

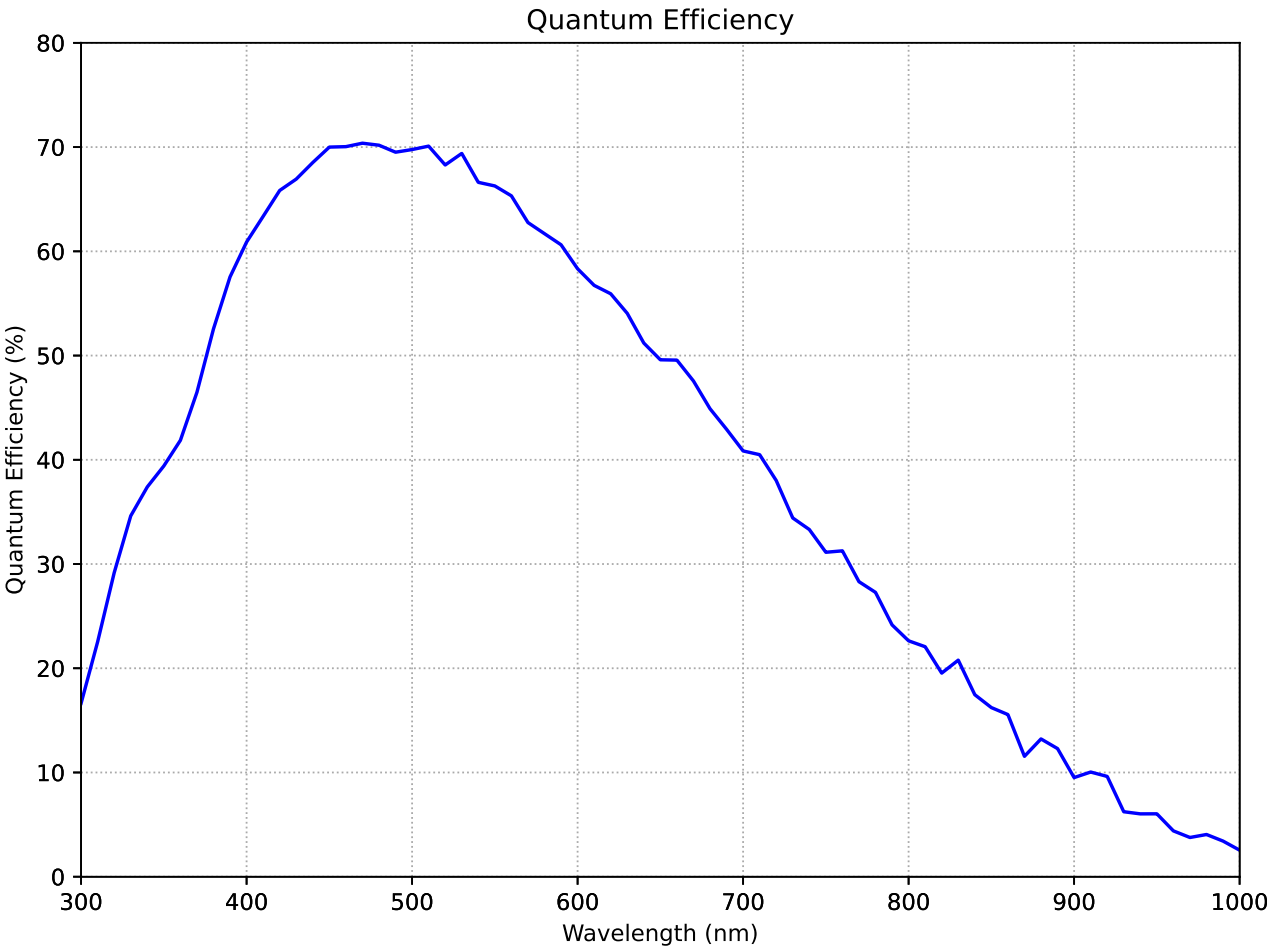
EMVA 1288 Datasheet

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	2.74x2.74 μm
Model	TRT081S-M	Shutter type	Global
Data type	Single camera	Interface type	2.5GBASE-T / 1000BASE-T M12 (8-Pin X-Coded), PoE
Sensor	Sony IMX546 CMOS	Framerate	31.8 FPS @ 8.1 MP
Sensor type	CMOS	Light source	LED, integrating sphere
Diagonal	11.1mm (Type 2/3")	Irradiation calibration accuracy	$\pm 3\%$ (440 – 980nm)
Lens category	C-Mount	Standard version	3.1
Resolution	2840x2840 pixels		

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

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



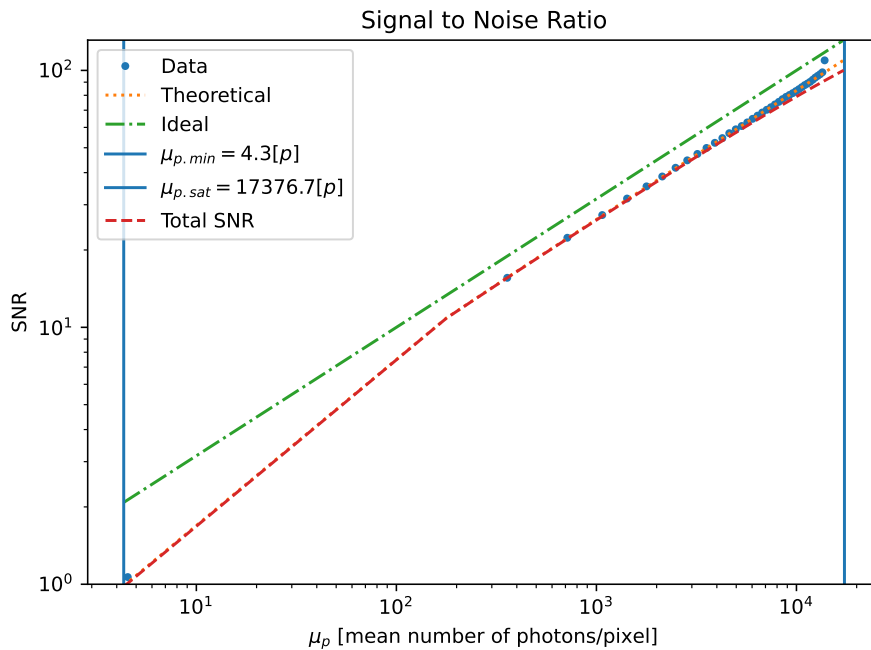
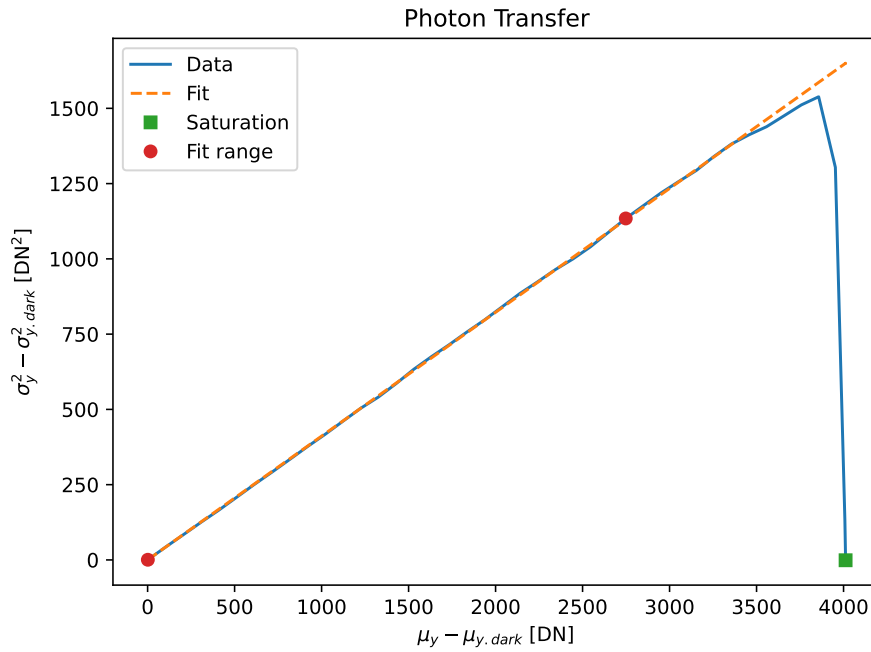
Summary sheet for Operation Point: **Green LED** (@527.5 nm wavelength)

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 69.82 %

System gain

K 0.411 DN/e⁻
1/K 2.432 e⁻/DN

Temporal dark noise

σ_d 2.427 e⁻
 $\sigma_{y,dark}$ 1.039 DN

Signal-to-Noise Ratio

SNR_{max} 110
40.84 dB
6.8 bit
 SNR_{max}^{-1} 0.908 %

Absolute sensitivity threshold

$\mu_{p,min}$ 4.334 p
 $\mu_{p,min,area}$ 0.577 p/μm²
 $\mu_{e,min}$ 3.026 e⁻
 $\mu_{e,min,area}$ 0.403 e⁻/μm²

Saturation Capacity

$\mu_{p,sat}$ 17377 p
 $\mu_{p,sat,area}$ 2315 p/μm²
 $\mu_{e,sat}$ 12132 e⁻
 $\mu_{e,sat,area}$ 1616 e⁻/μm²

Dynamic Range

DR 4009
72.1 dB
12.0 bit

Spatial Nonuniformities

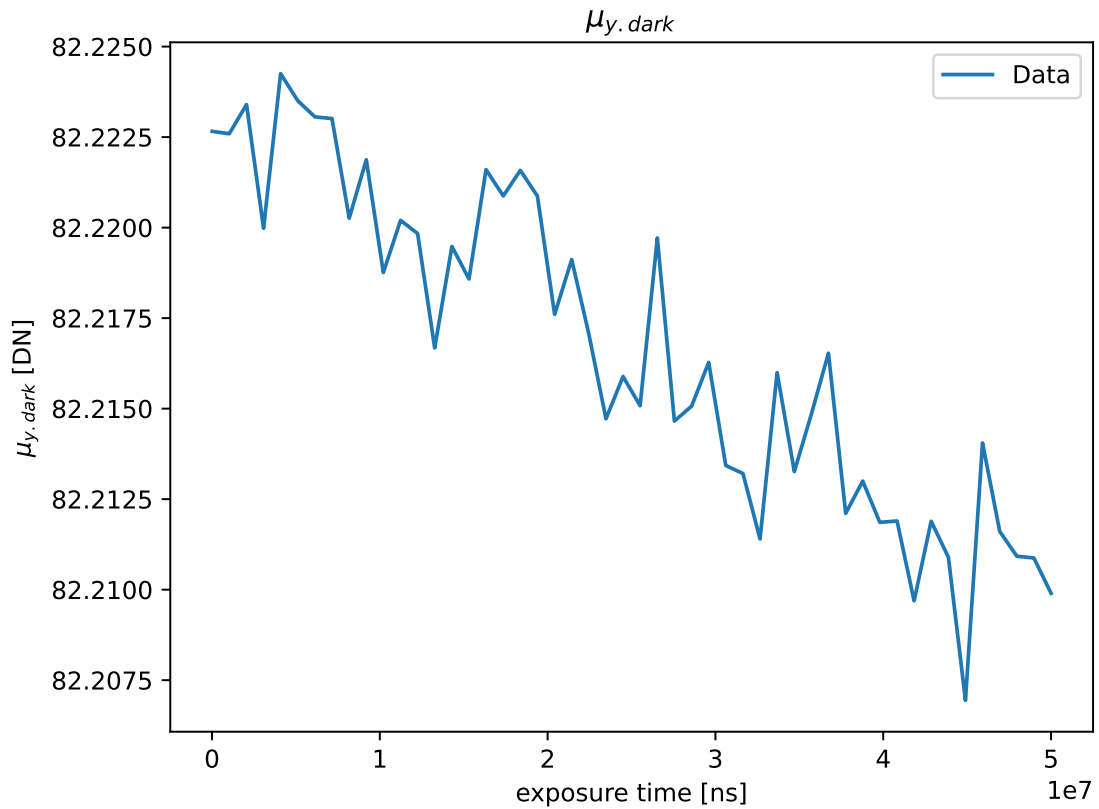
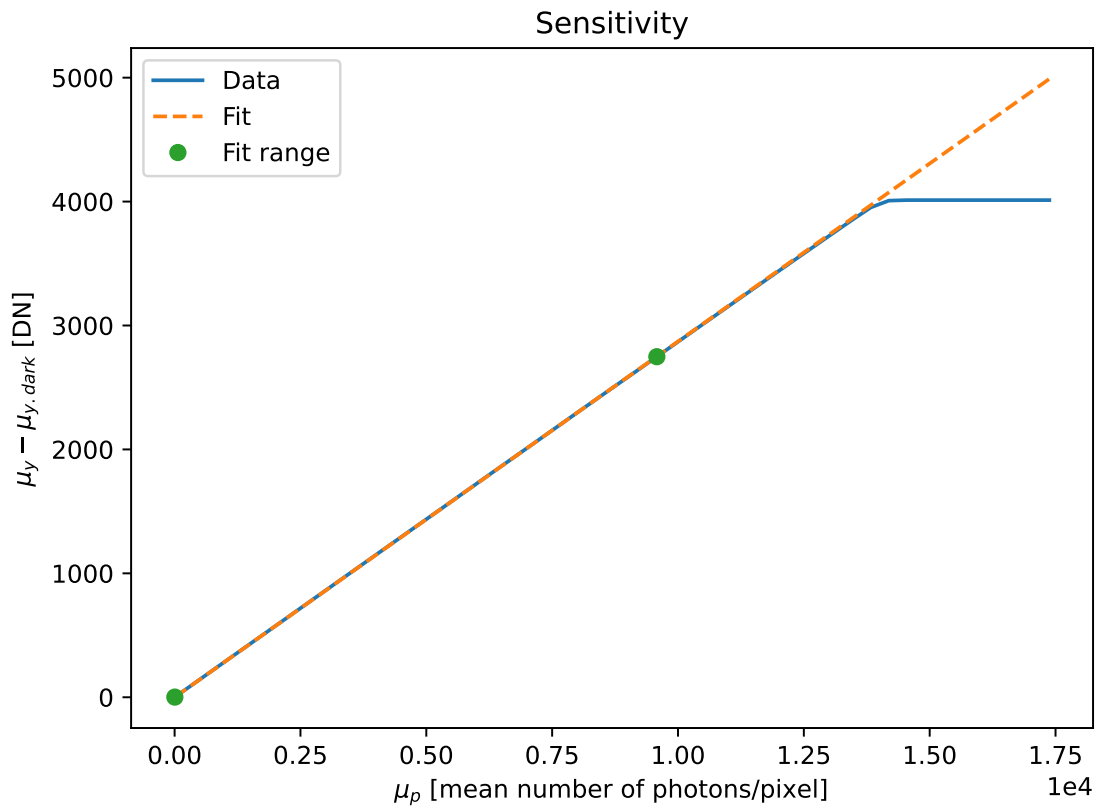
$DSNU_{1288}$ 0.4 e⁻
0.2 DN
 $PRNU_{1288}$ 0.4 %

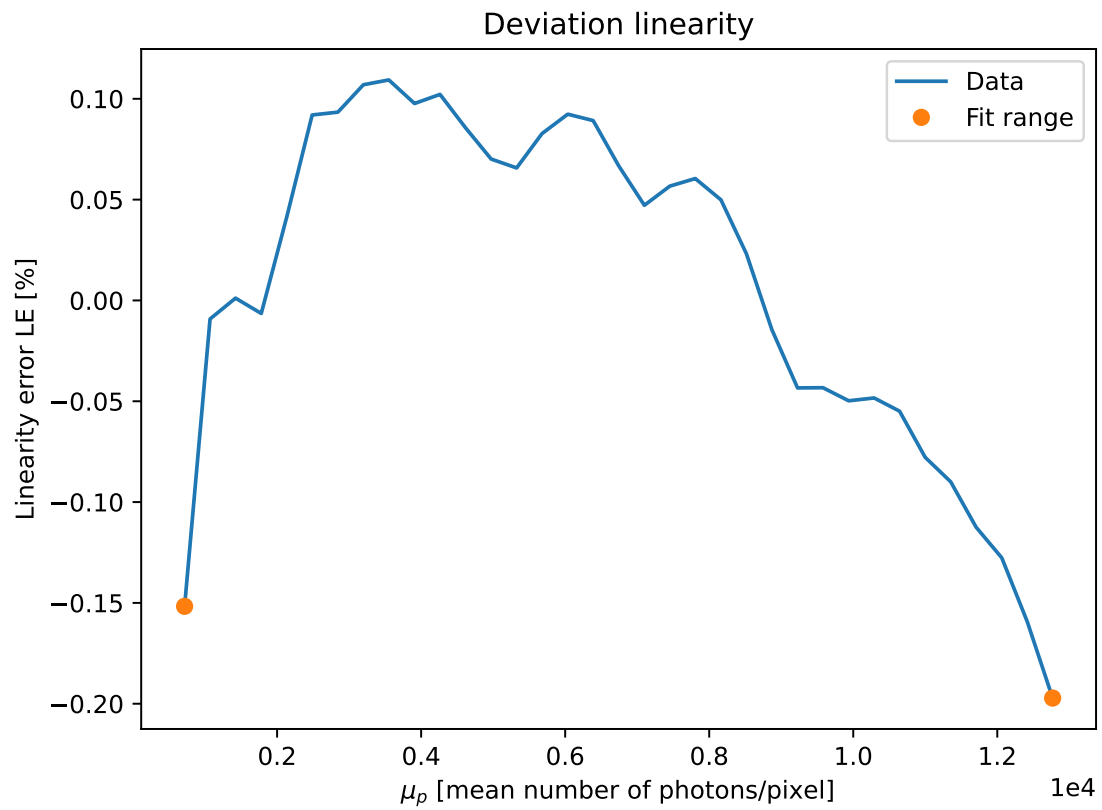
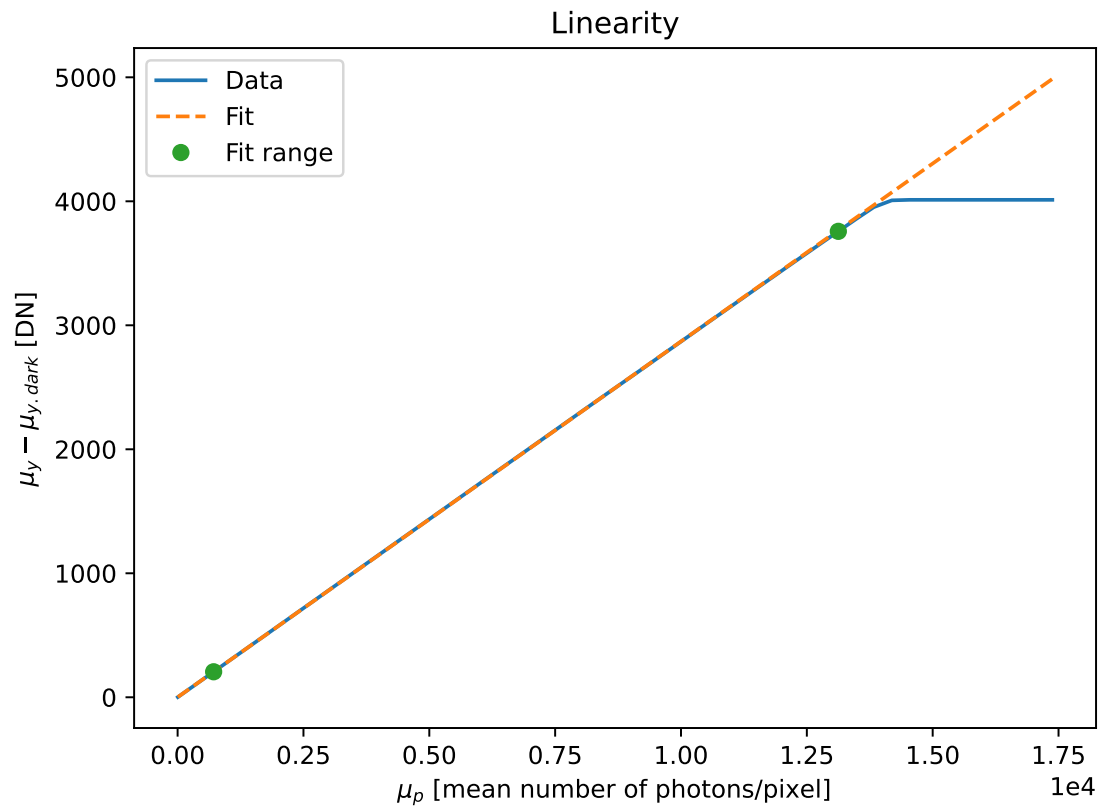
Linearity error

LE_{min} -0.242 %
 LE_{max} 0.109 %

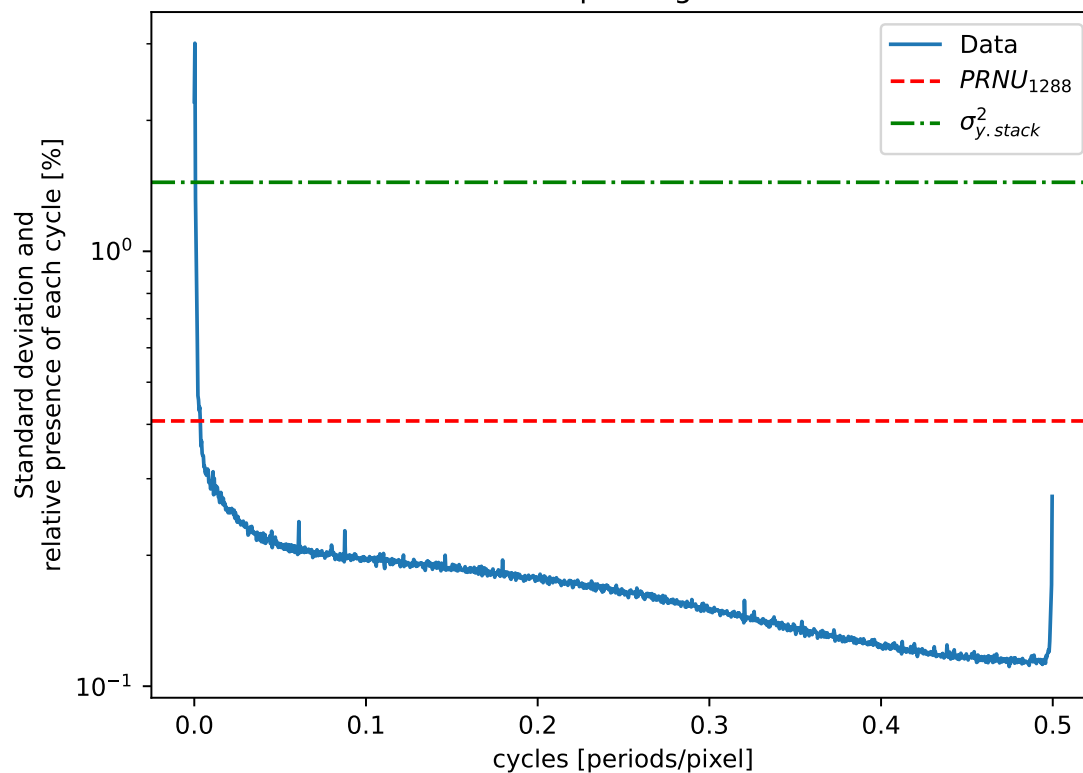
Dark current

$\mu_{I,mean}$ -0.677 e⁻/s
-0.278 DN/s
 $\mu_{I,var}$ 1.060 e⁻/s
0.436 DN/s

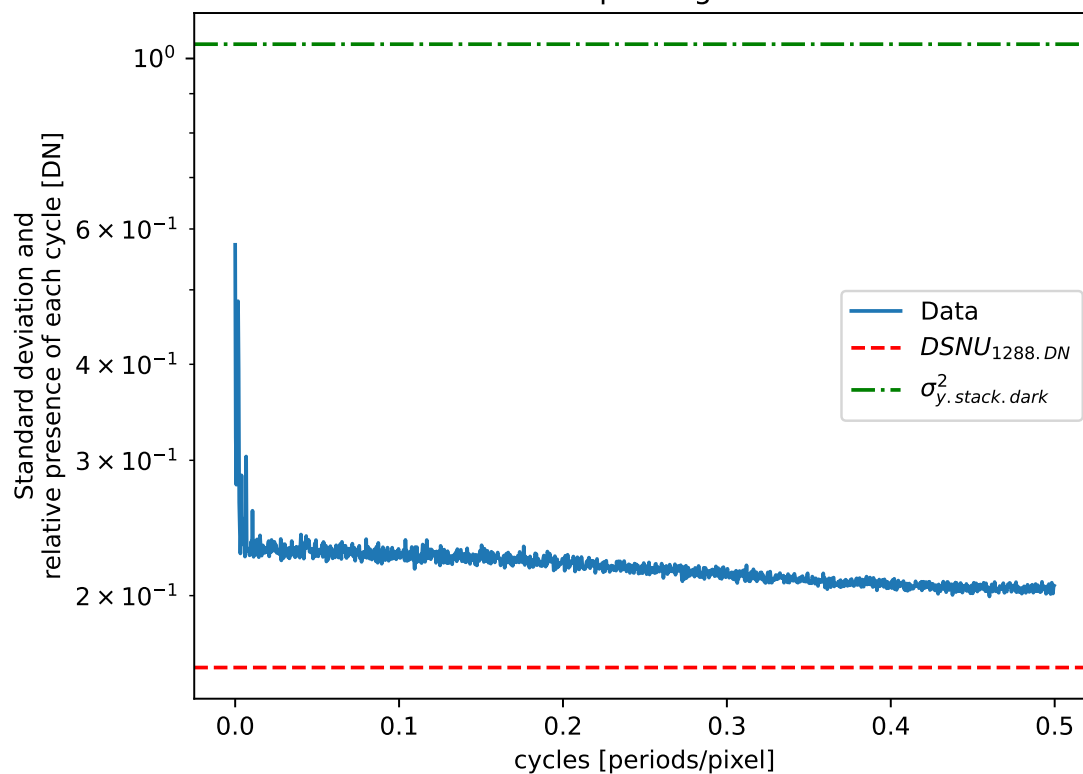




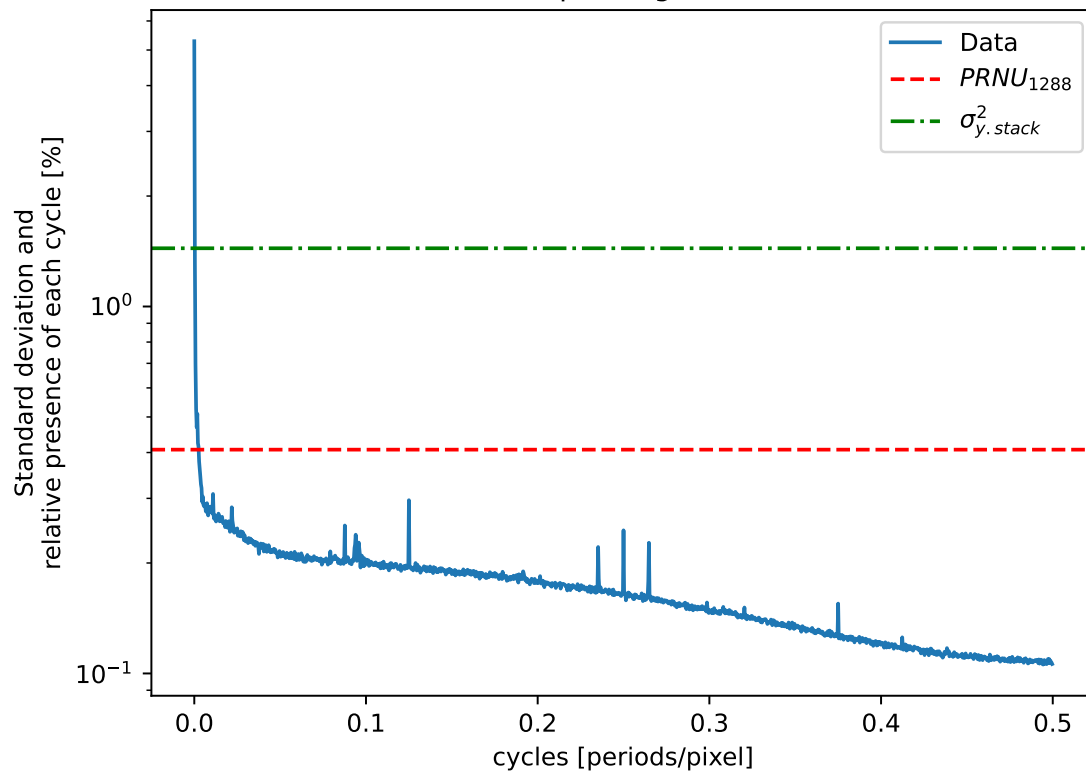
Horizontal spectrogram PRNU



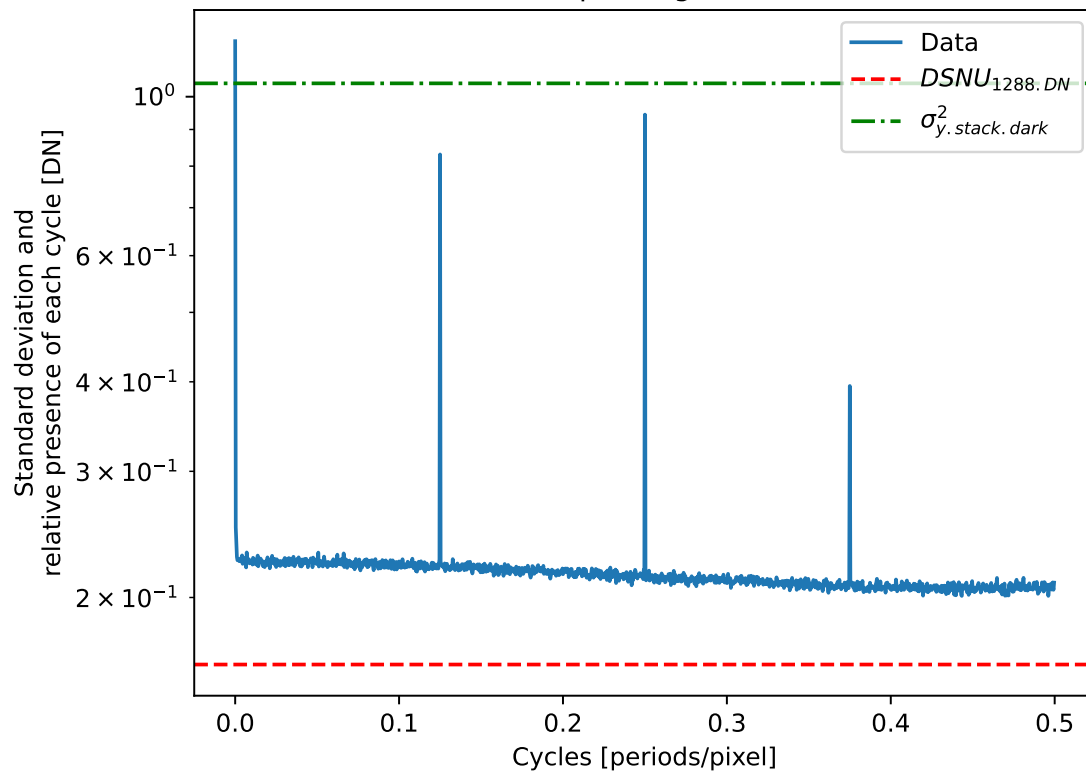
Horizontal spectrogram DSNU

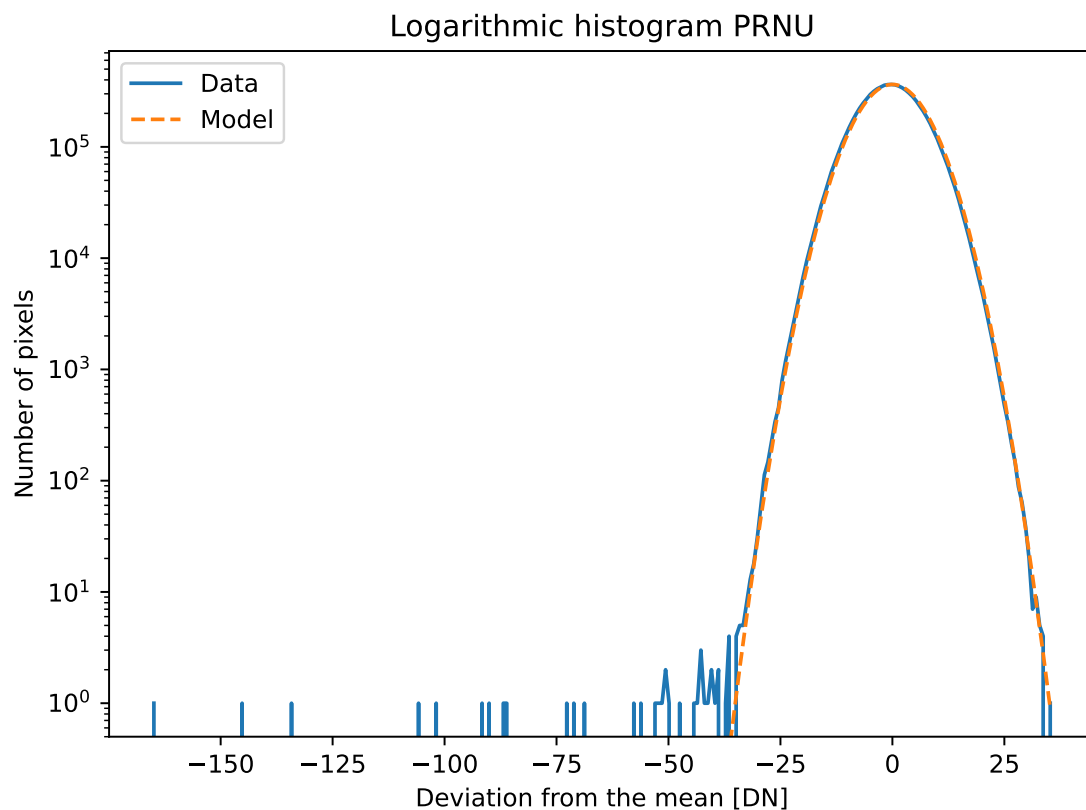
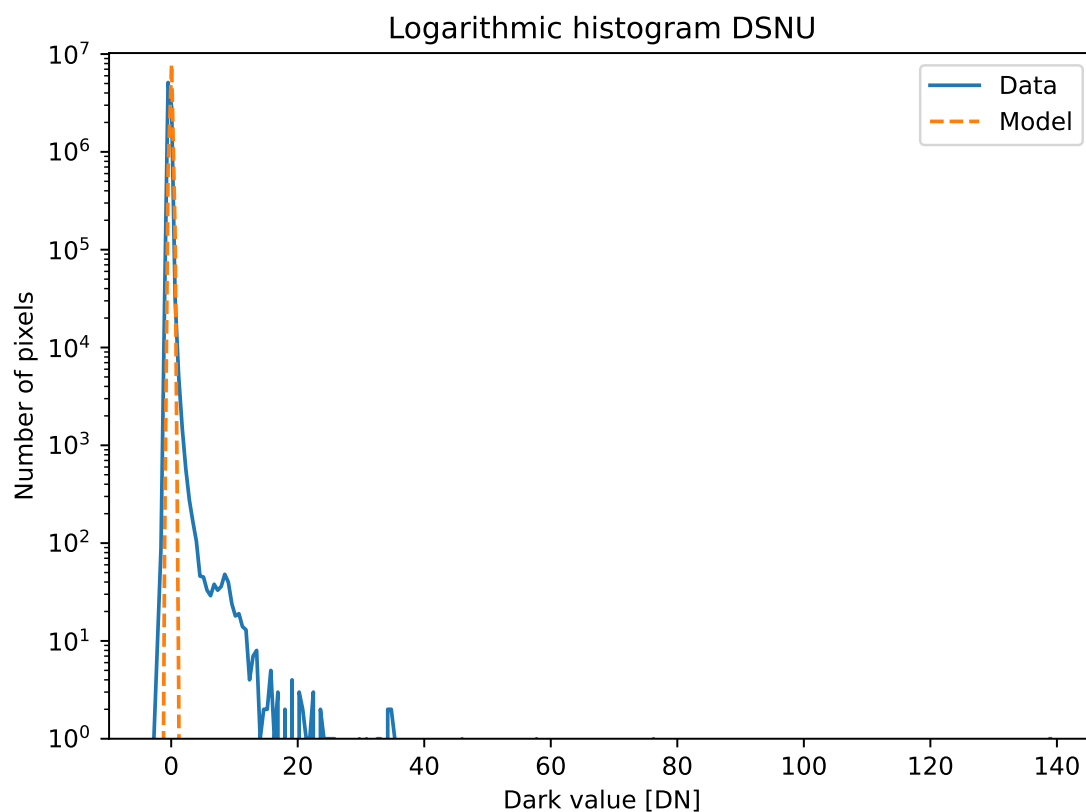


Vertical spectrogram PRNU

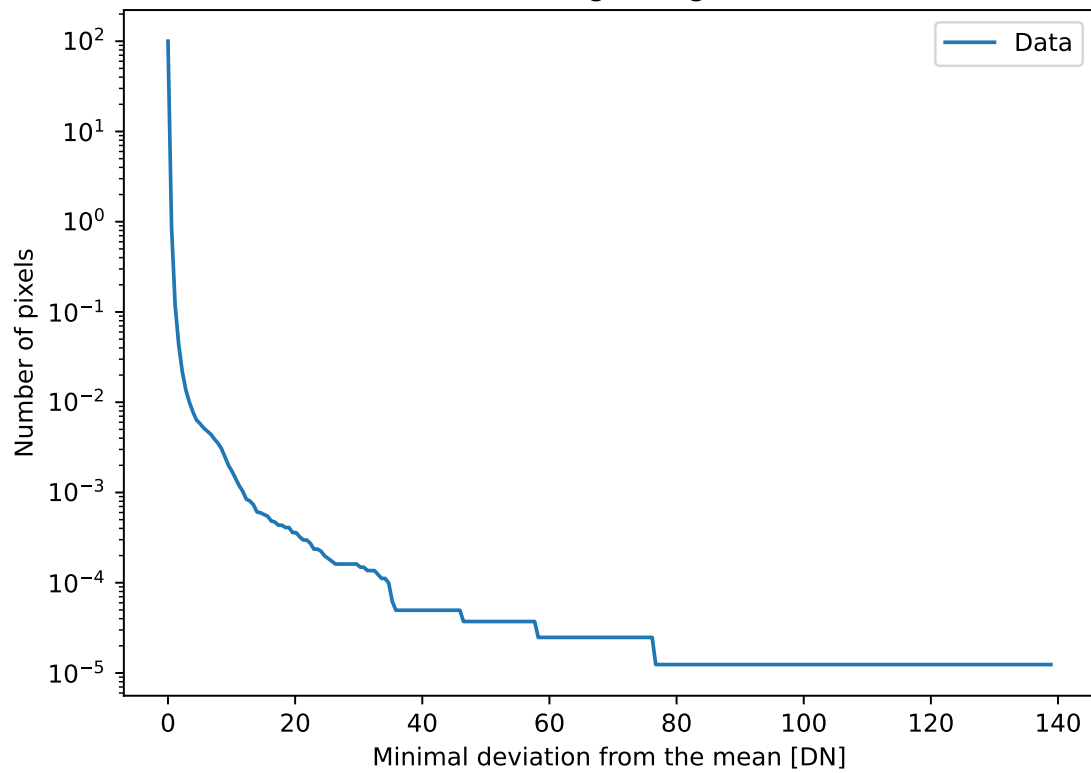


Vertical spectrogram DSNU





Accumulated log histogram DSNU



Accumulated log histogram PRNU

