

**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](http://www.standard1288.org)).

Vendor	KAYA Instruments	Sensor diagonal	8.4mm
Model	Iron2505-M	Sensor	GMAX2505
Camera type	Monochrome	Sensor type	CMOS
Date	28-Feb-2023 09:41:15	Shutter type	Global
Data type	Single	Overlap capabilities	Overlapping
Sensor type	CMOS	Frame rate	80 Hz
Lens category	C-Mount	Exposure control	by irradiance
Resolution	2600 x 2160 ,12 bits	Exposure time	2250.487 $\mu$ s
Pixel size	2.5 $\mu$ m x 2.5 $\mu$ m	Illumination	Variable with constant exposure time
Maximum readout rate	119 fps	Irradiation Steps	50
Dark current compensation	No	Irradiation calibration accuracy	-
Interface type	CXP-12	Irradiation measurement error	-
Serial number	2305032	Standart version	4.0 Linear
Firmware version	2.2.2-2023.2.27	Light source	Integrating Sphere

SkyBlue and Zerif

International Distributors



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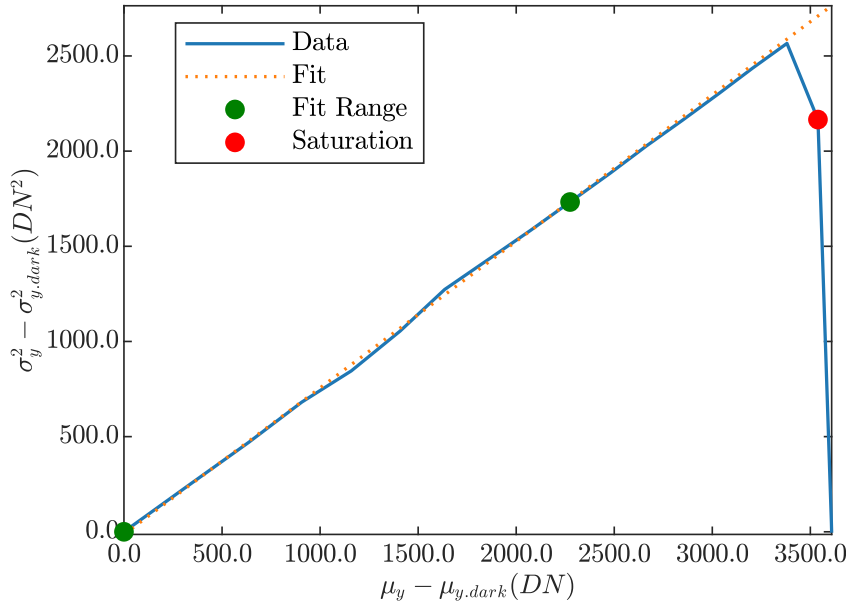


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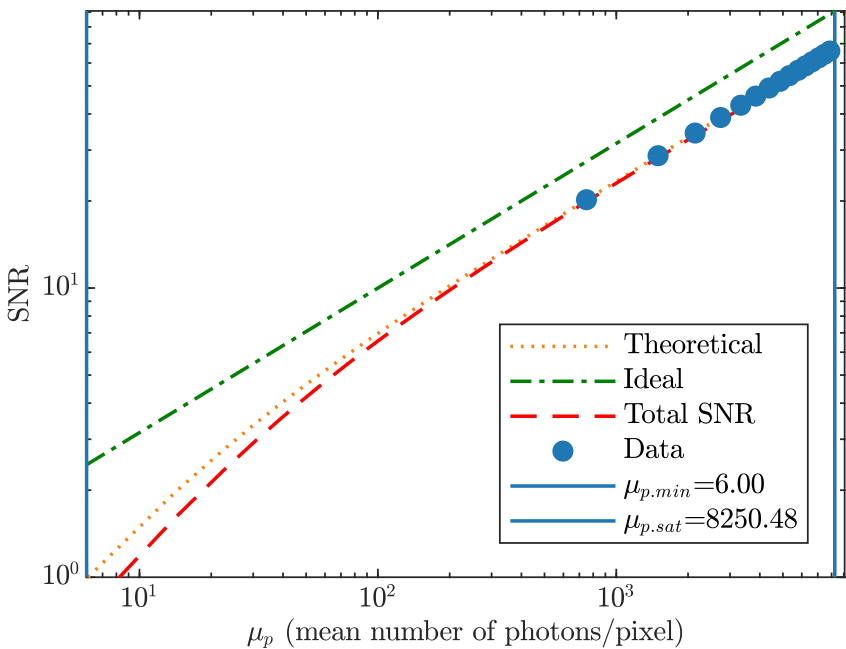
Summary Sheet for Operation Point 1 at a Wavelength of 520 nm

Camera setting		Operation point parameters	
Gain	2	Environmental temperature	22
Black level	-1032	Camera body temperature	38.37
		Sensor temperature	49
		Processor temperature	49

Photon Transfer



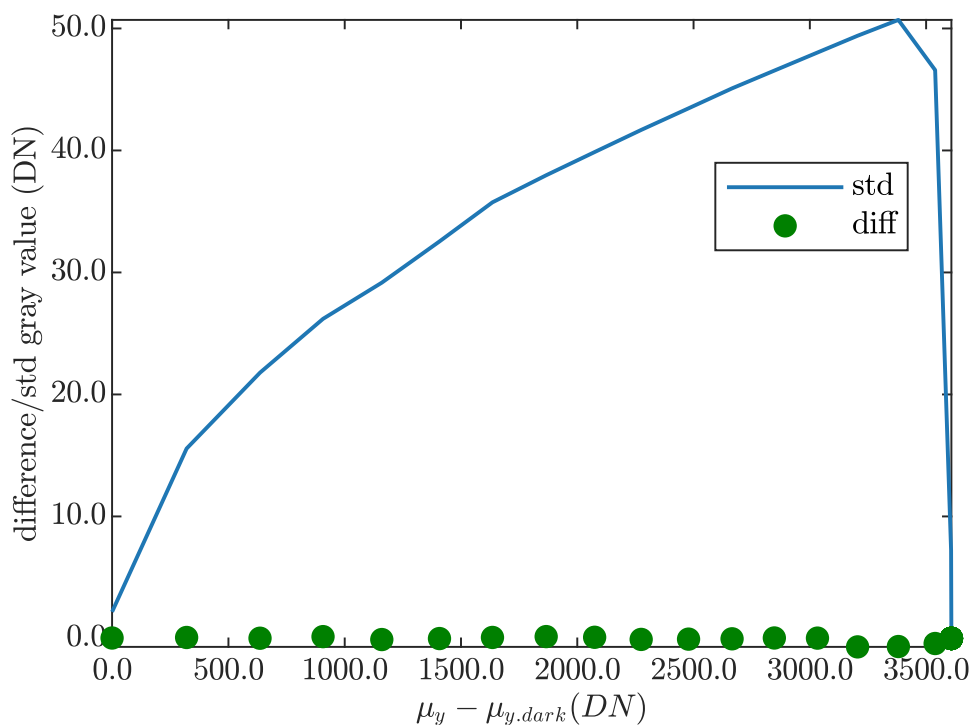
Signal-to-Noise Ratio



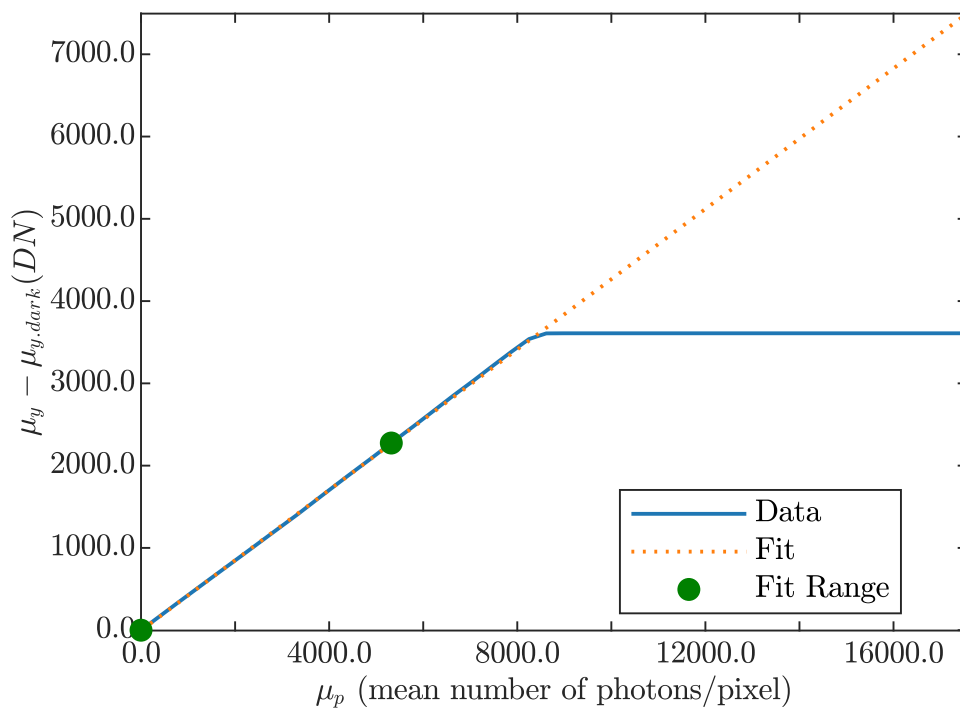
Performance

<b>Quantum efficiency</b>		
$\eta$	55.4864	%
<b>System gain</b>		
K	0.76959	DN/e <sup>-</sup>
1/K	1.2994	e <sup>-</sup> /DN
<b>Temporal dark noise</b>		
$\sigma_d$	2.8045	e <sup>-</sup>
$\sigma_{y, \text{dark}}$	2.1775	DN
<b>Signal-to-noise ratio</b>		
SNR <sub>max</sub>	67.6602	
	36.6067	dB
	6.0802	bit
1/SNR <sub>max</sub>	1.478	%
<b>Absolute sensitivity threshold</b>		
$\mu_{e, \text{min}}$	3.3295	e <sup>-</sup>
$\mu_{e, \text{min, area}}$	0.53272	e <sup>-</sup> /μm <sup>2</sup>
<b>Saturation capacity</b>		
$\mu_{e, \text{sat}}$	4577.8963	e <sup>-</sup>
$\mu_{e, \text{sat, area}}$	732.4634	e <sup>-</sup> /μm <sup>2</sup>
<b>Dynamic range</b>		
DR	1374.9605	
	62.7658	dB
	10.4252	bit
<b>Spatial nonuniformities</b>		
DSNU <sub>1288</sub>	2.8273	e <sup>-</sup>
DSNU <sub>1288, col</sub>	0.25783	e <sup>-</sup>
DSNU <sub>1288, row</sub>	2.6028	e <sup>-</sup>
DSNU <sub>1288, pix</sub>	1.0735	e <sup>-</sup>
PRNU <sub>1288</sub>	0.53943	%
PRNU <sub>1288, col</sub>	0.084497	%
PRNU <sub>1288, row</sub>	0.048993	%
PRNU <sub>1288, pix</sub>	0.53052	%
<b>Linearity error</b>		
LE	0.0049953	%
<b>Dark current</b>		
$\mu_{l, \text{mean}}$	13.0505	e <sup>-</sup> /s
$\mu_{l, \text{var}}$	2.6087	e <sup>-</sup> /s

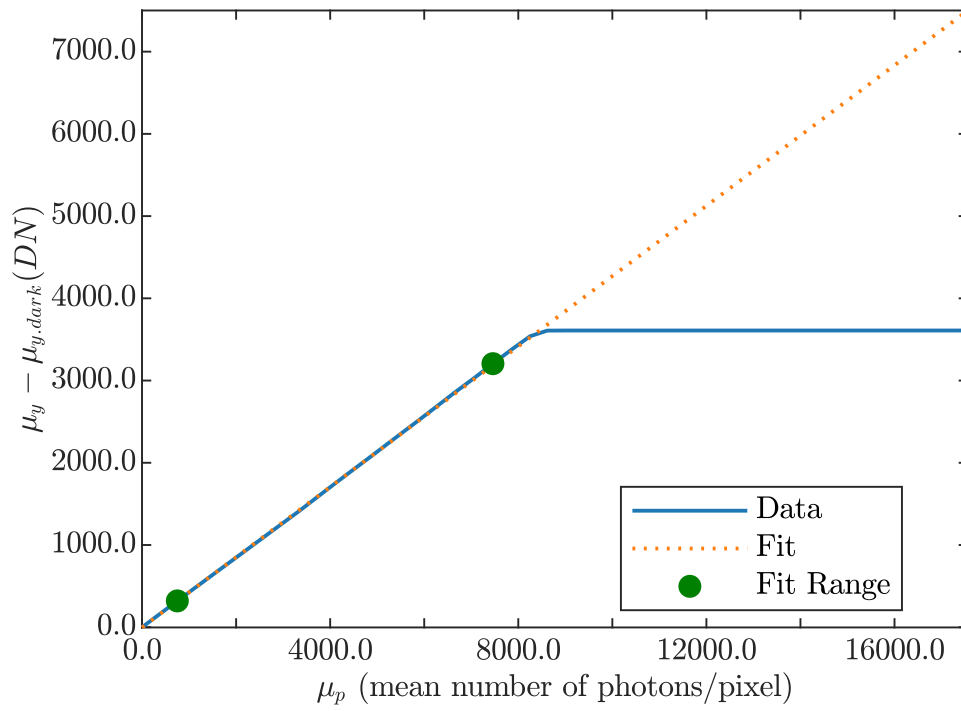
### Stability check



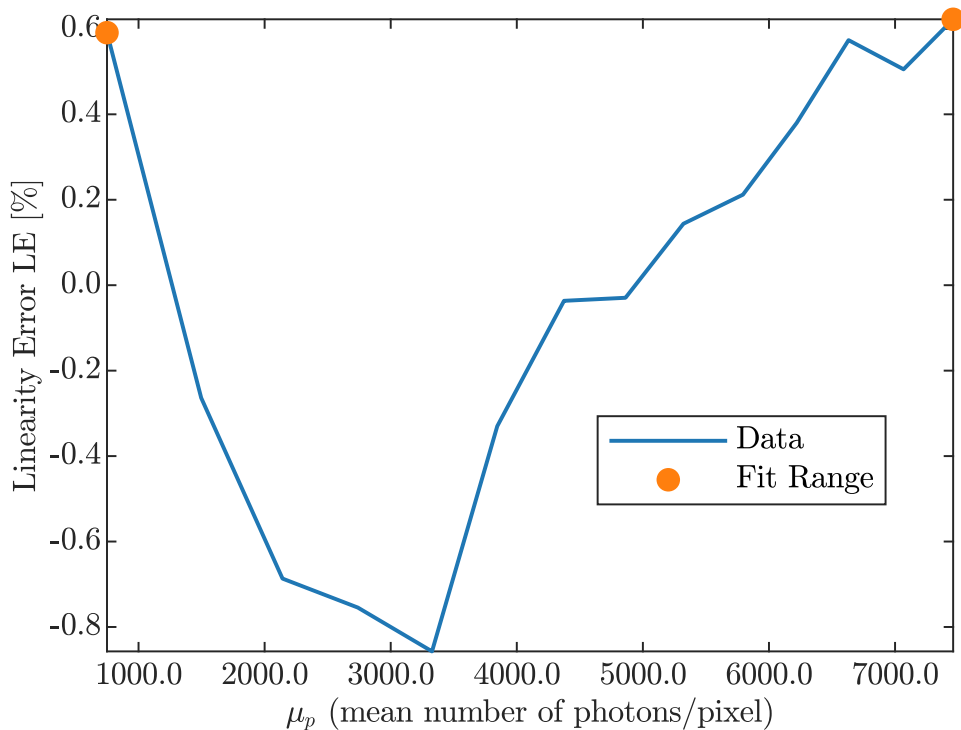
### Sensitivity



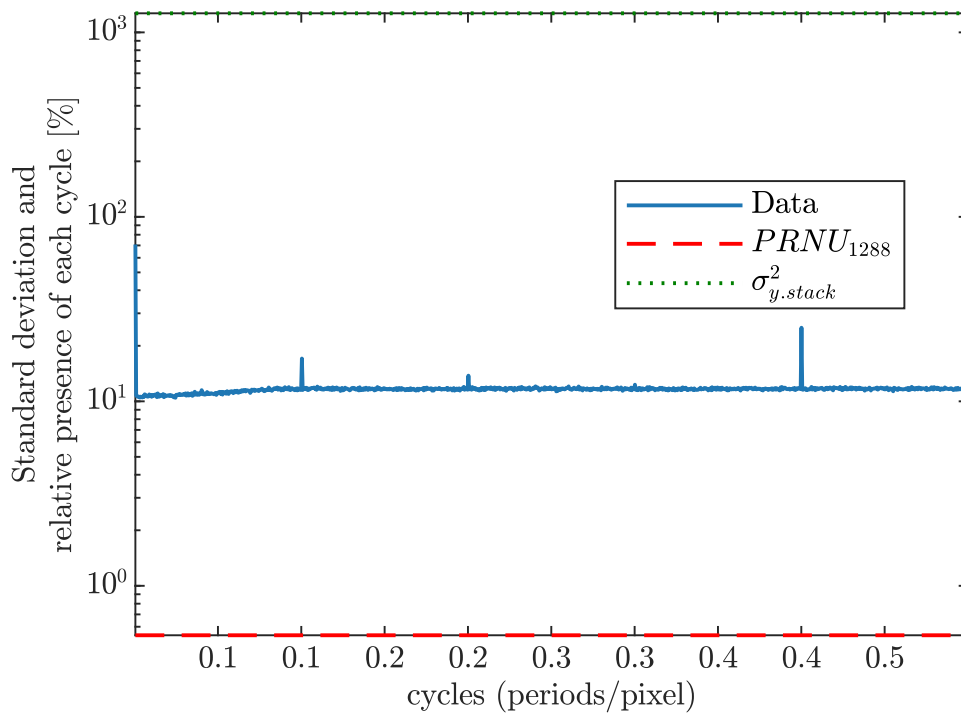
### Linearity



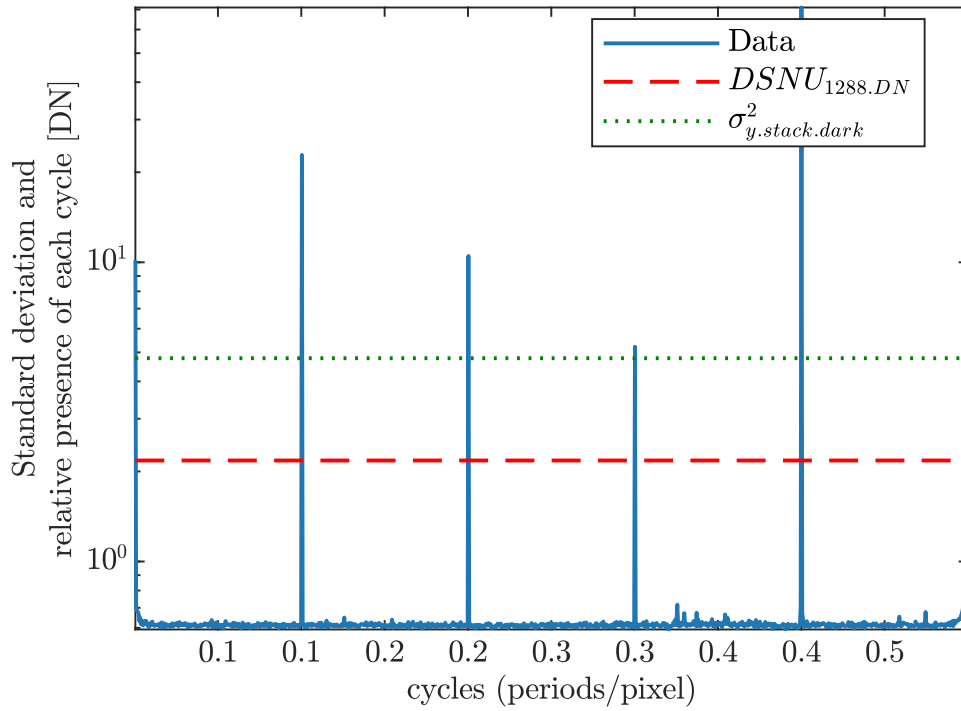
### Deviation Linearity



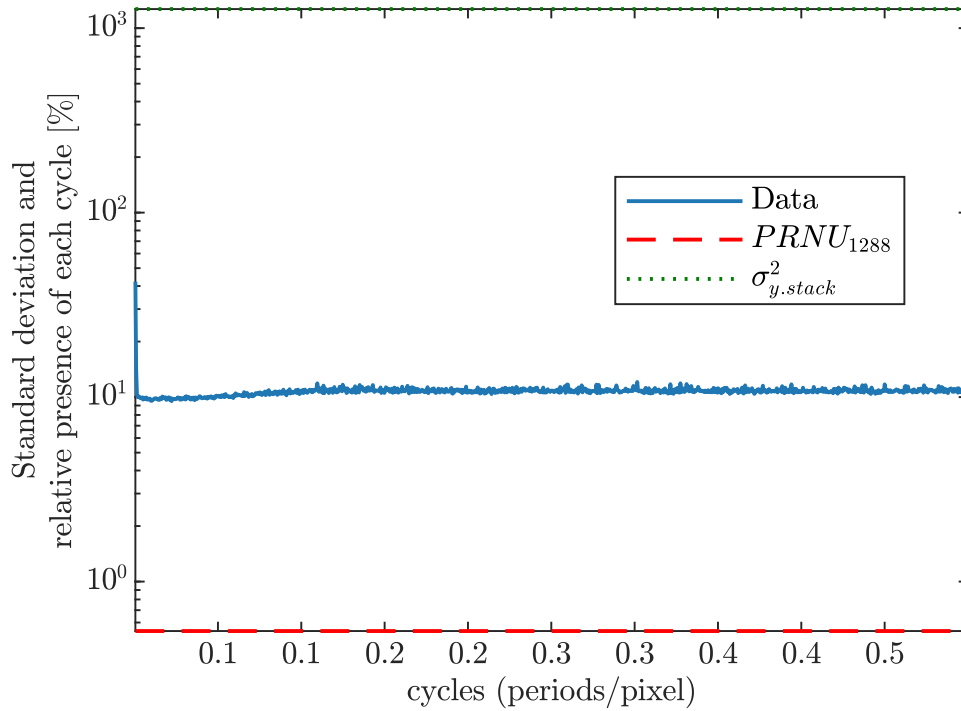
### Horizontal Spectrogram PRNU



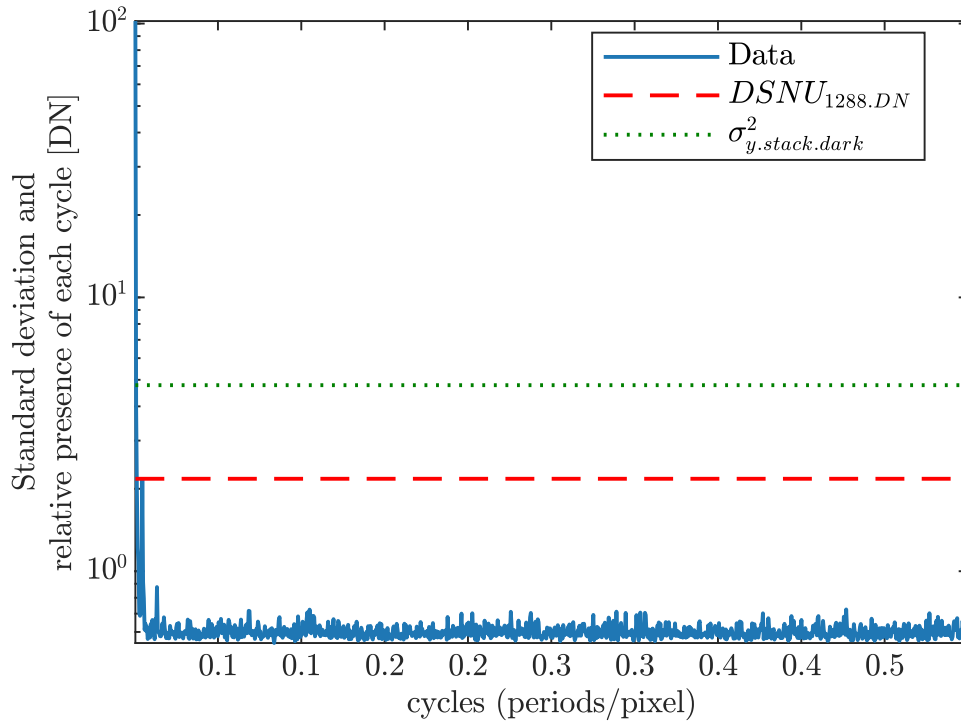
### Horizontal Spectrogram DSNU



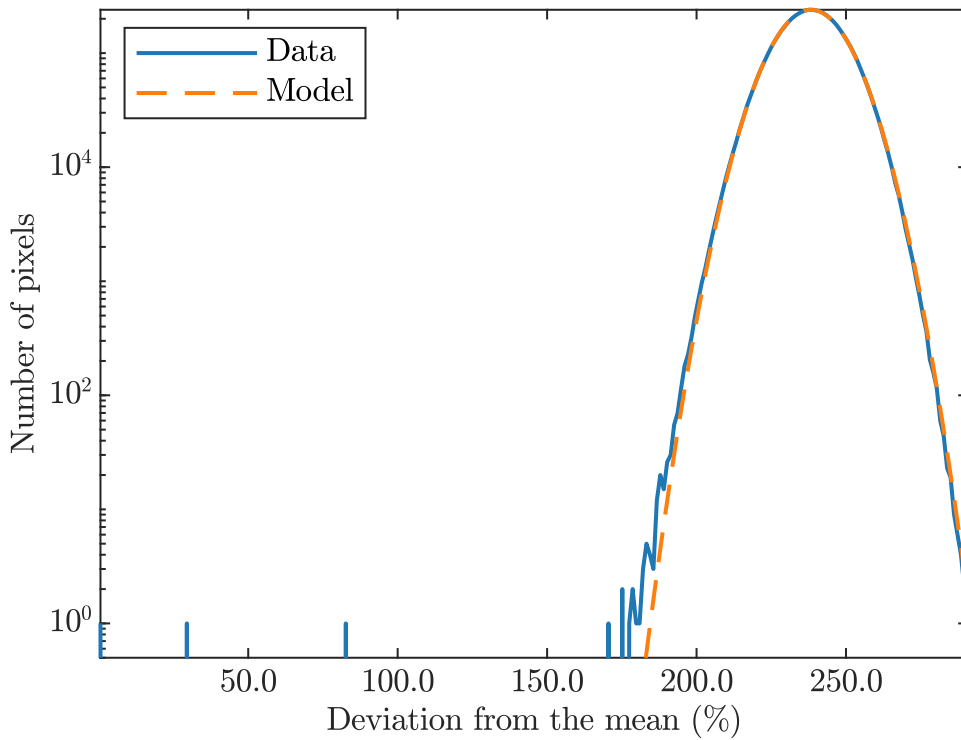
### Vertical Spectrogram PRNU



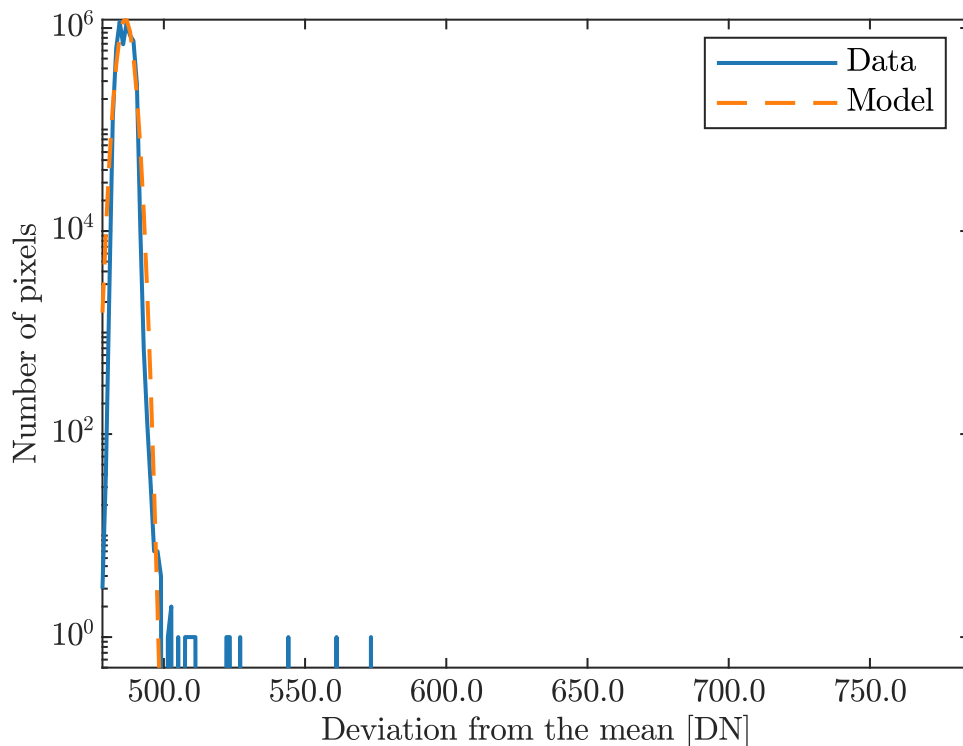
### Vertical Spectrogram DSNU



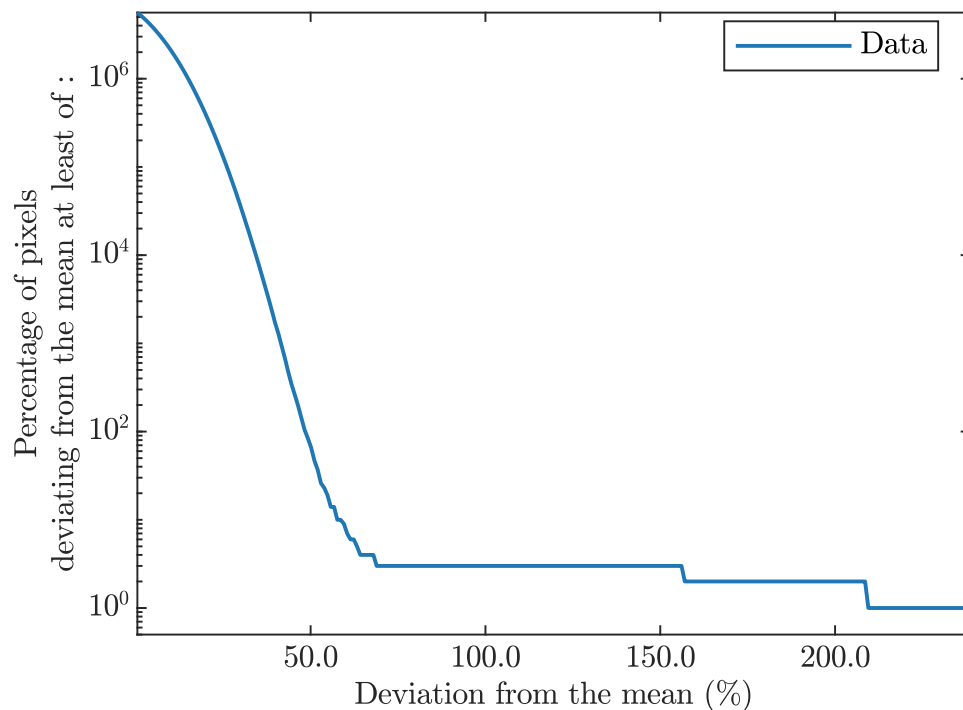
### Logarithmic Histogram PRNU



### Logarithmic Histogram DSNU

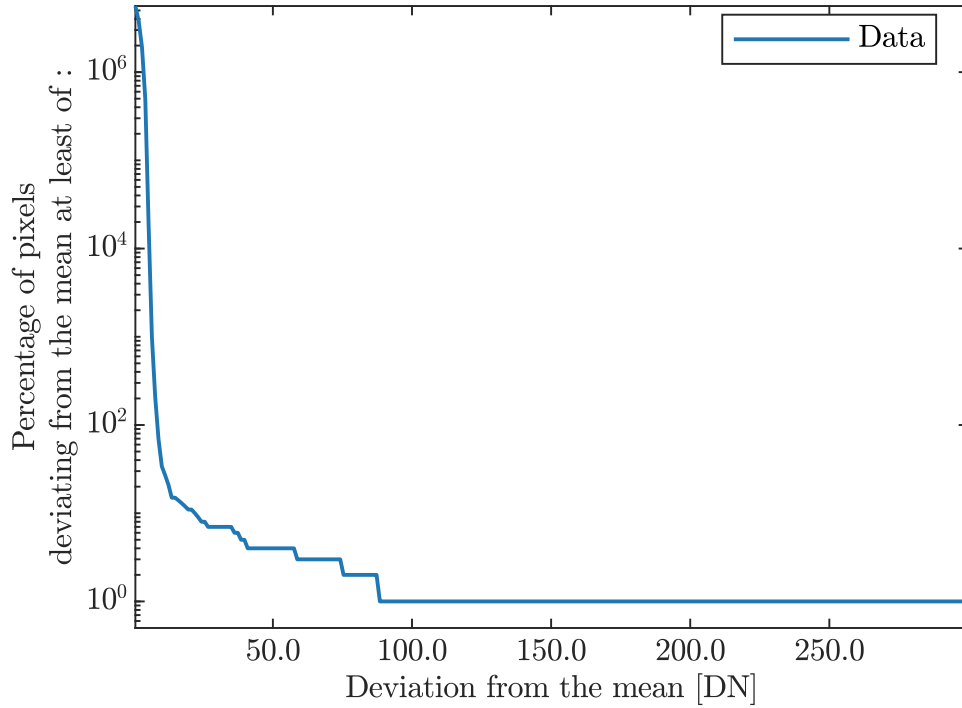


### Accumulated Log Histogram PRNU

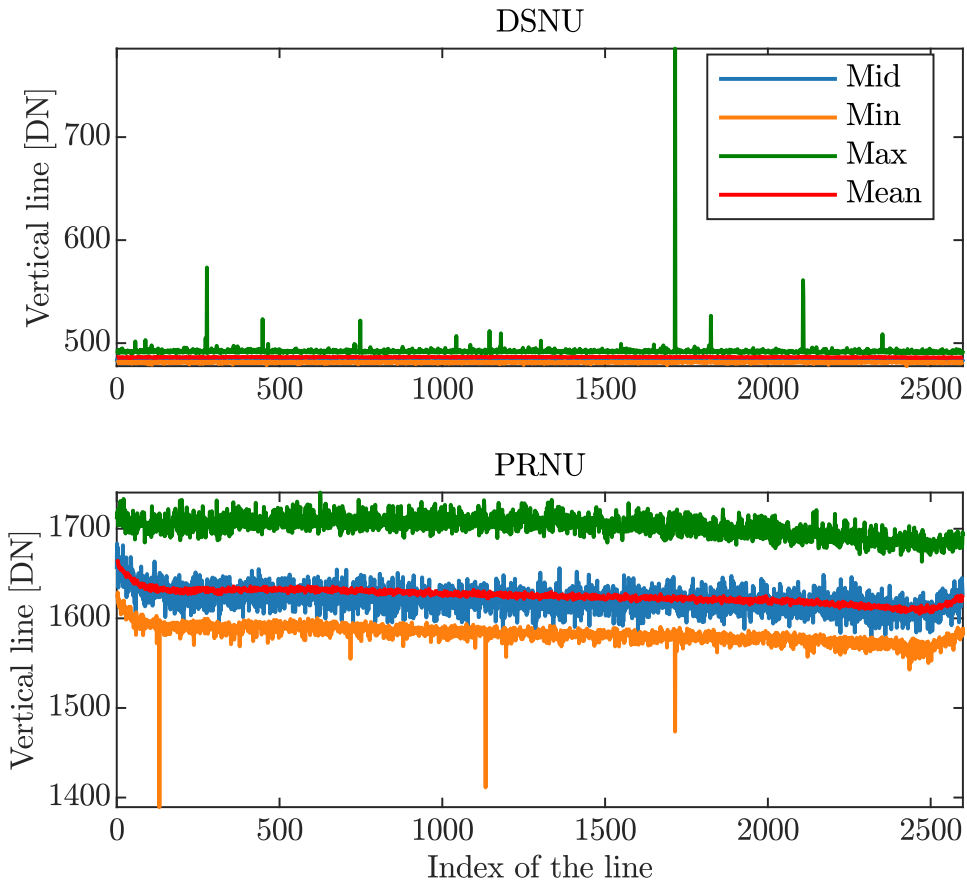




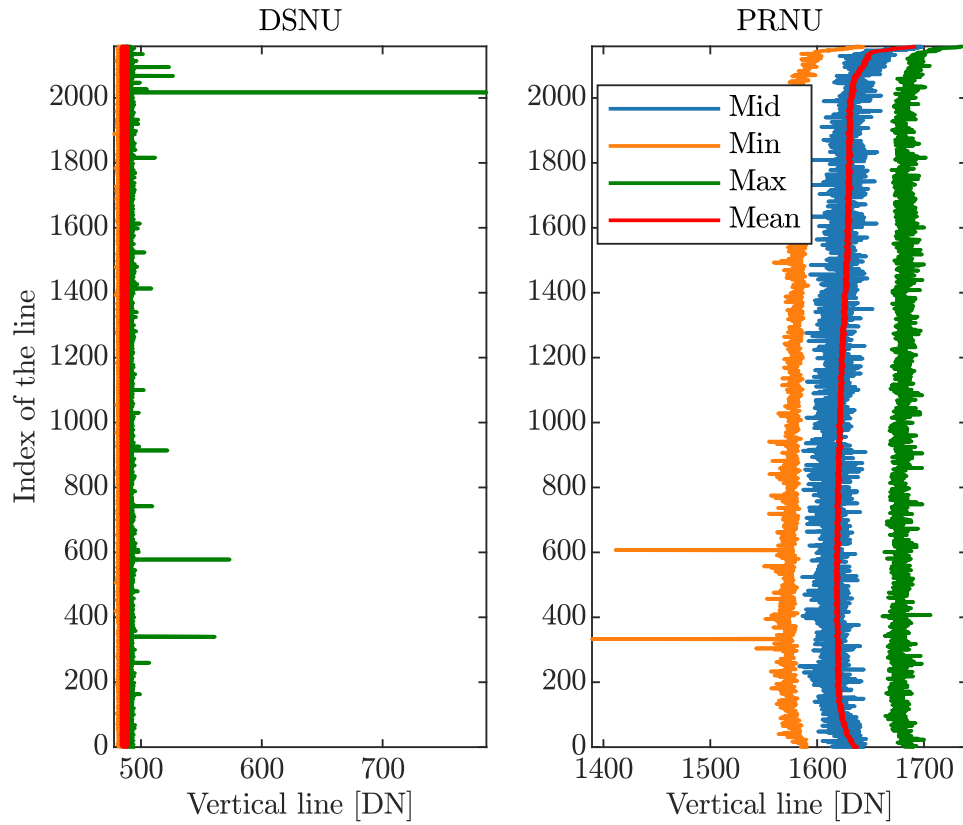
### Accumulated Log Histogram DSNU



### Horizontal Profile

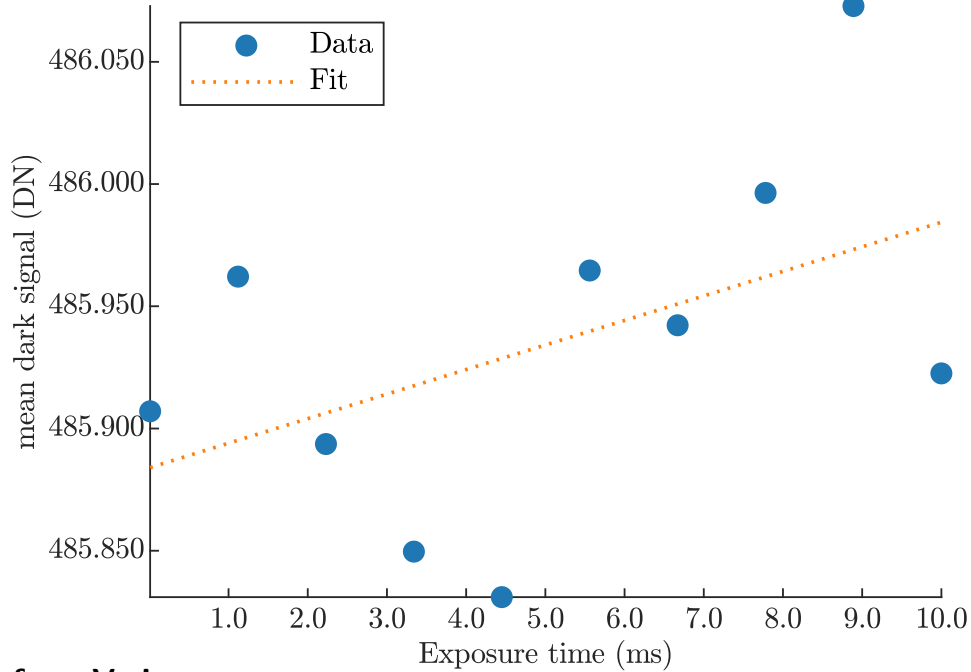


### Vertical Profile

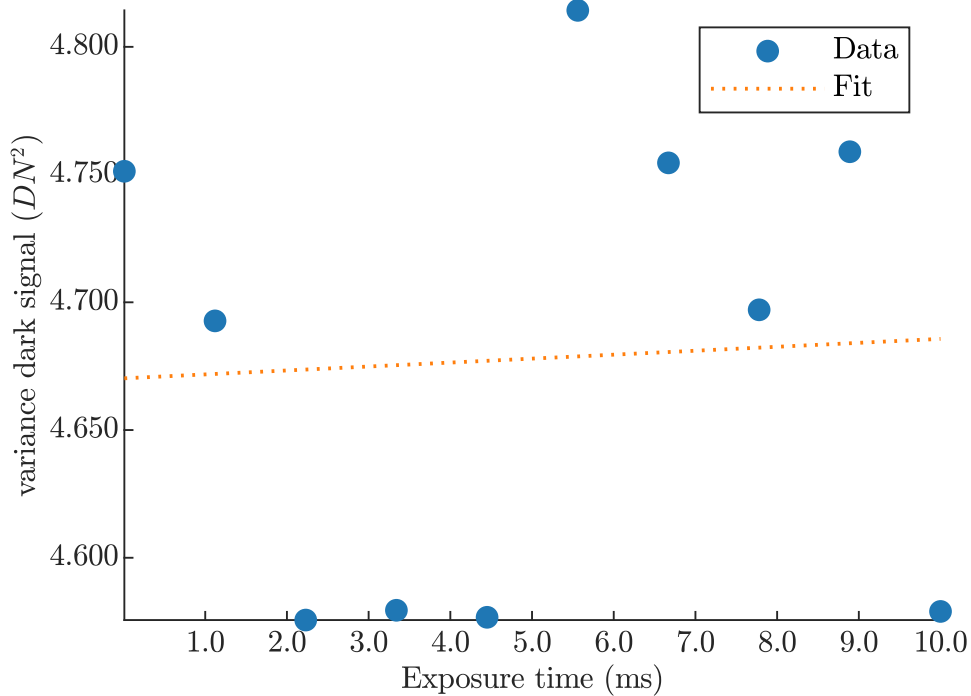


**Dark Current**

**Dark Current from Mean**



**Dark Current from Variance**



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