

VERY HIGH SPEED LOW NOISE SCIENTIFIC CMOS CAMERA



VISIBLE
400 - 1000 nm



Up to 660 FPS
in Global Shutter



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CMOS Monochrome
1608 x 1104 (1.7MP)
9 μ m pixel pitch



SDK compatible with
 μ Manager, LabVIEW, C, C++, Python,
MatLab

GLOBAL SHUTTER CMOS WITH HDR



Preliminary Design

APPLICATIONS

ASTRONOMY:

Adaptive Optics
Solar astronomy
Quantum Imaging
Cold atom Imaging

LGS WAVEFRONT SENSING:

Space Debris Tracking
AO assisted Satellite tracking
Ground based Space
situational awareness

LIFE SCIENCES:

Fluorescence microscopy
Single molecule detection
Live-cell microscopy
Spectroscopy

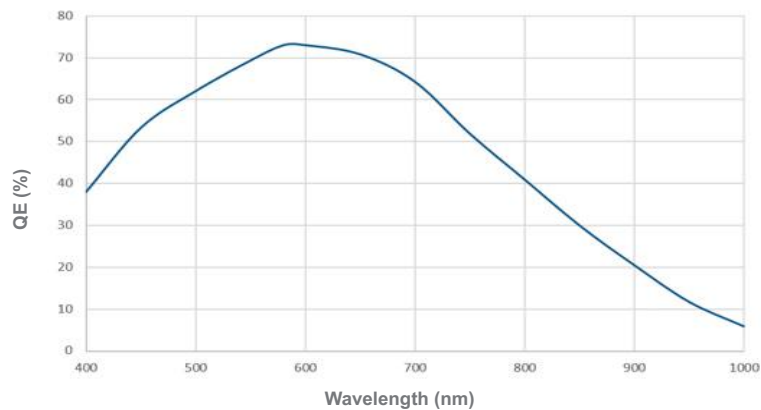
C- BLUE ONE PROVISIONAL PERFORMANCES

TEST MEASUREMENT*	Result	Unit
Maximum speed Full Frame in GLOBAL SHUTTER (in 8 bits)	660	FPS
Maximum speed Full Frame in GLOBAL SHUTTER (in 12 bits)	481	FPS
Readout Noise at 660 FPS Full Frame	<3	e-
Quantization	8, 12	bit
Quantization with HDR (High Dynamic Range)	16	bit
Peak QE at 580 nm	>70	%
Shutter Architecture	global	n/a
Image Full well capacity	100	ke-
Maximum speed : 16 lines in 8 bits	3 977	FPS

* Average values observed

ADDITIONAL FEATURES
Outputs: Coaxpress 2.0 - CXP10x2 connection / 10 GigaBit Ethernet (available in 2021)
GenICam compatible
Optical interface: C-Mount / CS-Mount
Sensor thermal stabilization - cooling down to 0°C Air cooling / Liquid cooling optional with cooling plate for better performances
SDK (C, C++, Python) / LabVIEW / µManager/ MatLab
GUI: First Light Vision

QUANTUM EFFICIENCY



FRAME RATE TABLE IN 8 AND 12 BITS

Lines	Quantization	
	8 bits	12 bits
16	3 997	3 457
32	3 721	3 169
64	3 270	2 716
128	2 632	2 113
256	1 893	1 462
512	1 212	905
1104	662	481

Cropping granularity: 16 lines & 8 columns
(The number of columns does not affect acquisition speed)



Preliminary Design

Size and Weight : H64.1 x W76.2 x L154.3 mm, approx. 1.3 kg

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