spectrogram PRNU

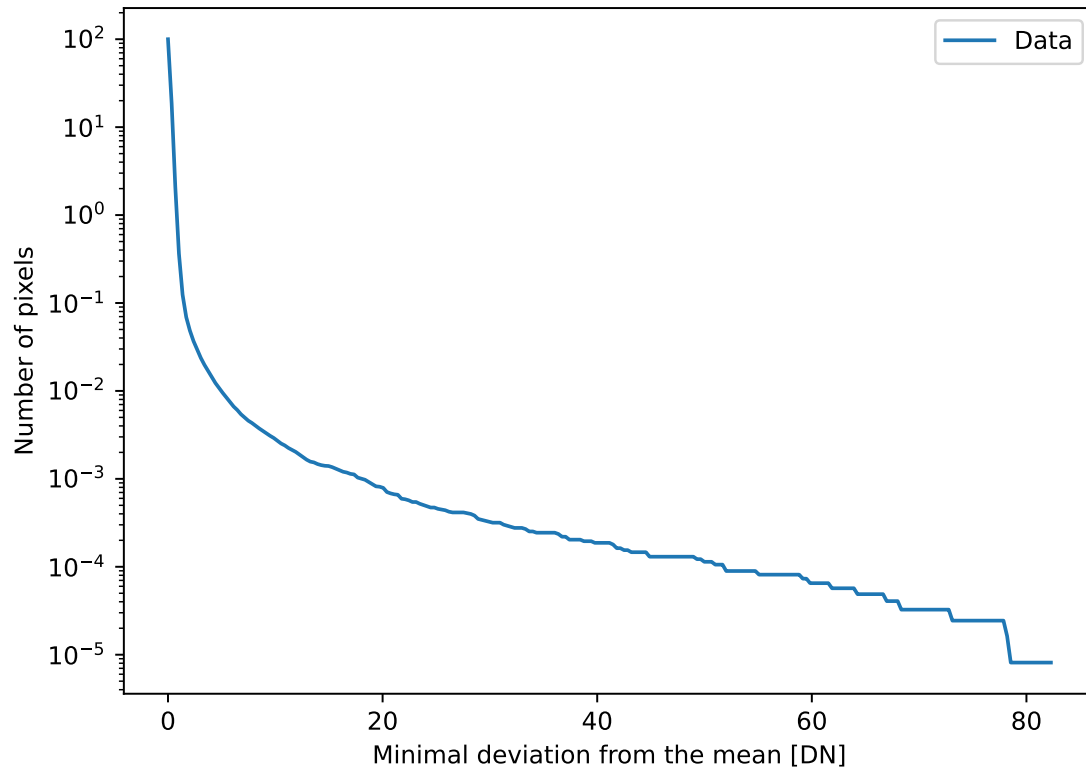


Vertical spectrogram DSNU





Accumulated log histogram DSNU



Accumulated log histogram PRNU

