

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	TRT162S-M	Shutter type	Global
Data type	Single camera	Interface type	2.5GBASE-T / 1000BASE-T M12 (8-Pin)
Sensor	Sony IMX542	X-Coded), PoE	
Sensor type	CMOS	Framerate	17.5 FPS @ 16.2 MP
Diagonal	16.8mm (Type 1.1")	Light source	LED, integrating sphere
Lens category	C-Mount	Irradiation calibration accuracy	$\pm 3\%$ (440 – 980nm)
Resolution	5320x3032 pixels	Standard version	3.1

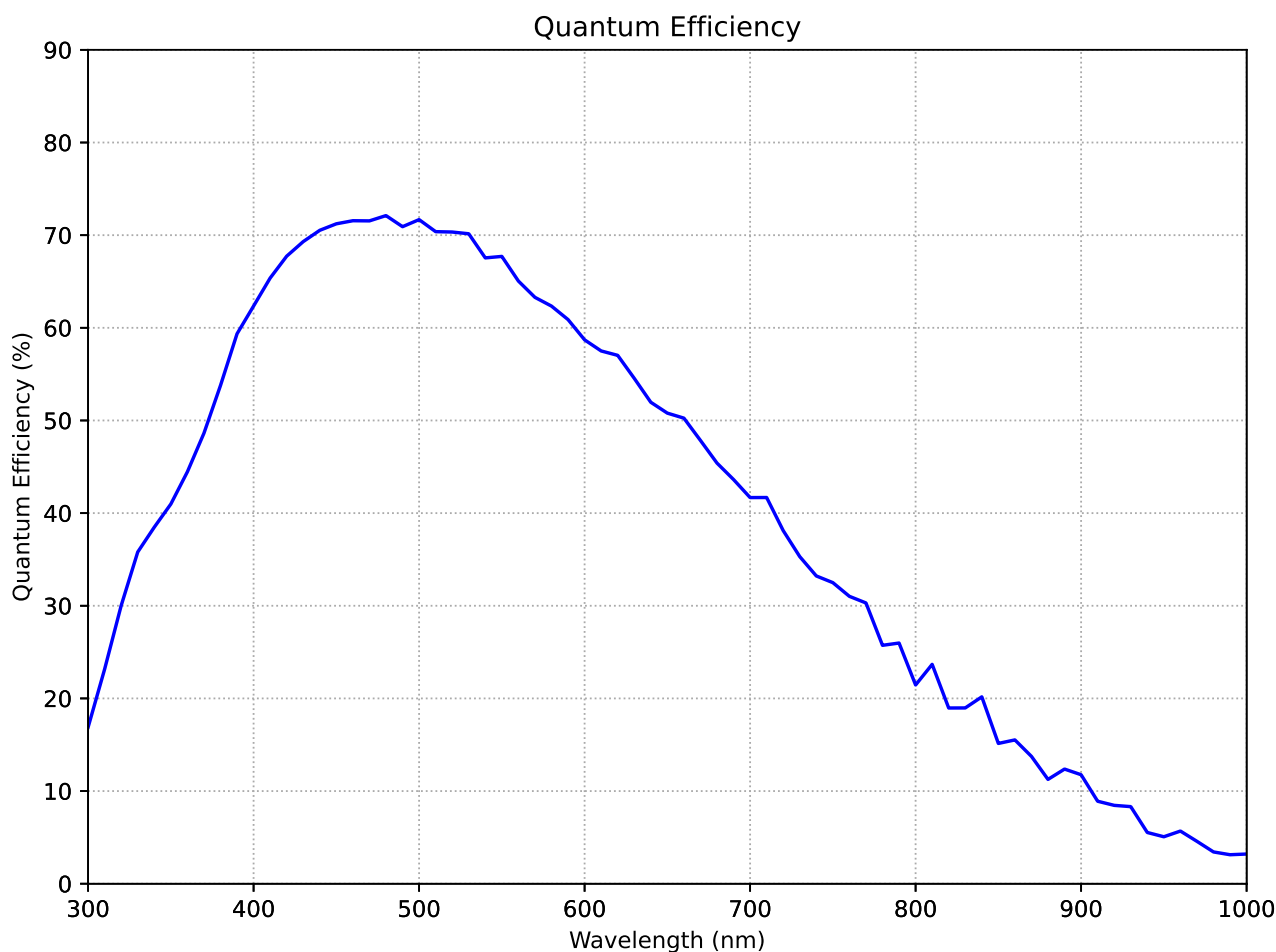
Operation Point: Green LED (Page 2)

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



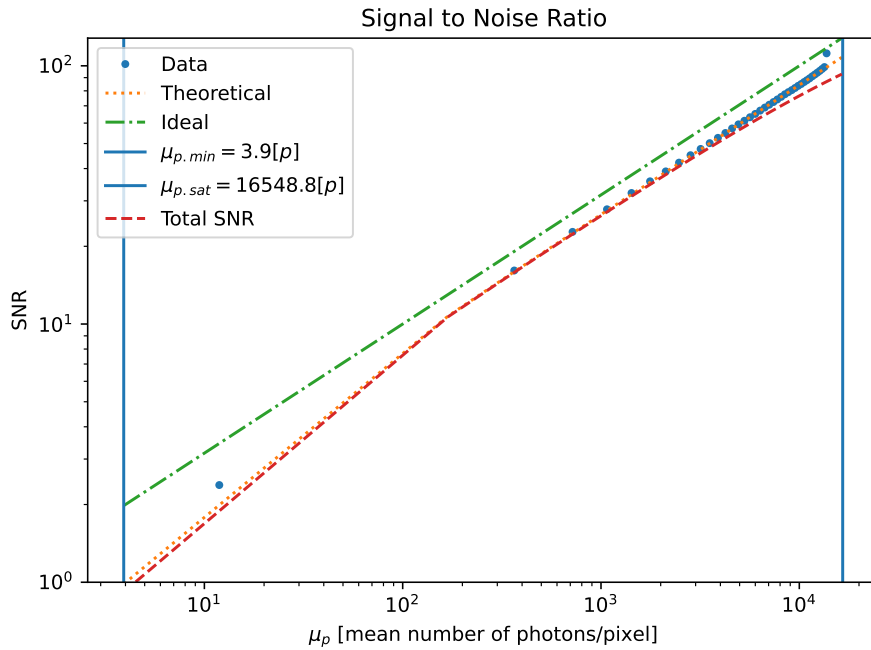
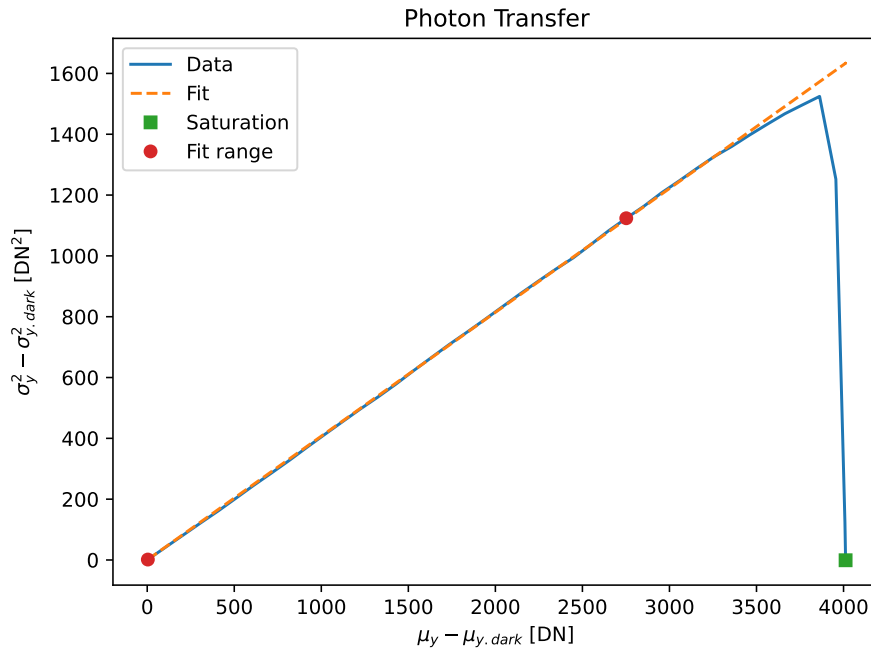
Summary sheet for Operation Point: **Green LED** (@527.5 nm wavelength)

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
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Performance

Quantum efficiency

η	71.04 %
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System gain

K	0.407 DN/e ⁻
1/K	2.456 e ⁻ /DN

Temporal dark noise

σ_d	2.172 e ⁻
$\sigma_{y,dark}$	0.930 DN

Signal-to-Noise Ratio

SNR_{max}	108
	40.70 dB
	6.8 bit
SNR_{max}^{-1}	0.922 %

Absolute sensitivity threshold

$\mu_{p,min}$	3.920 p
$\mu_{p,min,area}$	0.522 p/μm ²
$\mu_{e,min}$	2.785 e ⁻
$\mu_{e,min,area}$	0.371 e ⁻ /μm ²

Saturation Capacity

$\mu_{p,sat}$	16549 p
$\mu_{p,sat,area}$	2204 p/μm ²
$\mu_{e,sat}$	11756 e ⁻
$\mu_{e,sat,area}$	1566 e ⁻ /μm ²

Dynamic Range

DR	4221
	72.5 dB
	12.0 bit

Spatial Nonuniformities

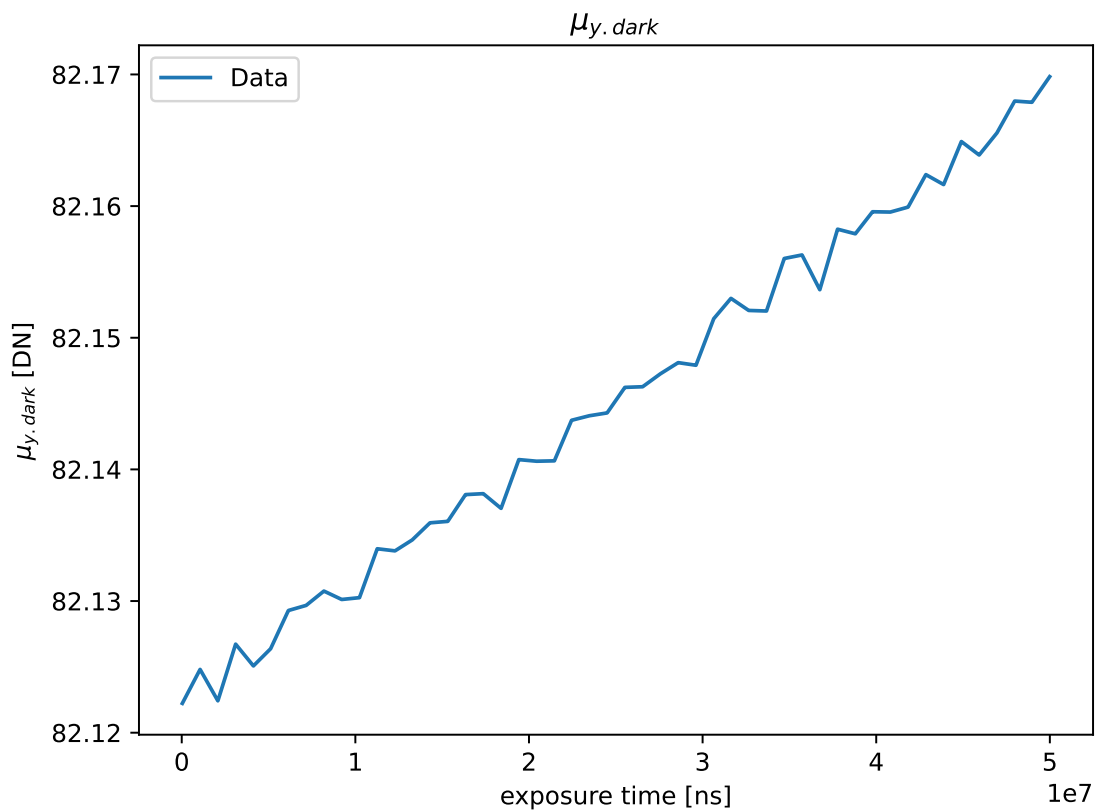
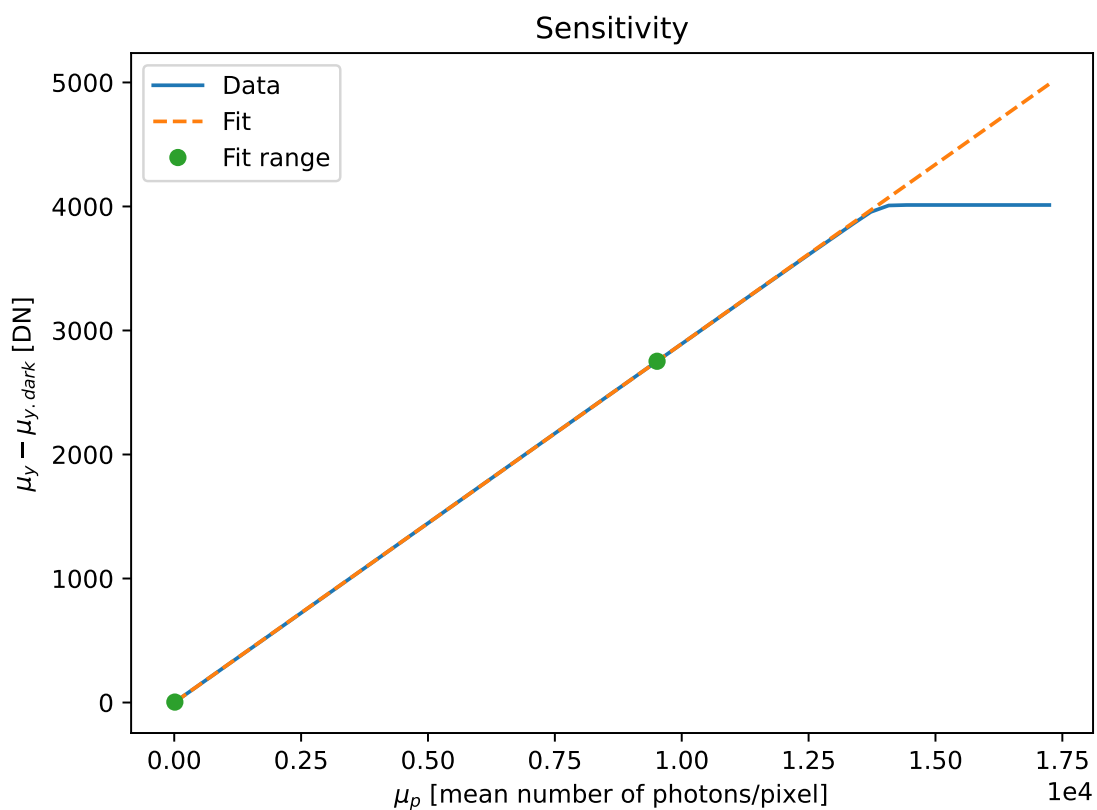
$DSNU_{1288}$	1.1 e ⁻
	0.5 DN
$PRNU_{1288}$	0.5 %

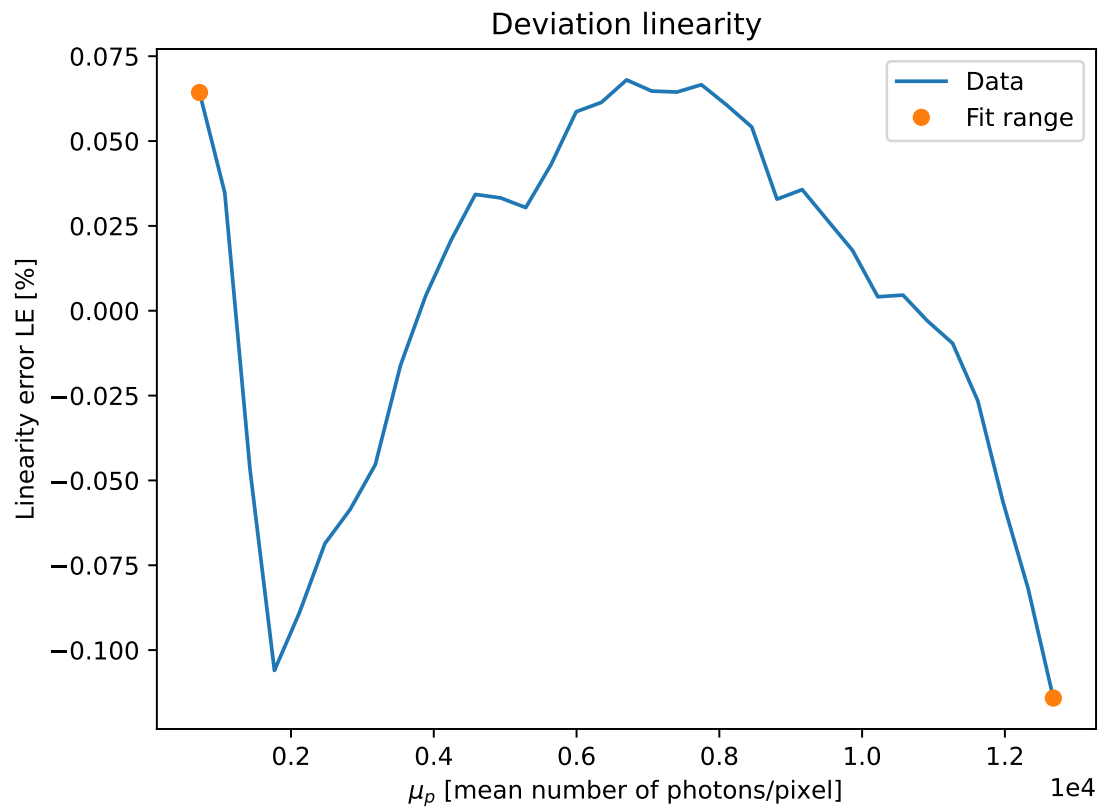
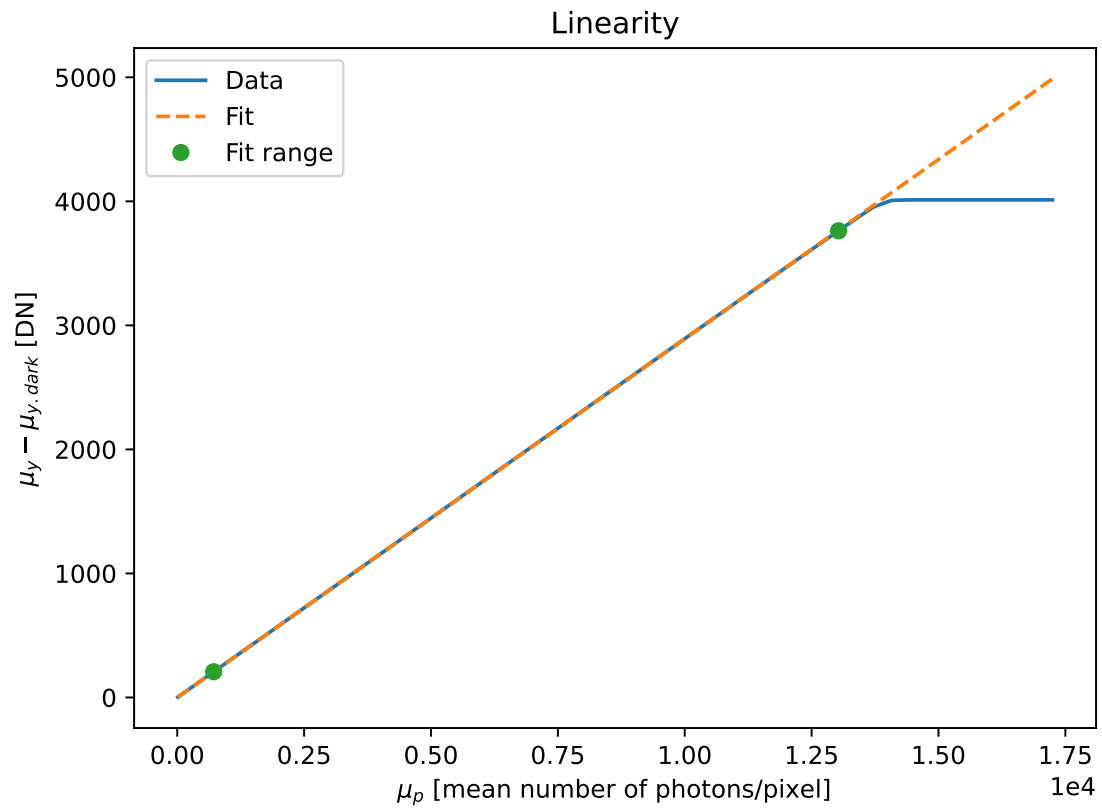
Linearity error

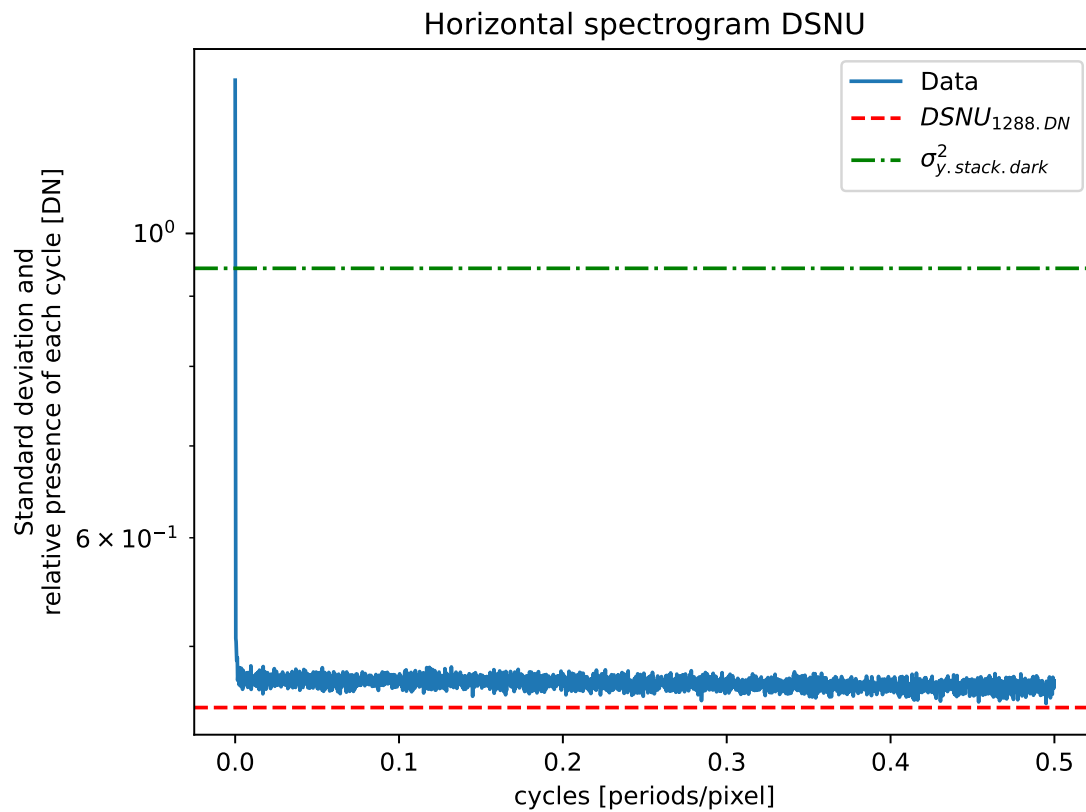
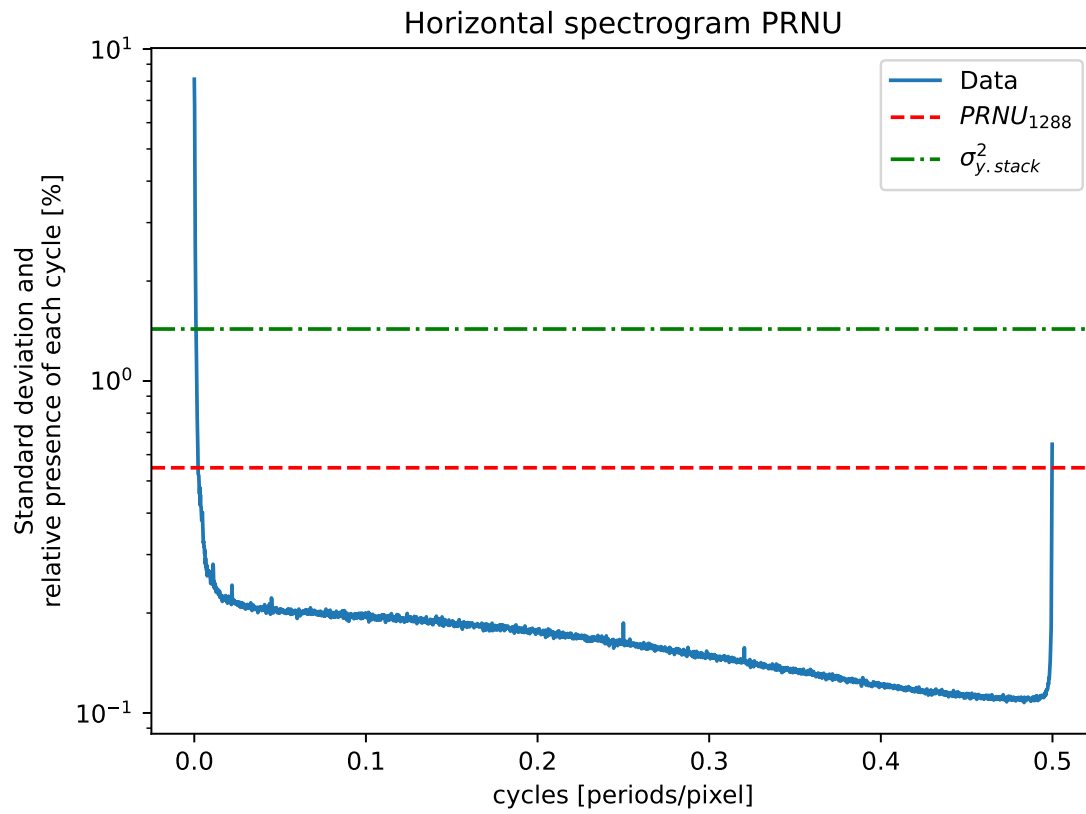
LE_{min}	-0.161 %
LE_{max}	0.068 %

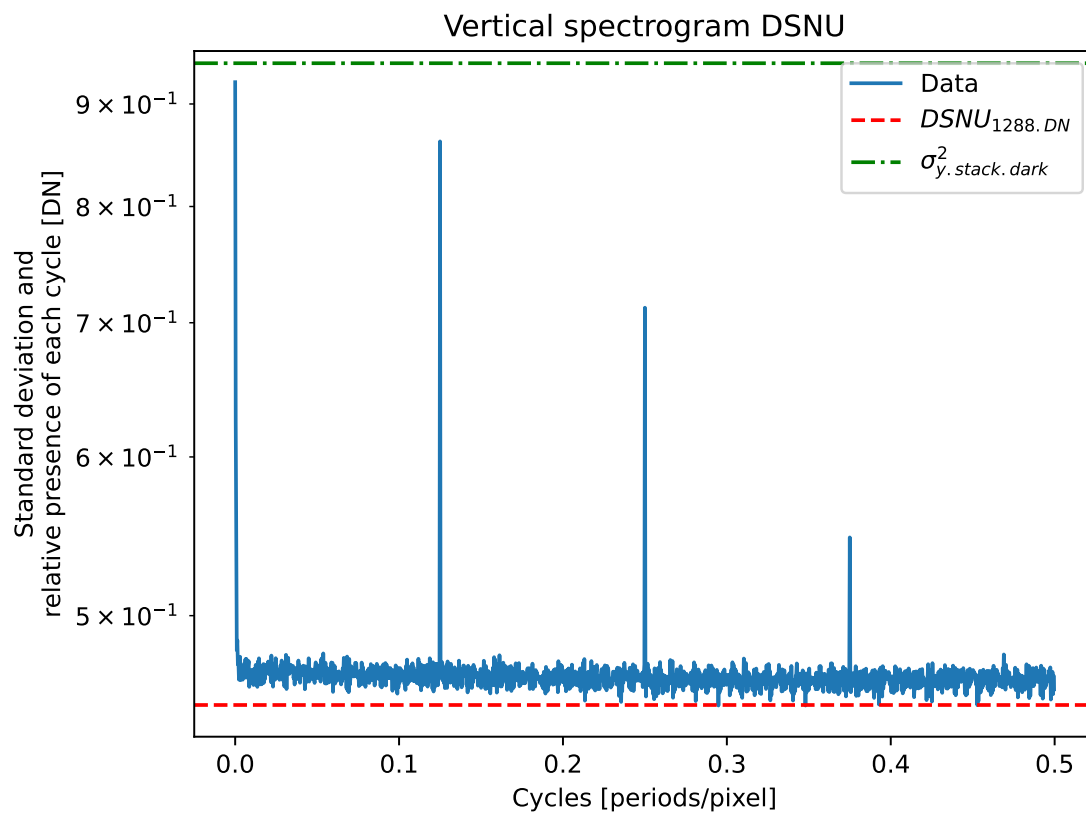
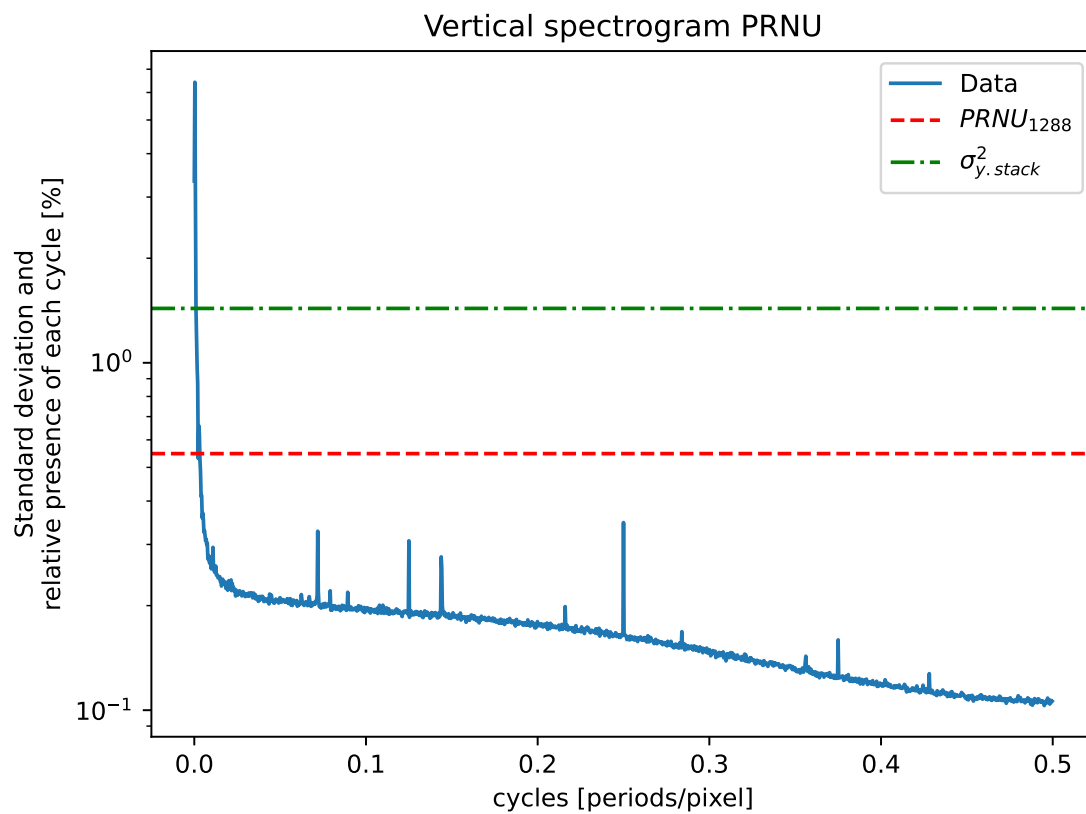
Dark current

$\mu_{I,mean}$	2.273 e ⁻ /s
	0.926 DN/s
$\mu_{I,var}$	2.951 e ⁻ /s
	1.202 DN/s

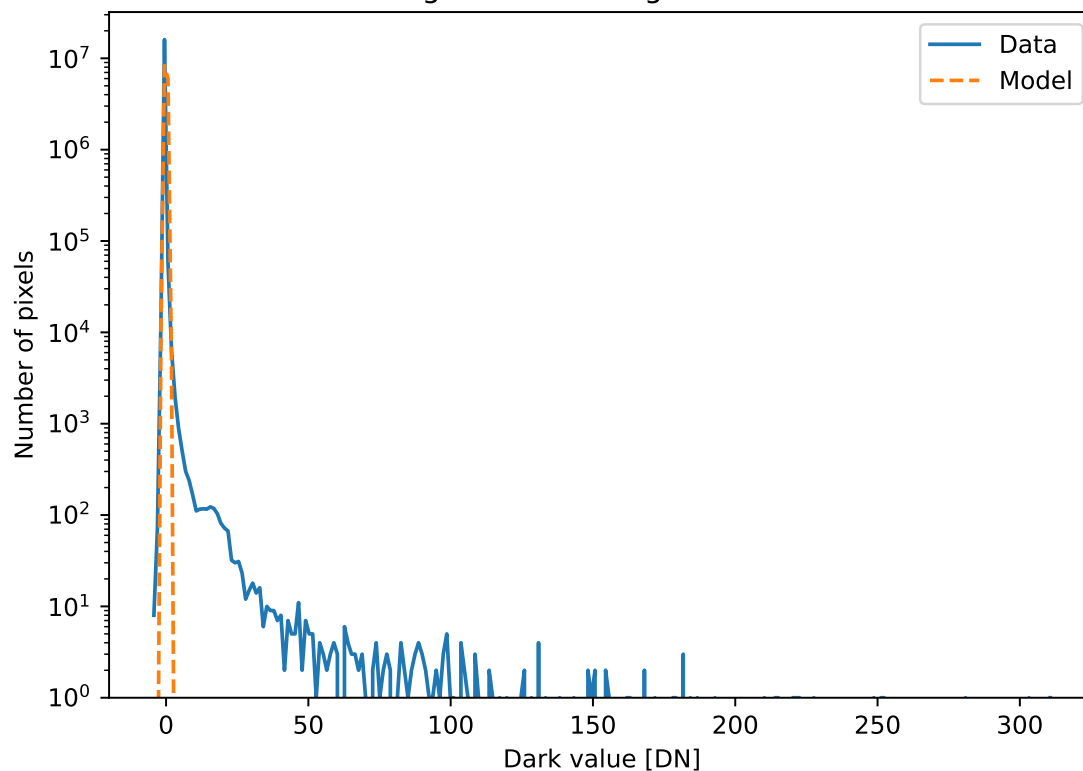




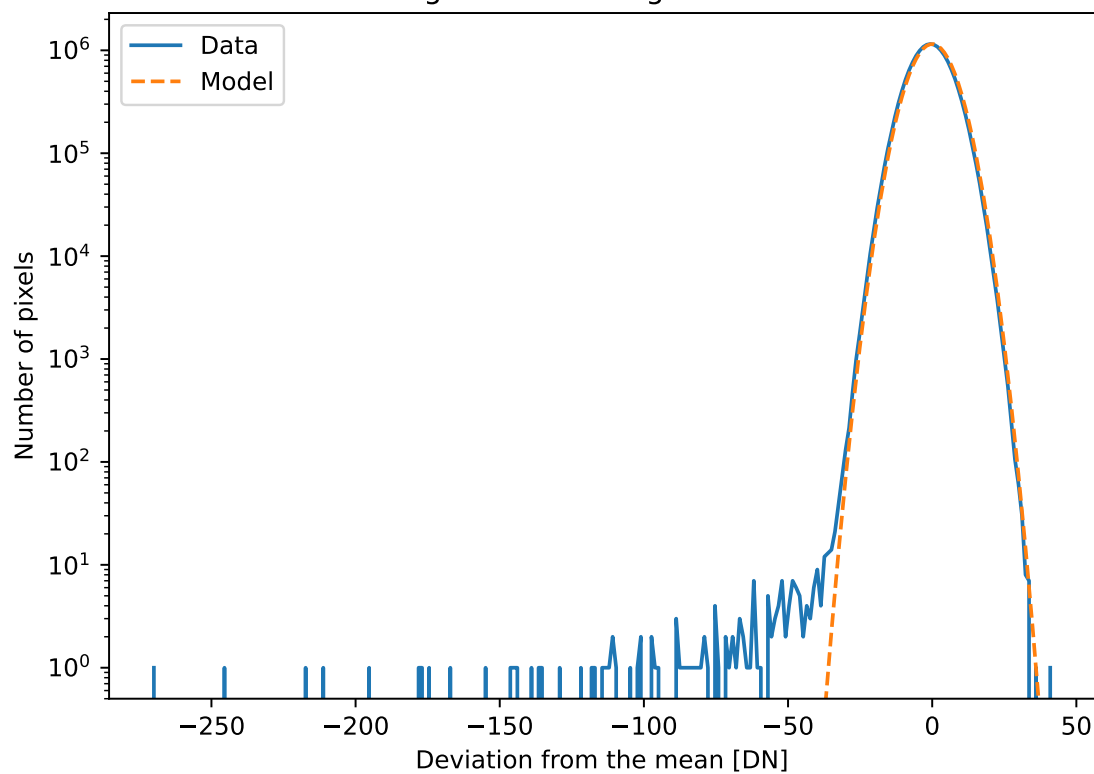




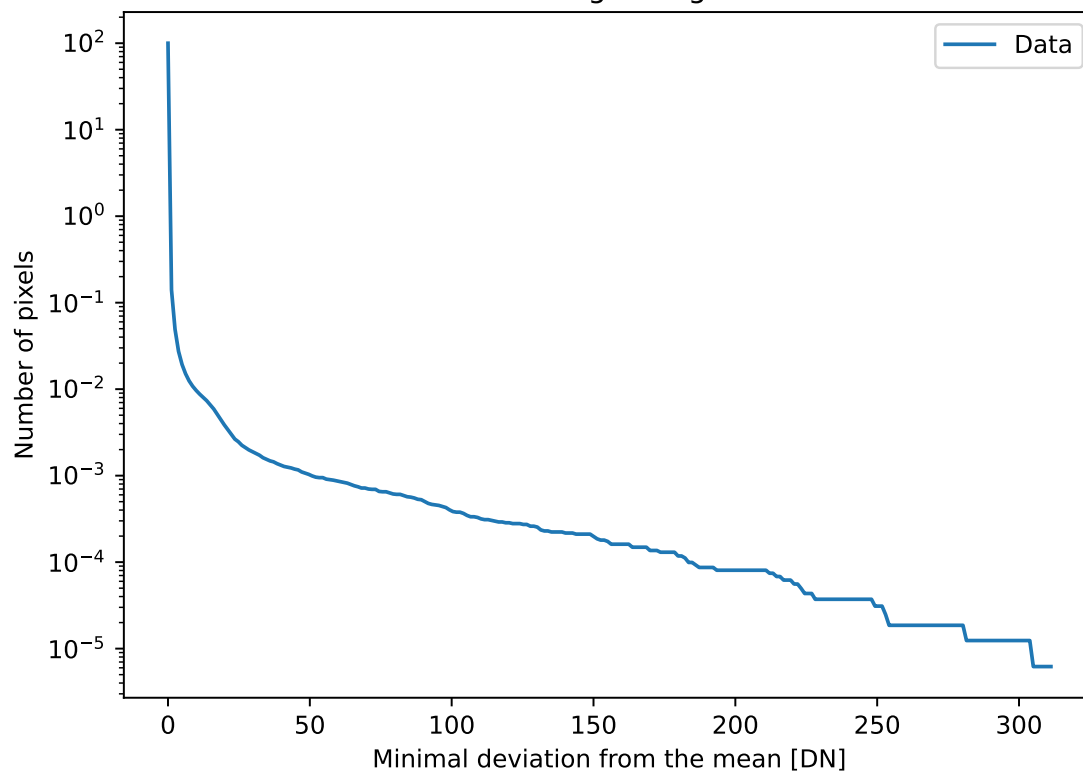
Logarithmic histogram DSNU



Logarithmic histogram PRNU



Accumulated log histogram DSNU



Accumulated log histogram PRNU

