

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	KAYA Instruments	Sensor diagonal	18.8mm
Model	Iron2011eM	Sensor	GSENSE2011E
Camera type	Monochrome	Sensor type	CMOS
Date	22-Mar-2023 18:01:23	Shutter type	Global
Data type	Single	Overlap capabilities	Overlapping
Sensor type	CMOS	Frame rate	150 Hz
Lens category	C-Mount	Exposure control	by irradiance
Resolution	2048 x 1152 ,10 bits	Exposure time	999.1094 μ s
Pixel size	6.5 μ m x 6.5 μ m	Illumination	Variable with constant exposure time
Maximum readout rate	385 fps	Irradiation Steps	50
Dark current compensation	No	Irradiation calibration accuracy	-
Interface type	CXP-12	Irradiation measurement error	-
Serial number	2230081	Standart version	4.0 Linear
Firmware version	2.5.2.5-2022.8.25	Light source	Integrating Sphere

International Distributor

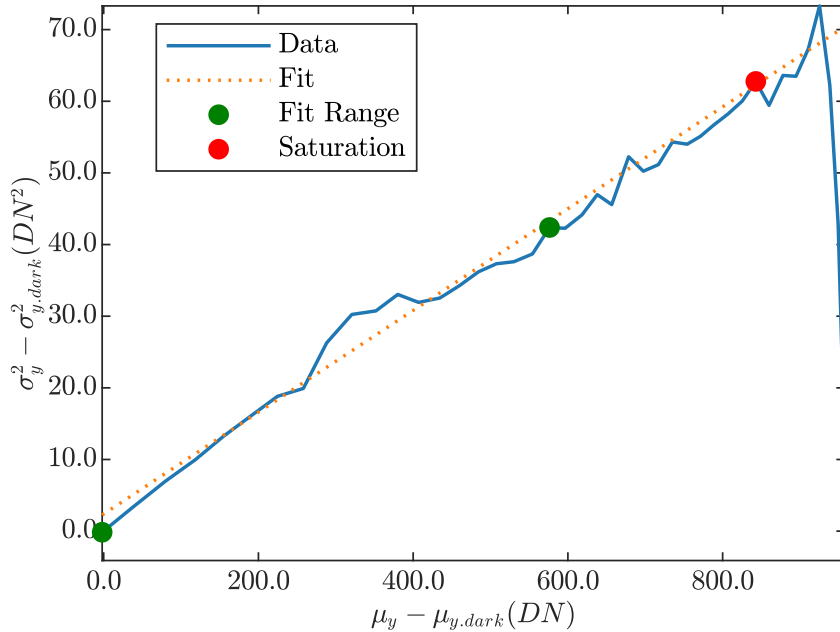


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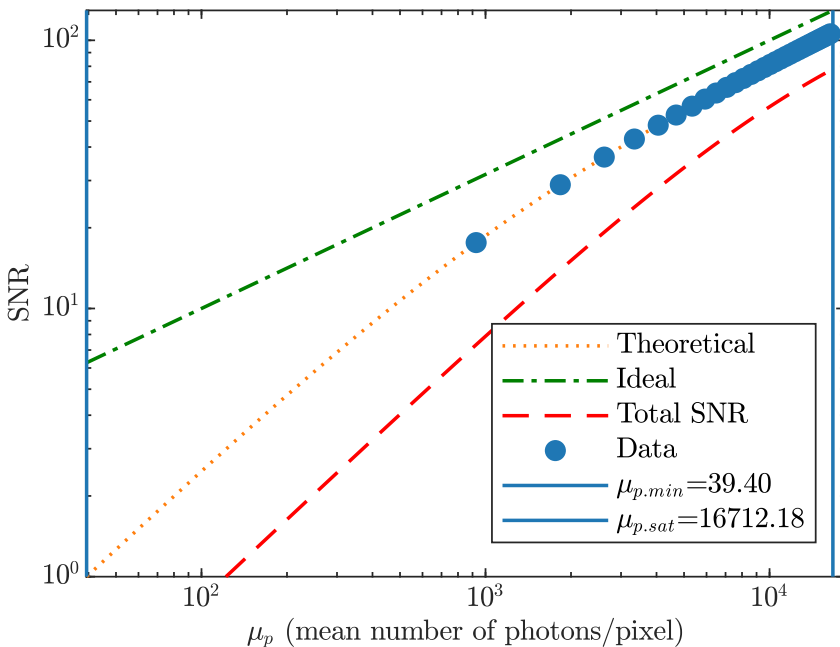
Summary Sheet for Operation Point 1 at a Wavelength of 520 nm

Camera setting	Operation point parameters		
Gain	1	Environmental temperature	23.87
Black level	0	Camera body temperature	40.81
		Sensor temperature	54.994
		Processor temperature	47

Photon Transfer



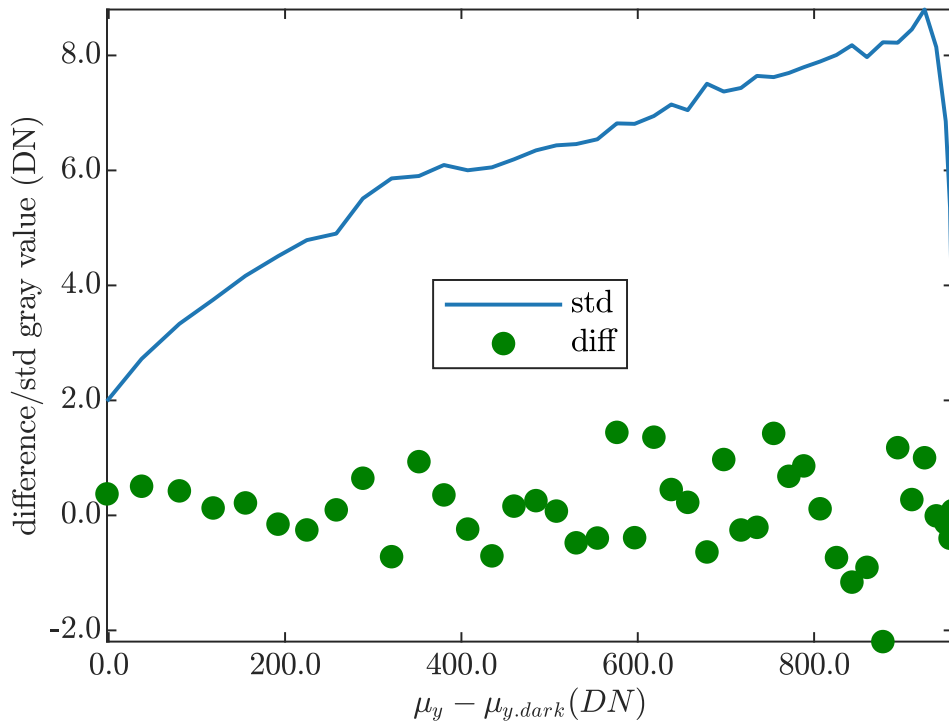
Signal-to-Noise Ratio



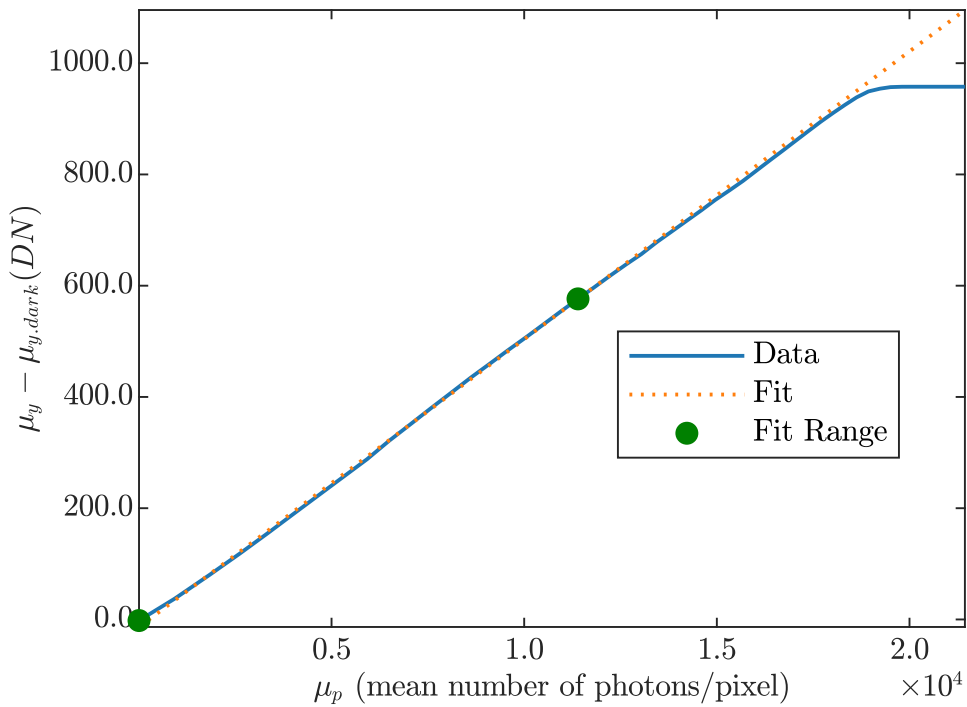
Performance

Quantum efficiency		
η	72.8544	%
System gain		
K	0.071022	DN/e ⁻
1/K	14.0801	e ⁻ /DN
Temporal dark noise		
σ_d	27.9105	e ⁻
$\sigma_{y,dark}$	2.0032	DN
Signal-to-noise ratio		
SNR _{max}	110.3429	
	40.8549	dB
	6.7858	bit
1/SNR _{max}	0.90627	%
Absolute sensitivity threshold		
$\mu_{e,min}$	28.7049	e ⁻
$\mu_{e,min,area}$	0.67941	e ⁻ /μm ²
Saturation capacity		
$\mu_{e,sat}$	12175.5554	e ⁻
$\mu_{e,sat,area}$	288.1788	e ⁻ /μm ²
Dynamic range		
DR	424.1627	
	52.5506	dB
	8.7285	bit
Spatial nonuniformities		
DSNU ₁₂₈₈	83.7266	e ⁻
DSNU _{1288,col}	35.2574	e ⁻
DSNU _{1288,row}	58.3819	e ⁻
DSNU _{1288,pix}	48.5656	e ⁻
PRNU ₁₂₈₈	0.53788	%
PRNU _{1288,col}	0.14914	%
PRNU _{1288,row}	0.16994	%
PRNU _{1288,pix}	0.48805	%
Linearity error		
LE	0.011773	%
Dark current		
$\mu_{l,mean}$	137.3646	e ⁻ /s
$\mu_{l,var}$	NaN	e ⁻ /s

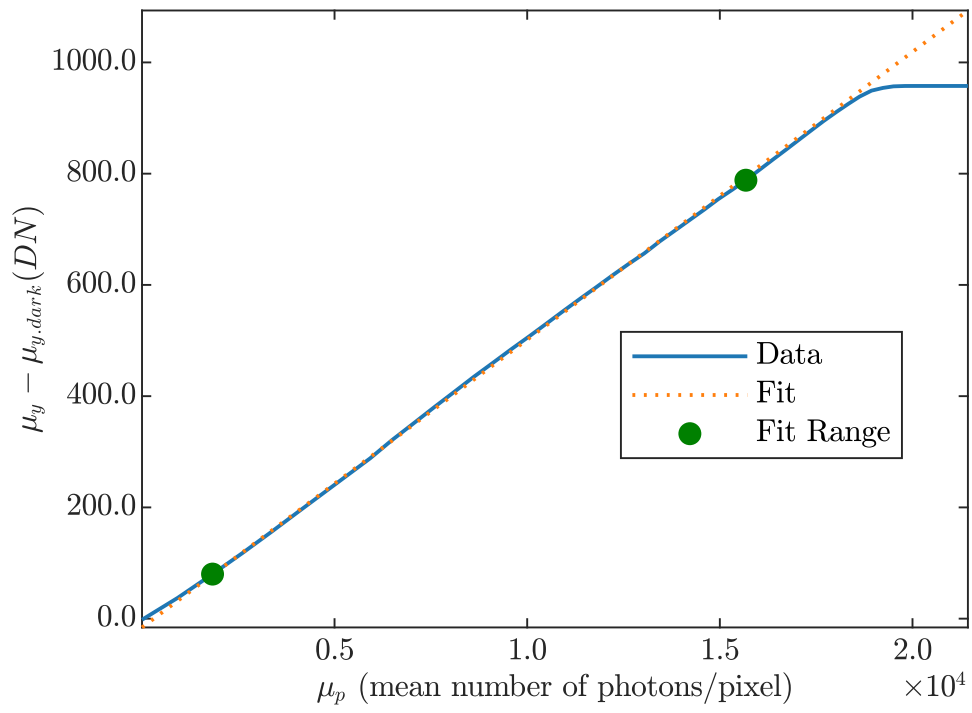
Stability check



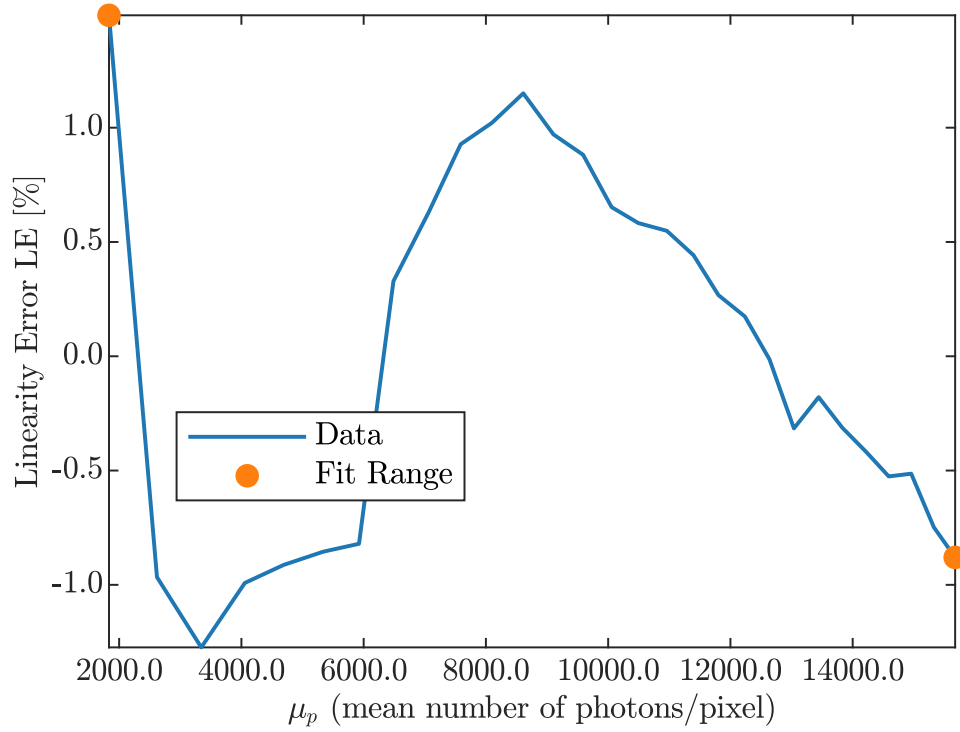
Sensitivity



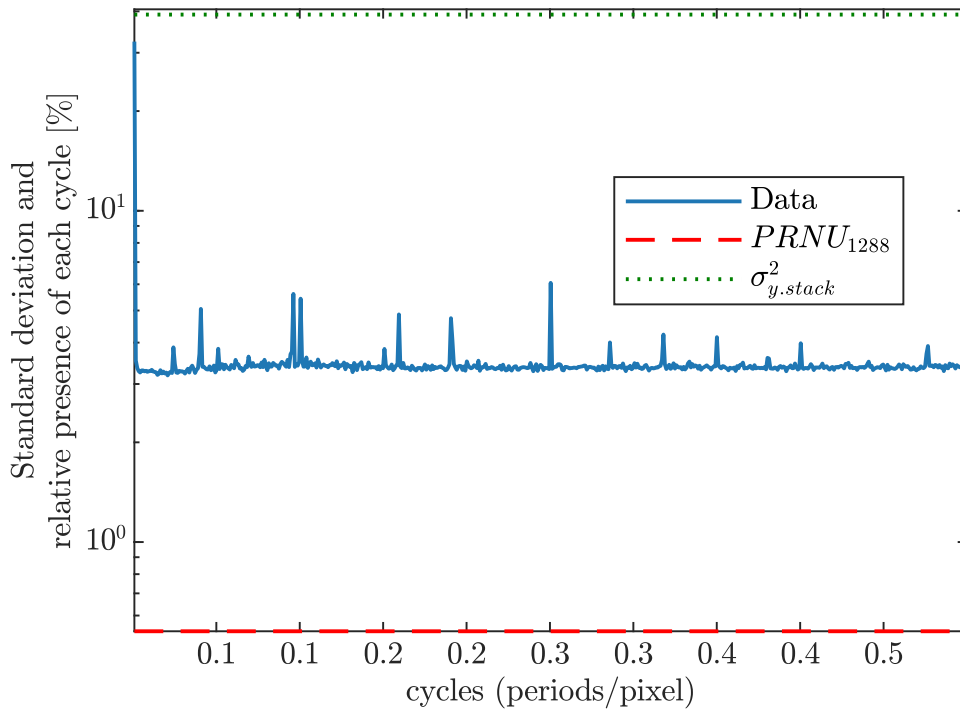
Linearity



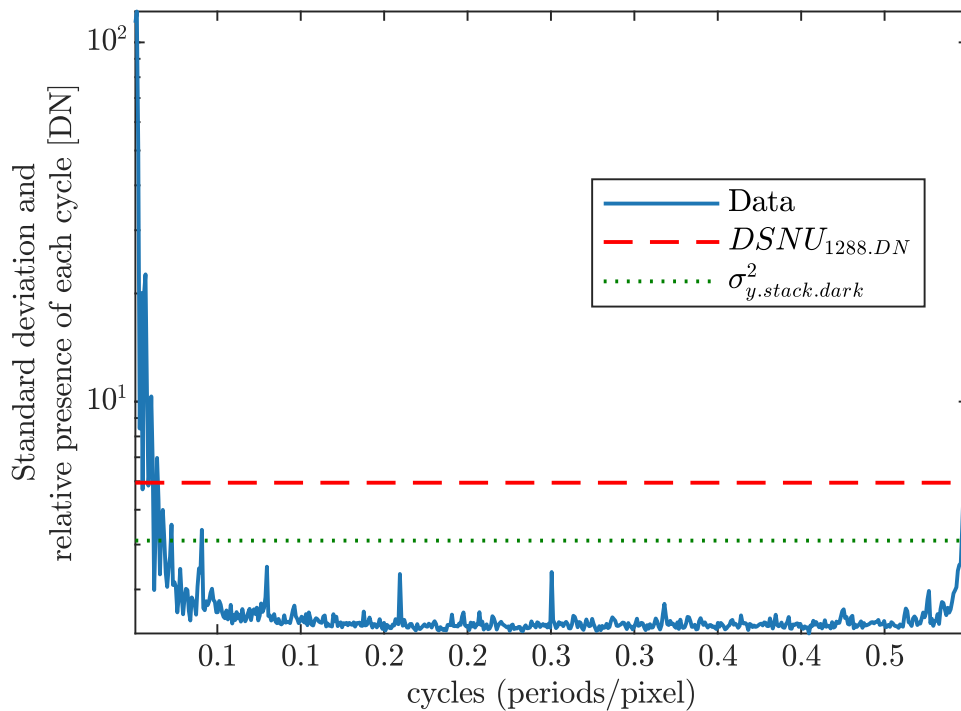
Deviation Linearity



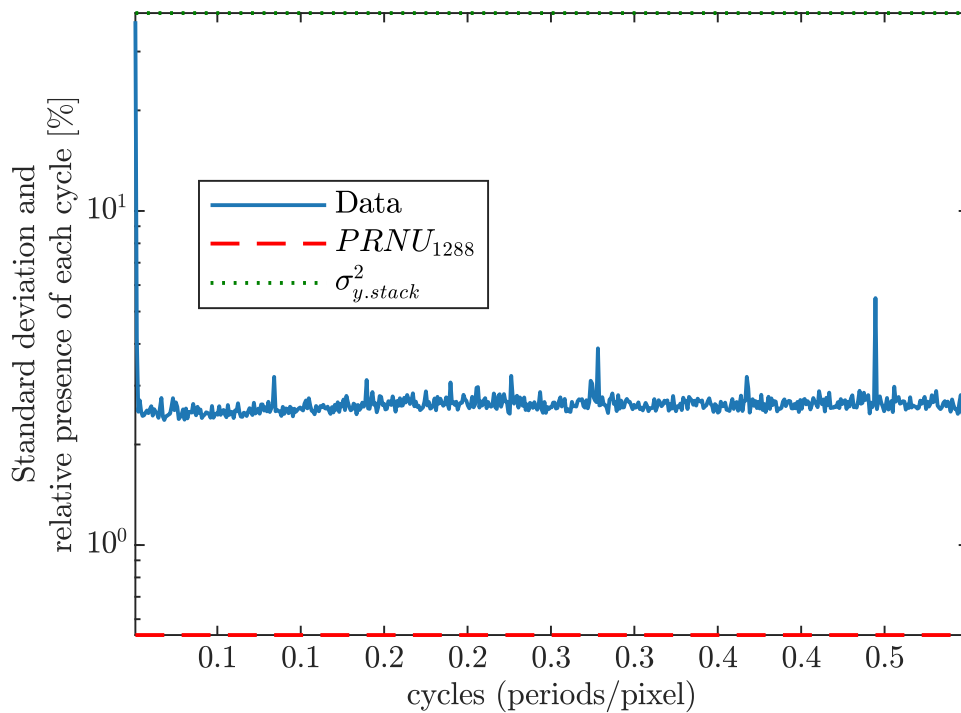
Horizontal Spectrogram PRNU



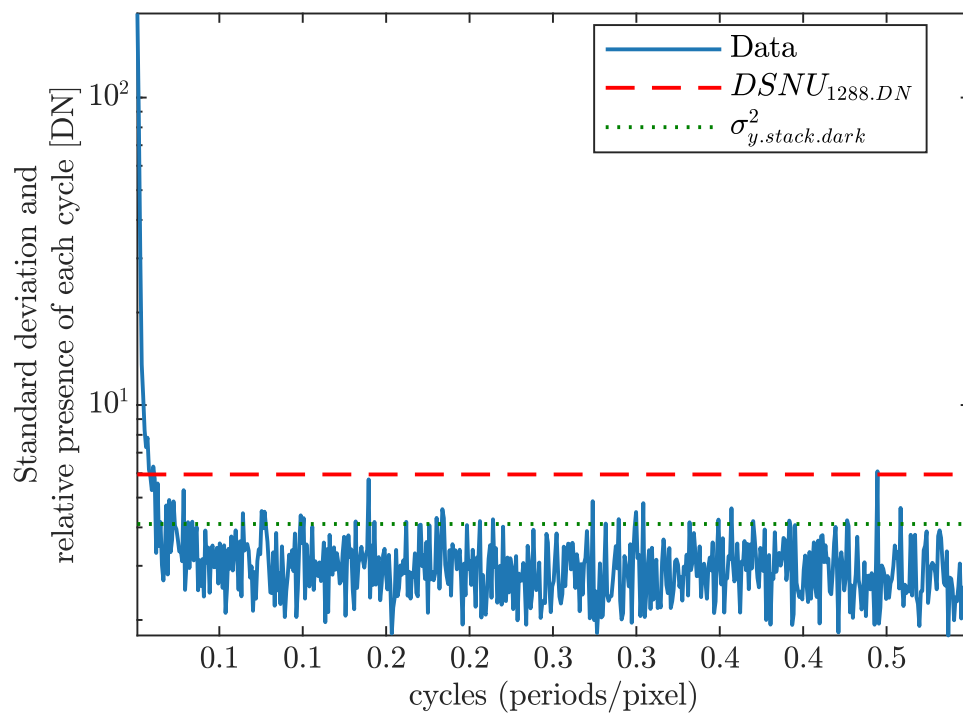
Horizontal Spectrogram DSNU



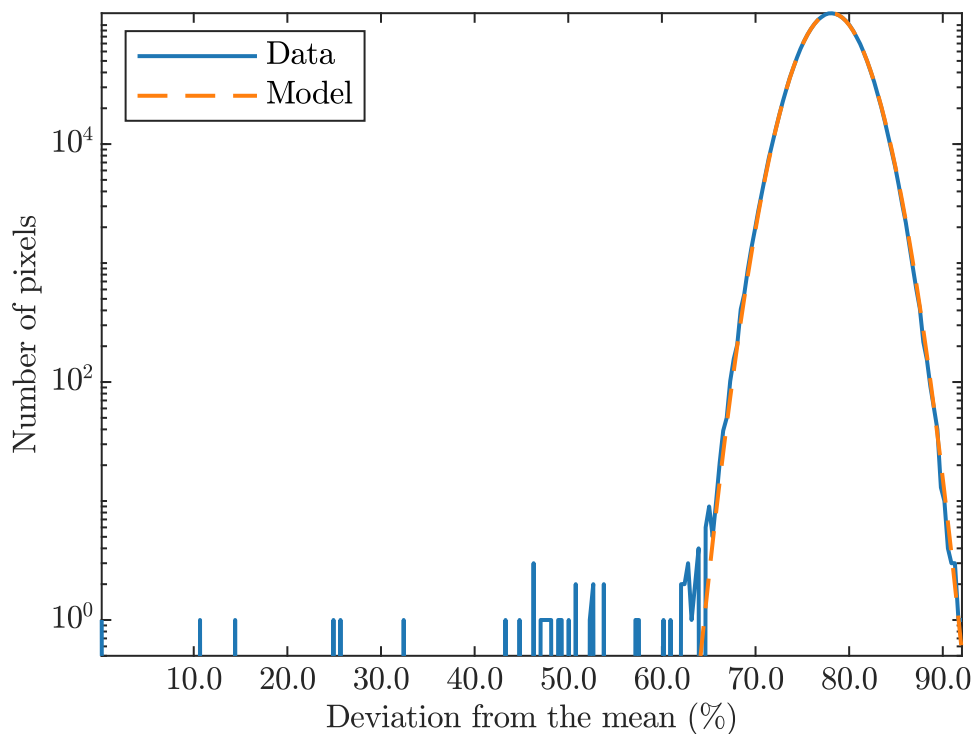
Vertical Spectrogram PRNU



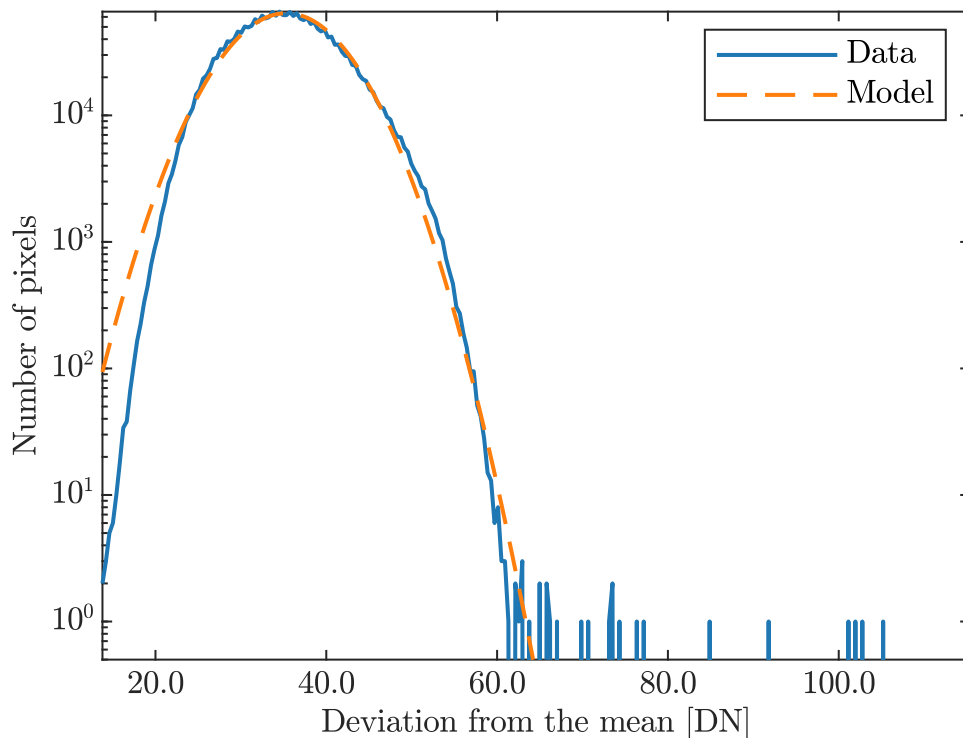
Vertical Spectrogram DSNU



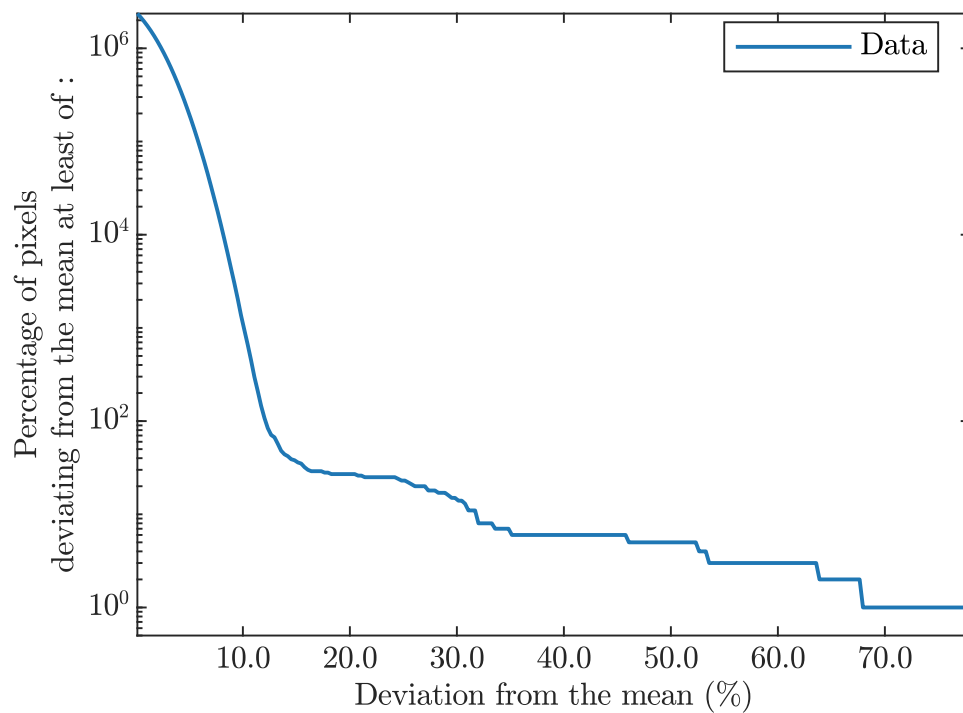
Logarithmic Histogram PRNU



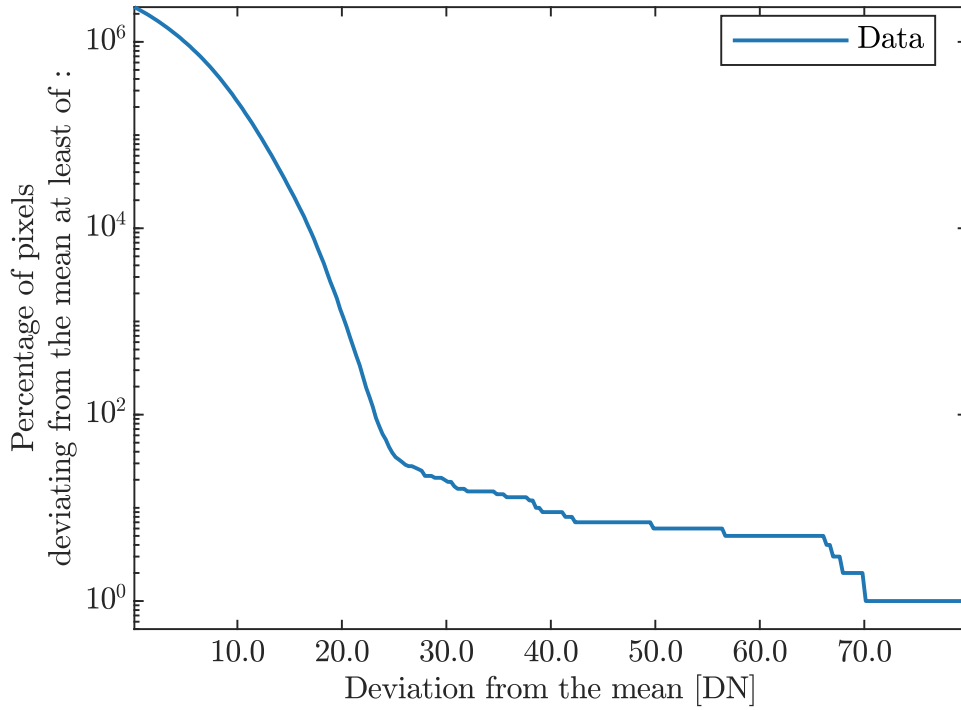
Logarithmic Histogram DSNU



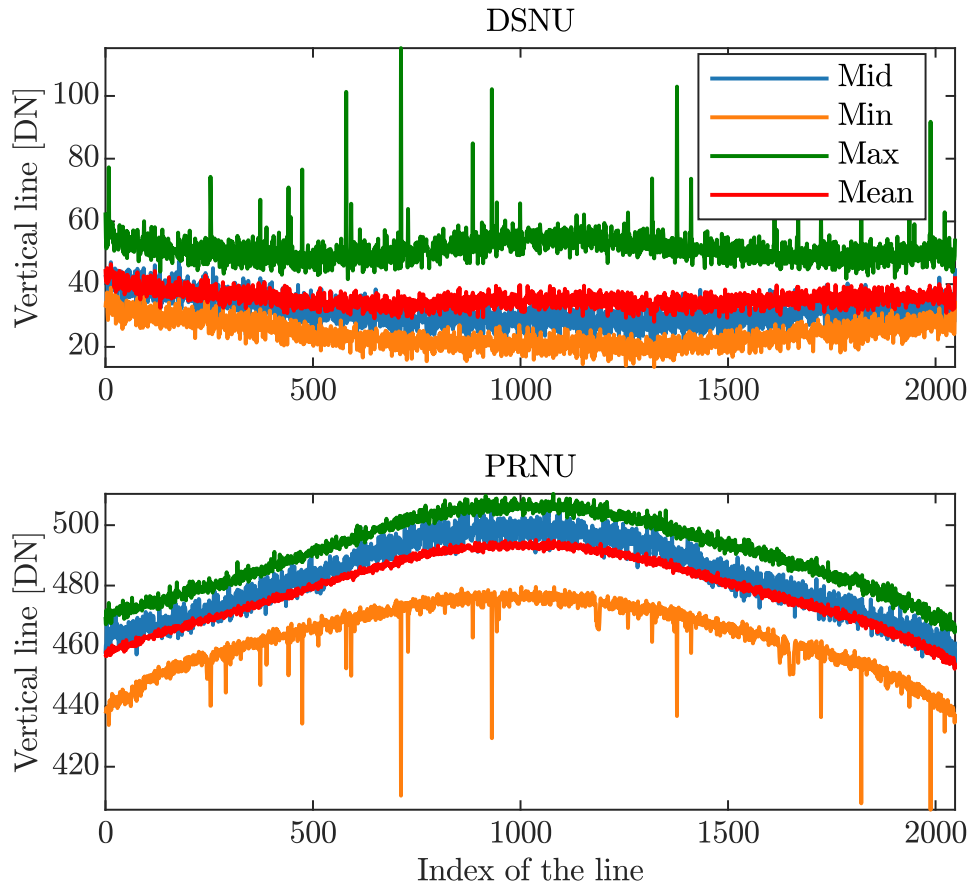
Accumulated Log Histogram PRNU



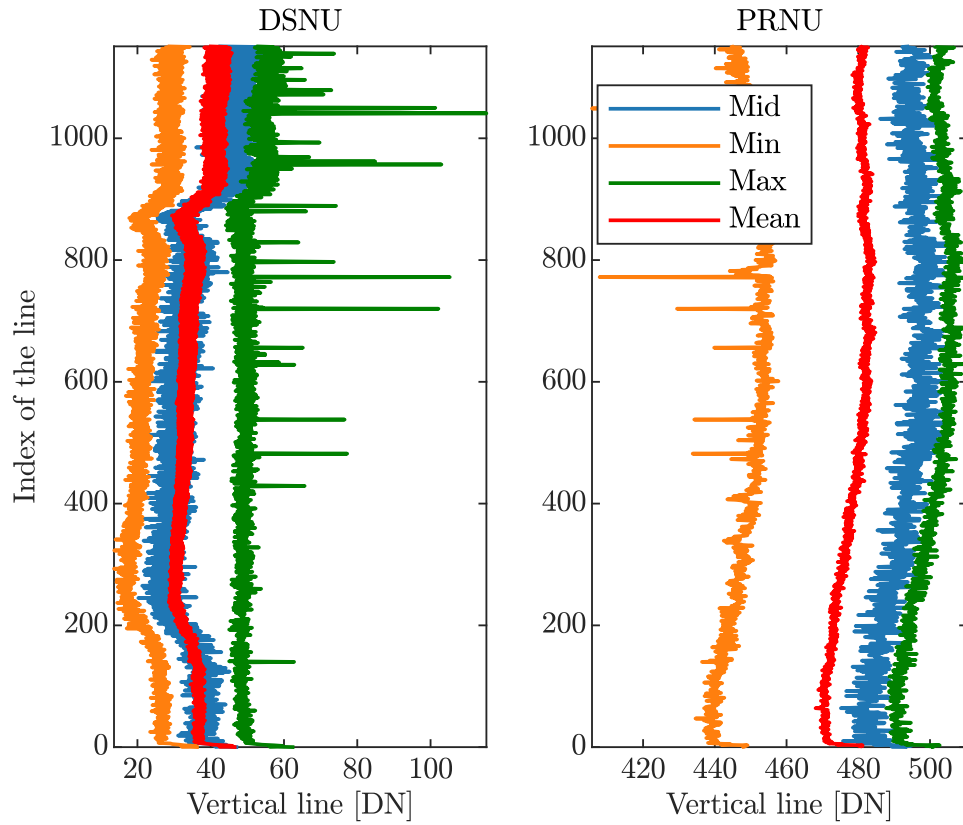
Accumulated Log Histogram DSNU



Horizontal Profile

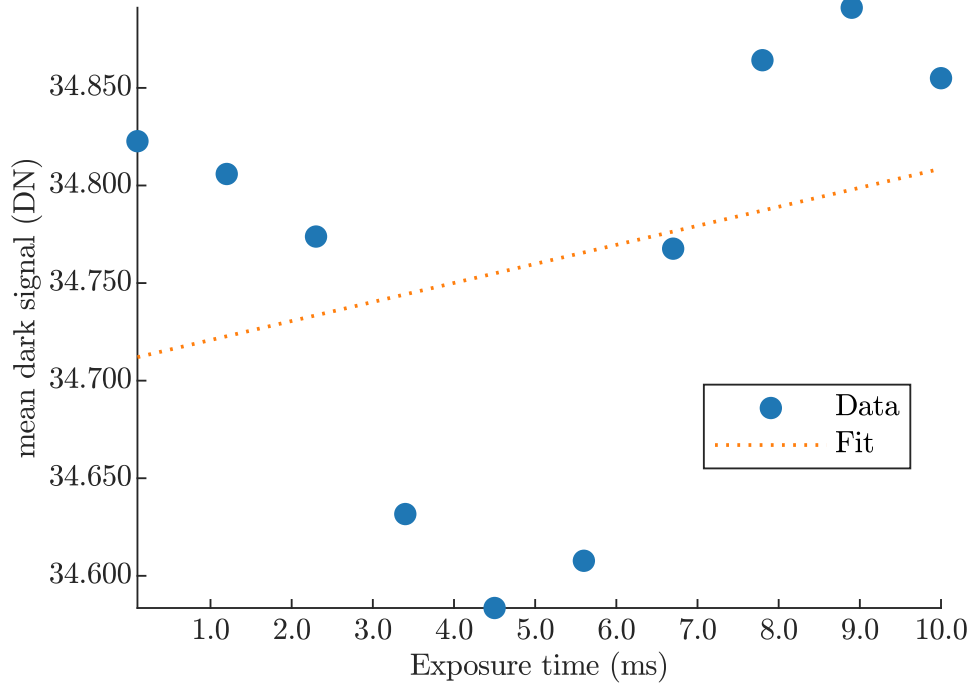


Vertical Profile

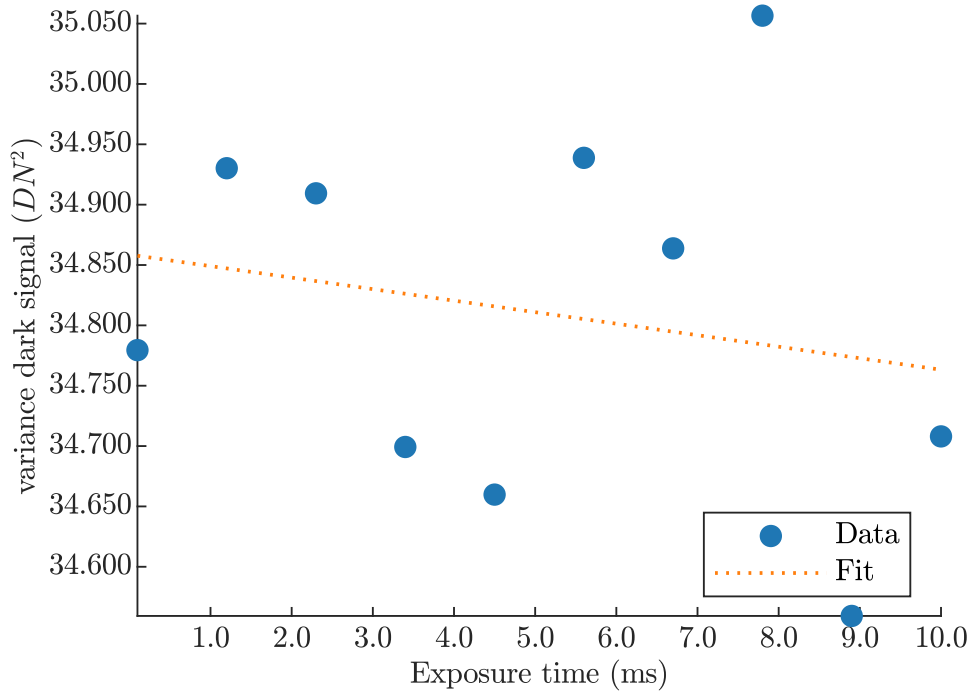


Dark Current

Dark Current from Mean



Dark Current from Variance



International Distributor



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