

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	16.1mm
Model	Iron250M	Sensor	IMX250
Camera type	Monochrome	Sensor type	CMOS
Date	11-Oct-2022 13:05:29	Shutter type	Global
Data type	Single	Overlap capabilities	Overlapping
Sensor type	CMOS	Frame rate	50 Hz
Lens category	C-Mount	Exposure control	by irradiance
Resolution	2448 x 2048 ,12 bits	Exposure time	6000.162 μ s
Pixel size	3.45 μ m x 3.45 μ m	Illumination	Variable with constant exposure time
Maximum readout rate	88 fps	Irradiation Steps	50
Dark current compensation	No	Irradiation calibration accuracy	-
Interface type	CXP-12	Irradiation measurement error	-
Serial number	4819007	Standart version	4.0 Linear
Firmware version	4.1.3-2021.10.27	Light source	Integrating Sphere

International Distributor

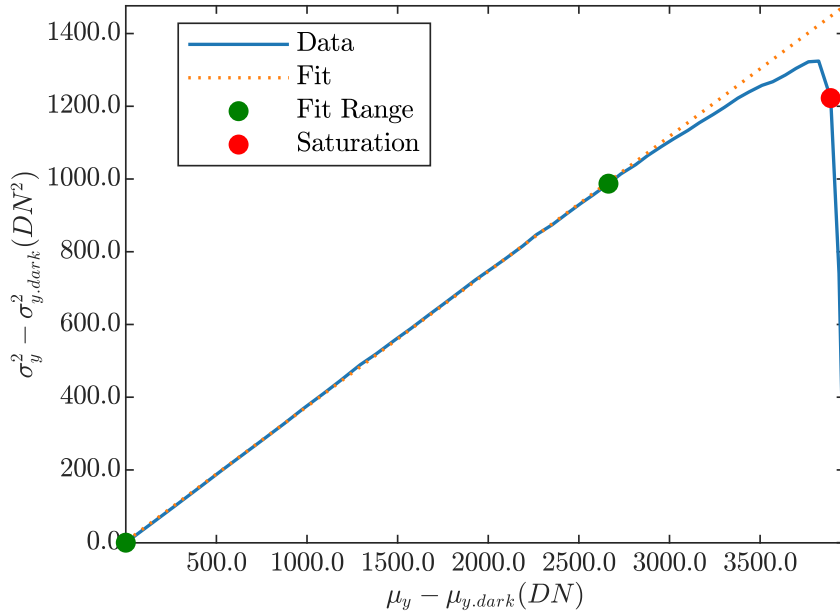


Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de

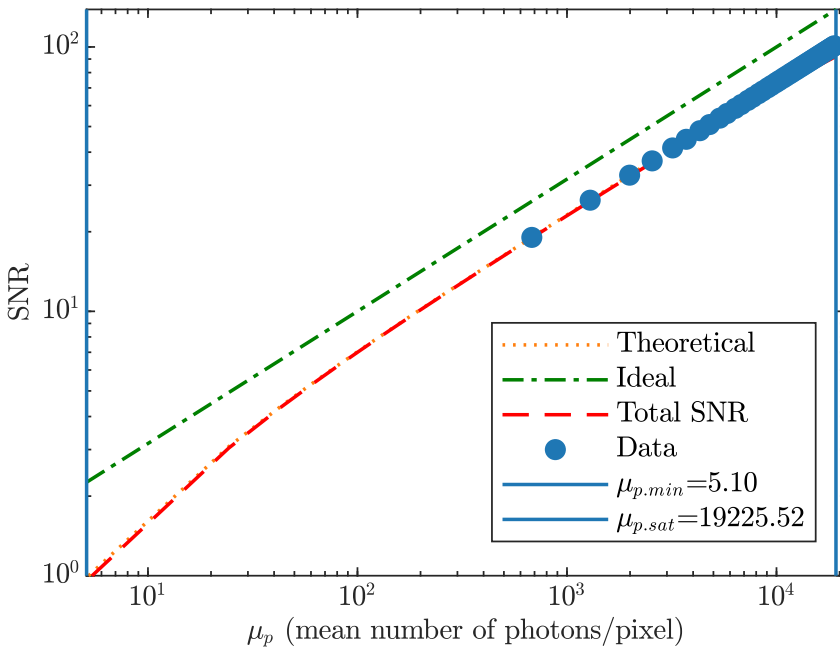
Summary Sheet for Operation Point 1 at a Wavelength of 520 nm

Camera setting		Operation point parameters	
Gain	GainLevelx1	Environmental temperature	27.5
Black level	128	Camera body temperature	36.56
		Sensor temperature	43.848
		Processor temperature	40

Photon Transfer



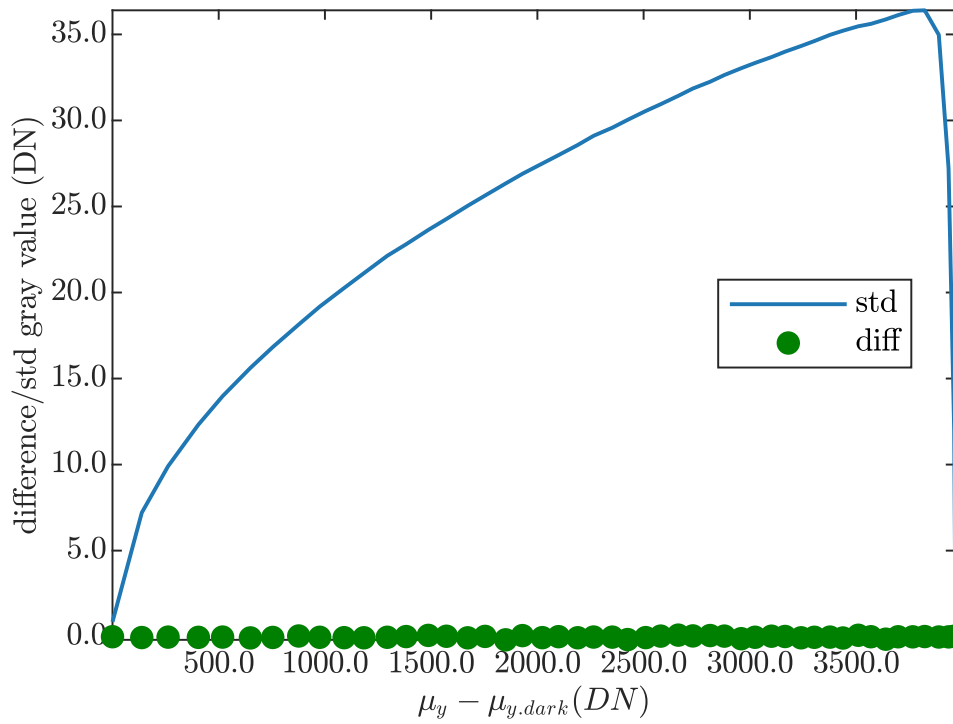
Signal-to-Noise Ratio



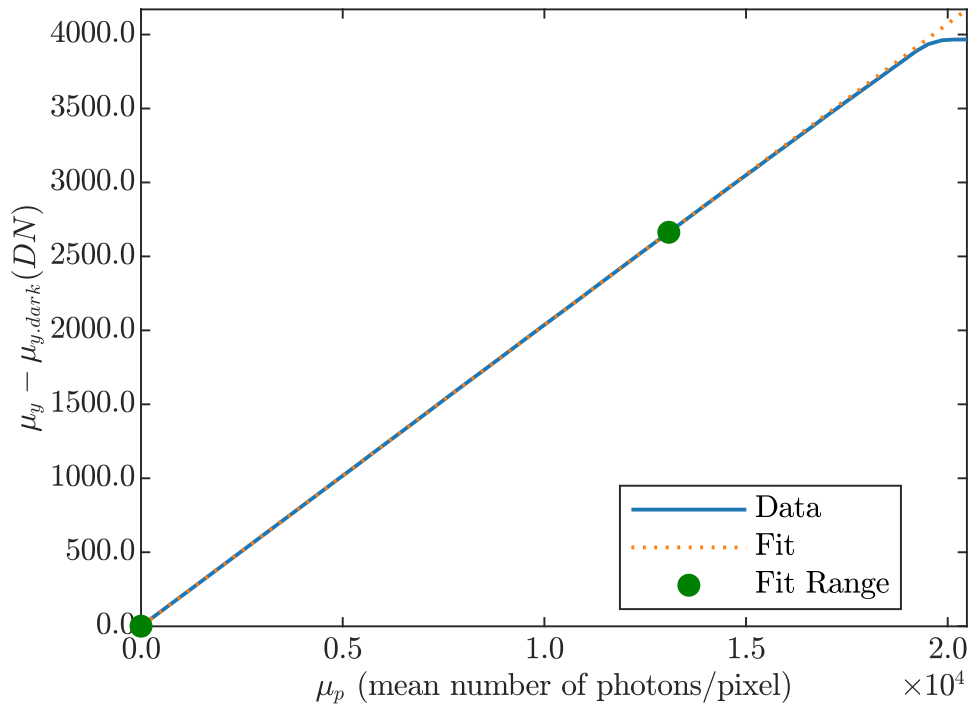
Performance

Quantum efficiency	
η	54.0838 %
System gain	
K	0.37616 DN/e ⁻
1/K	2.6585 e ⁻ /DN
Temporal dark noise	
σ_d	2.1214 e ⁻
$\sigma_{y, dark}$	0.84859 DN
Signal-to-noise ratio	
SNR _{max}	101.9701
	40.1695 dB
	6.672 bit
1/SNR _{max}	0.98068 %
Absolute sensitivity threshold	
$\mu_{e, min}$	2.756 e ⁻
$\mu_{e, min, area}$	0.23154 e ⁻ /μm ²
Saturation capacity	
$\mu_{e, sat}$	10397.8985 e ⁻
$\mu_{e, sat, area}$	873.5895 e ⁻ /μm ²
Dynamic range	
DR	3772.8904
	71.5335 dB
	11.8815 bit
Spatial nonuniformities	
DSNU ₁₂₈₈	0.67992 e ⁻
DSNU _{1288, col}	0.10443 e ⁻
DSNU _{1288, row}	0.097365 e ⁻
DSNU _{1288, pix}	0.66476 e ⁻
PRNU ₁₂₈₈	0.46725 %
PRNU _{1288, col}	0.035898 %
PRNU _{1288, row}	0.031552 %
PRNU _{1288, pix}	0.4648 %
Linearity error	
LE	0.00040167 %
Dark current	
$\mu_{l, mean}$	22.1407 e ⁻ /s
$\mu_{l, var}$	2.1924 e ⁻ /s

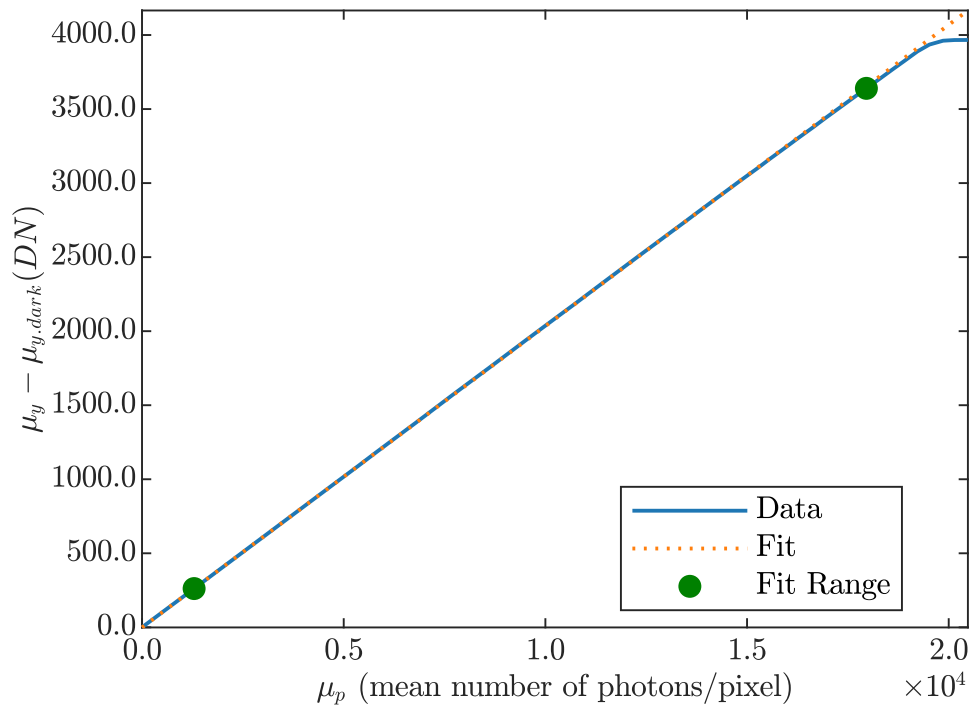
Stability check



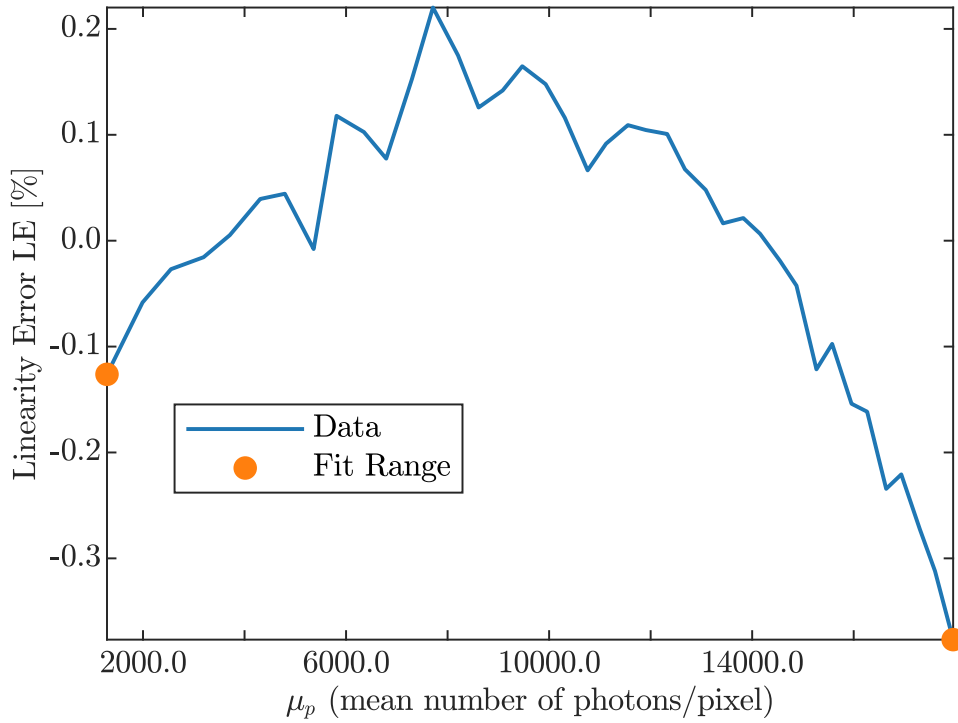
Sensitivity



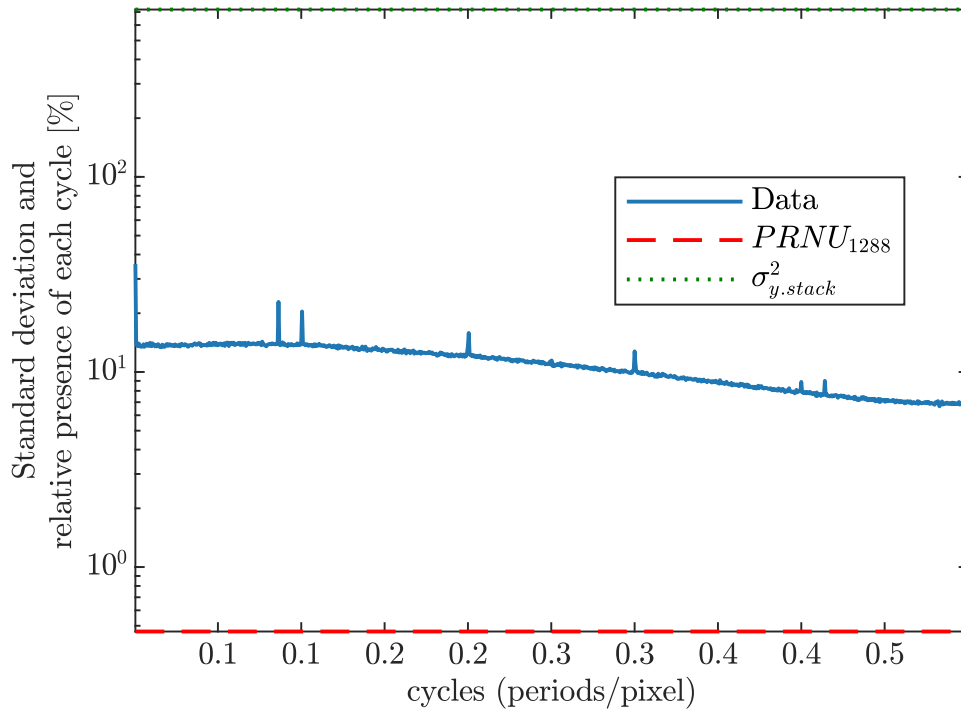
Linearity



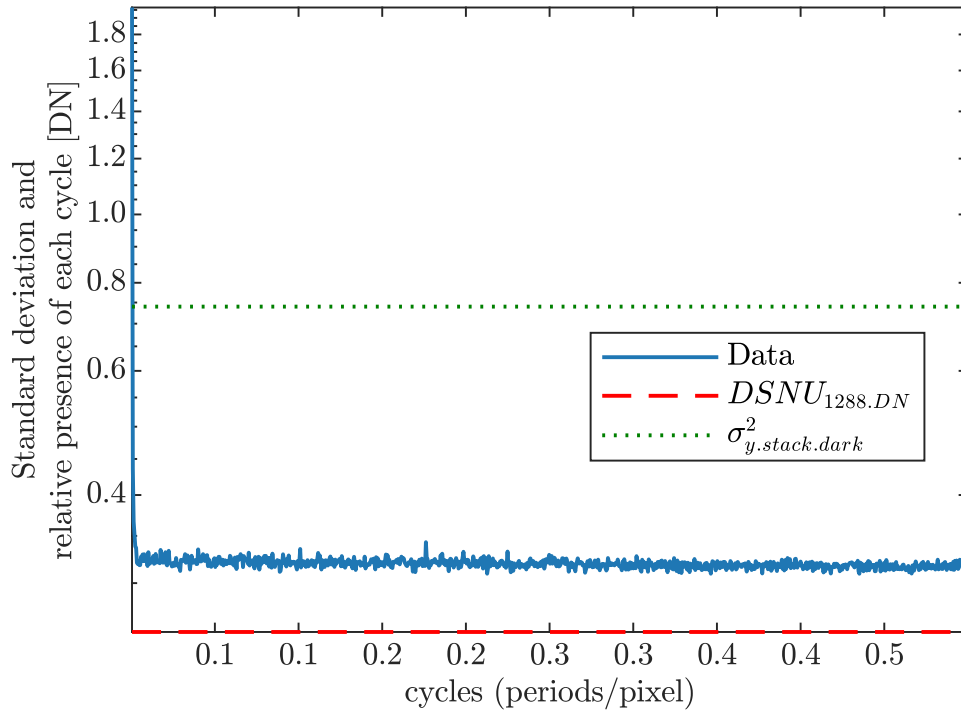
Deviation Linearity



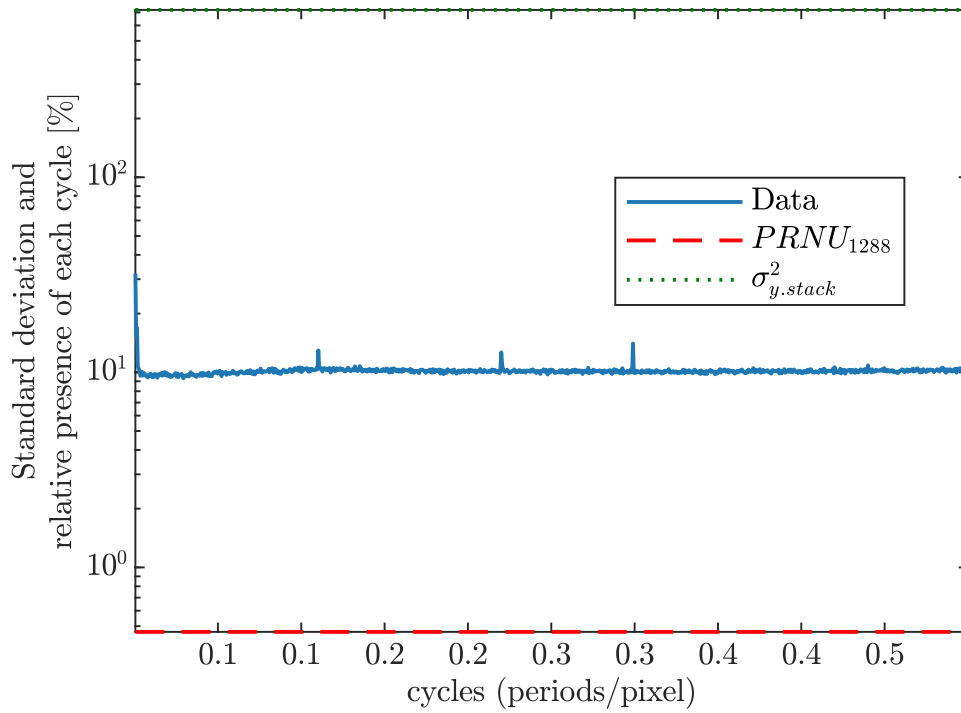
Horizontal Spectrogram PRNU



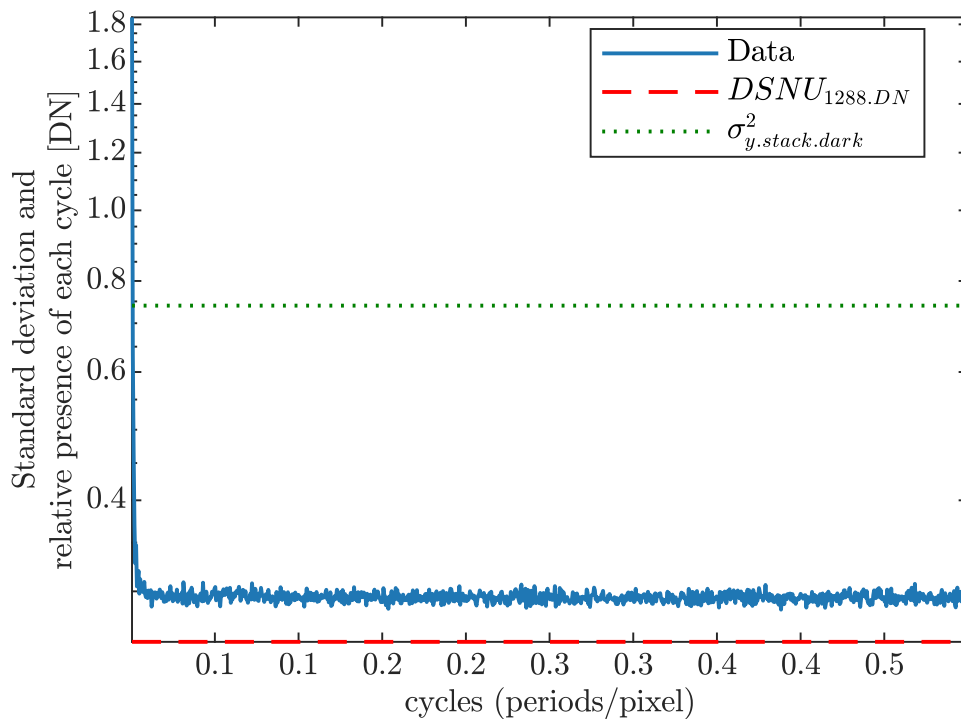
Horizontal Spectrogram DSNU



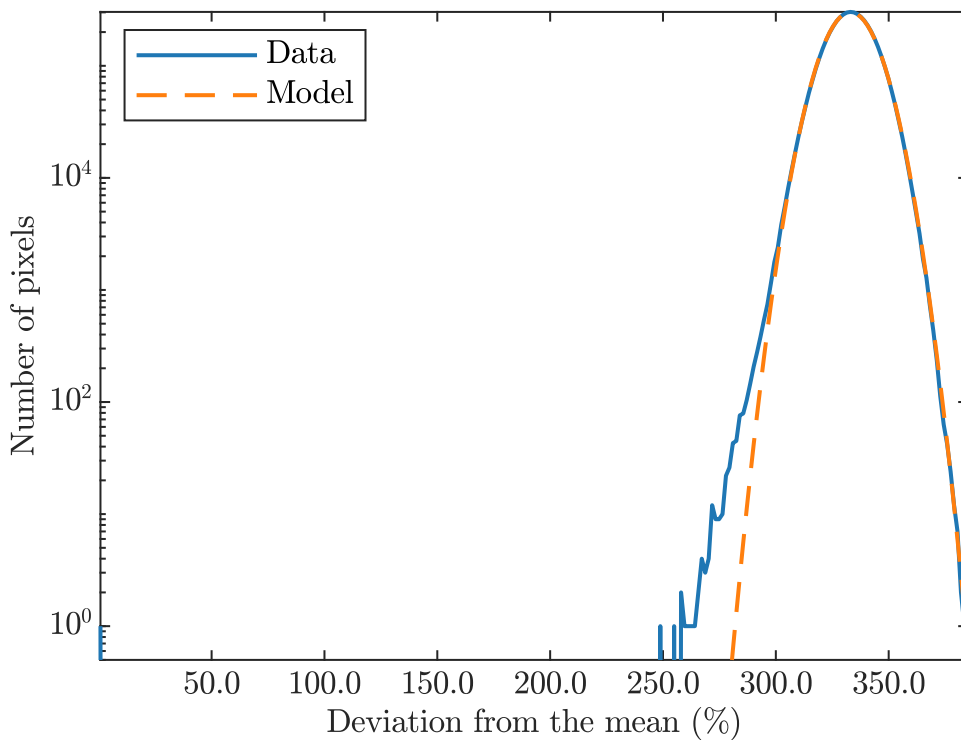
Vertical Spectrogram PRNU



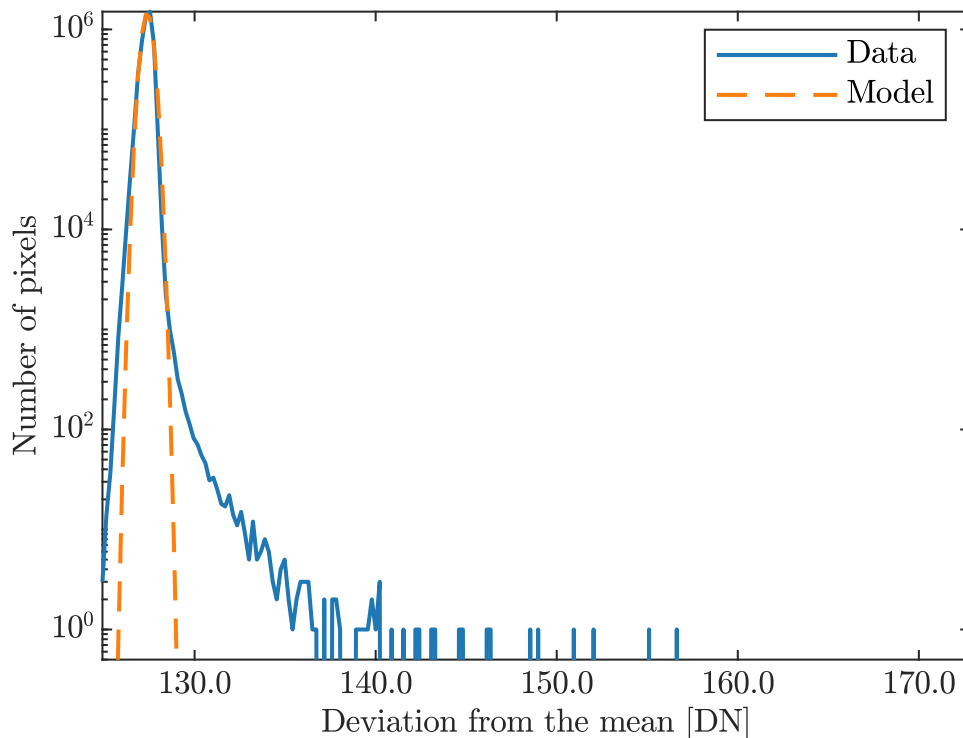
Vertical Spectrogram DSNU



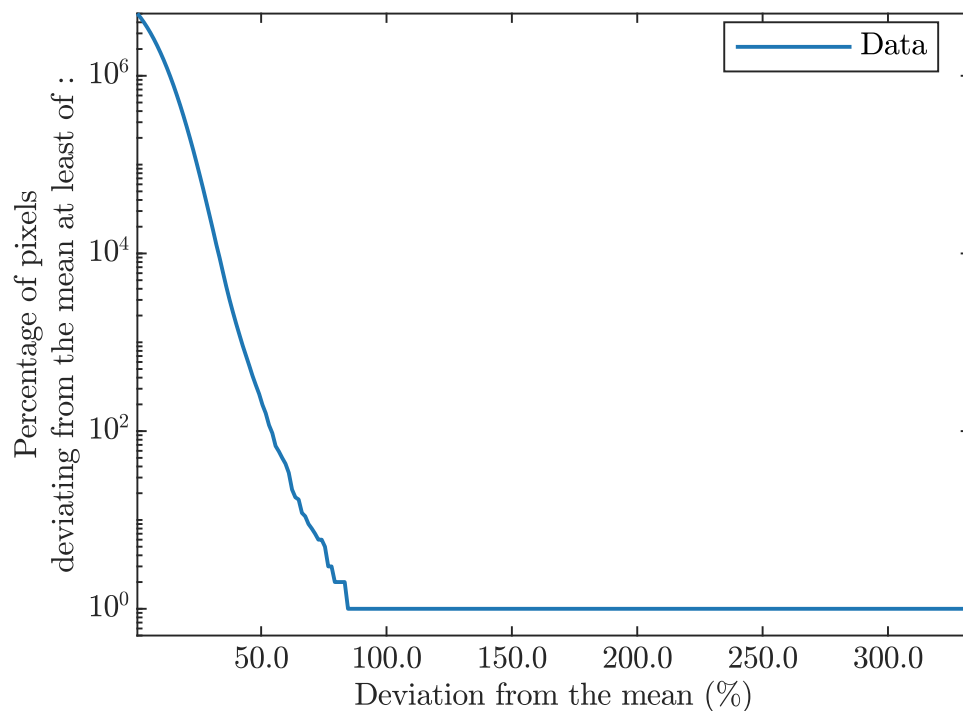
Logarithmic Histogram PRNU



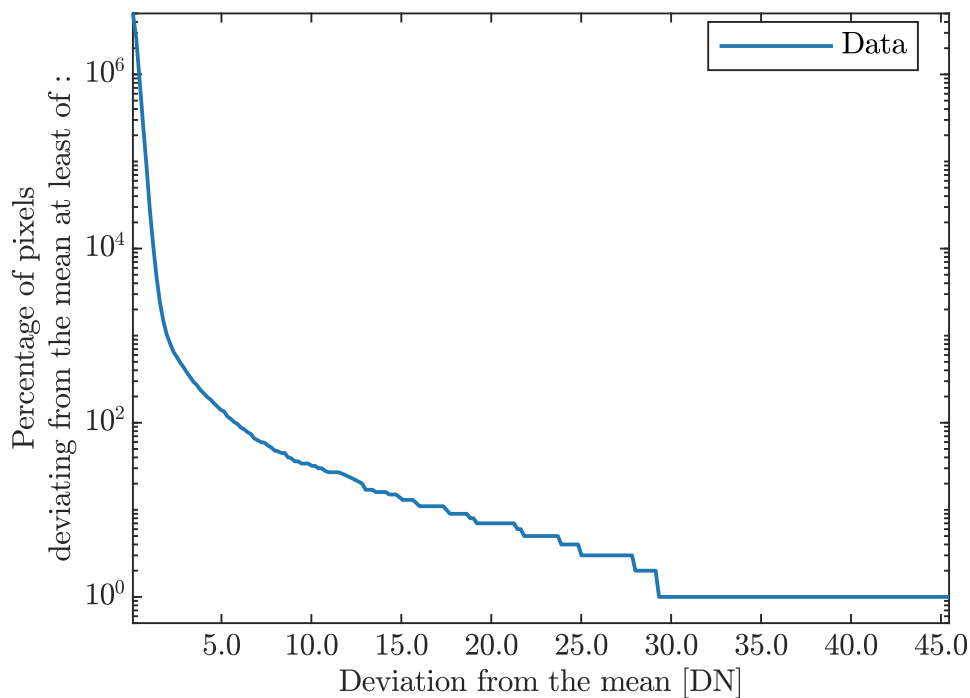
Logarithmic Histogram DSNU



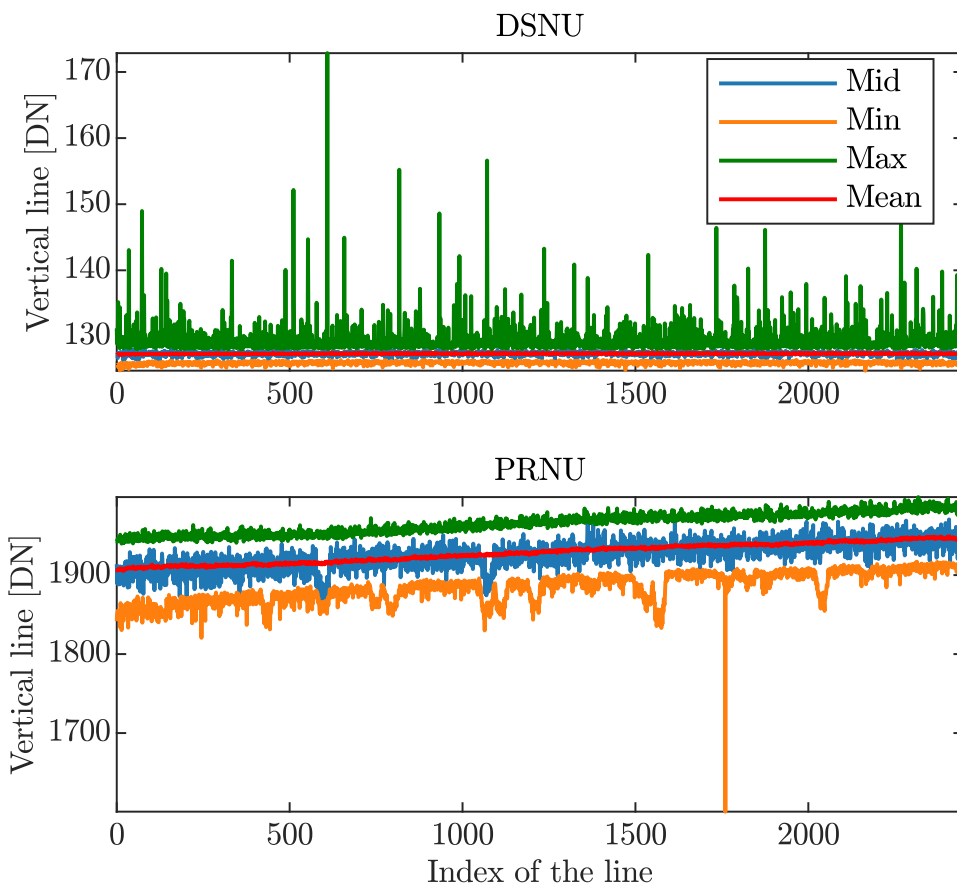
Accumulated Log Histogram PRNU



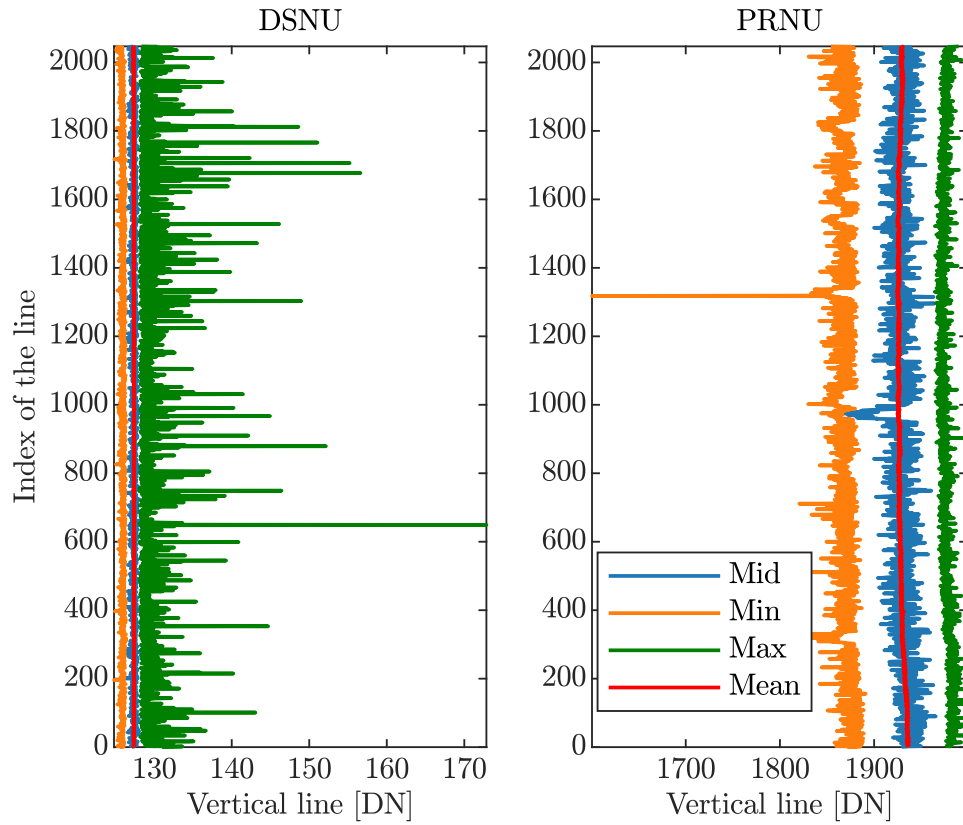
Accumulated Log Histogram DSNU



Horizontal Profile

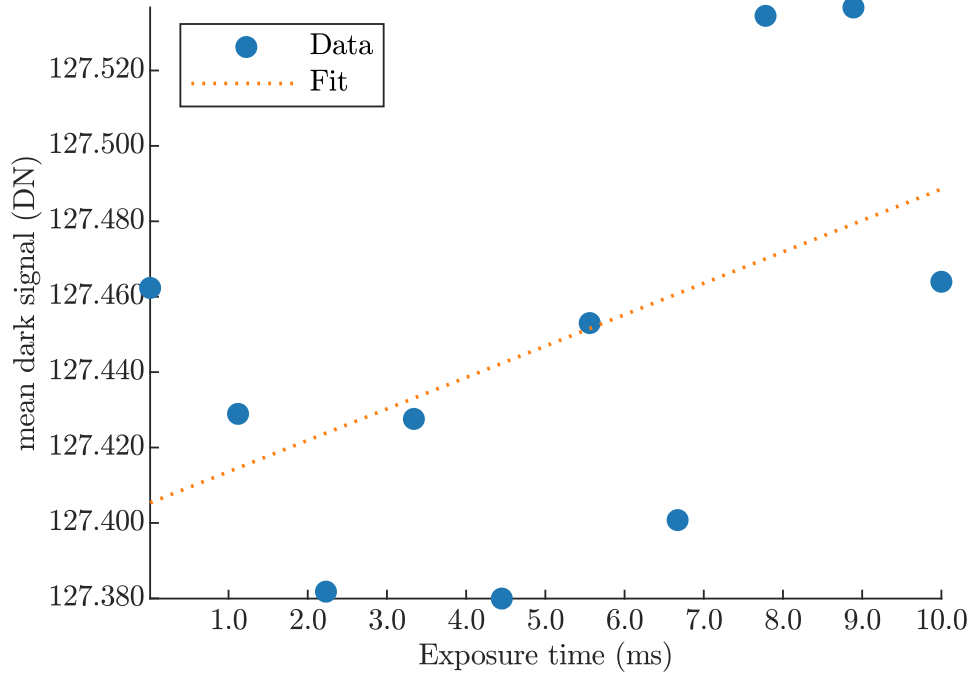


Vertical Profile

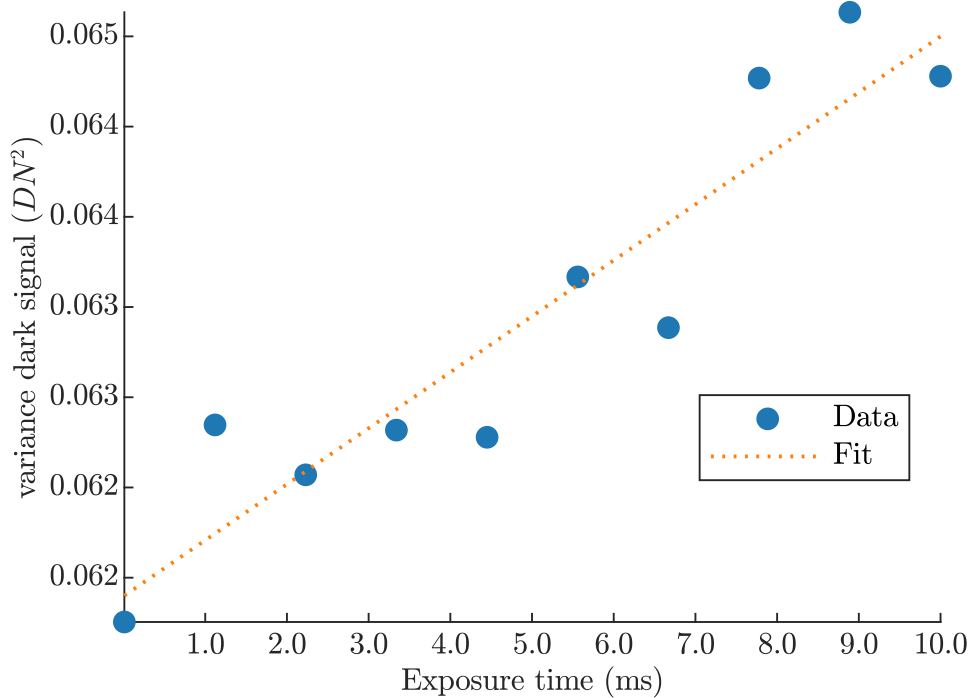


Dark Current

Dark Current from Mean



Dark Current from Variance



International Distributor



Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de