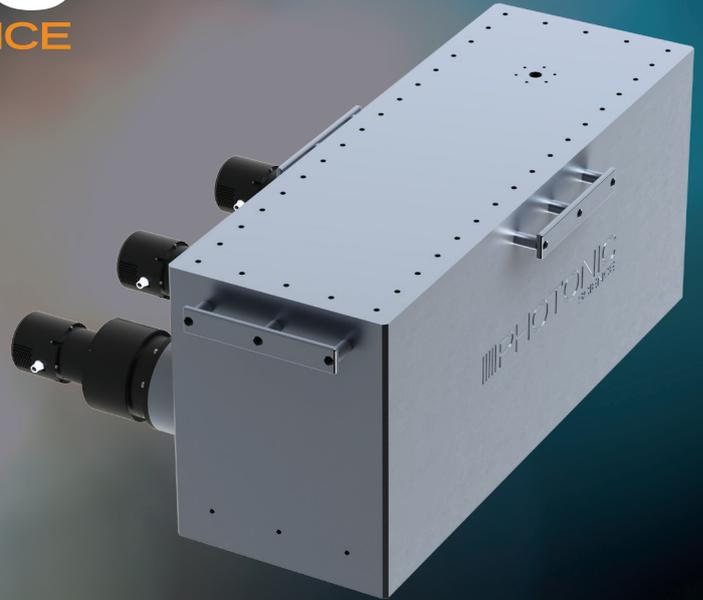


# Neutron Detector

High sensitivity, low noise  
sCMOS detector



## High sensitivity sCMOS sensor with advanced scintillators

Our range of cooled neutron detectors employ LiF:ZnS:Ag scintillator screens read out by very low noise, high sensitivity, high frame rate sCMOS sensors.

Imaging applications use a high resolution scintillator active area, from 10 cm x 10 cm up to 43 cm x 43 cm, combined with a low noise fast read out 4096 x 4096 resolution sCMOS camera.

Larger detection areas can be obtained by tiling multiple cameras together and are available by contacting your local Photonic Science sales channel.

Versions for faster neutrons are available for both laboratory sealed sources as well as research reactor facilities and spallation sources.

## Key Features

- | Real-time acquisition of 16-bit digitised image
- | Single neutron equivalent read out noise
- | Very high dynamic range up to 20,000:1
- | Genicam compliance
- | Multiplexed acquisition from tiled arrays

## Applications

Neutron radiography / tomography  
Neutron diffraction  
Small angle neutron scattering

Protein crystallography  
Neutron reflectometry  
Neutron spectroscopy

## Neutron sCMOS Detector

Characteristics	Neutron sCMOS Detector
Scintillator	LiF:ZnS:Ag
Pixel Size	105 $\mu\text{m}$
Input Size	43 cm x 43 cm
Frame Rate	5 fps
Dynamic Range	> 20,000:1
Read Out Noise	4
Sensor Temperature	Operating at $-20^{\circ}\text{C}$
Exposure Time	up to 1 min
Camera Interface	Gigabit Ethernet

## Lithium-6 based screens from our sister company Scintacor

Characteristics	Physical Properties
Screen Type	ND
Phosphor Type	Particulate blend
Emission Colour	Blue
Peak Emission (nm)	450
Decay to 10% ( $\mu\text{s}$ )	3.5
Peak Emission	<3e
After Glow	Low level
X-ray Absorption	Very low
UV Absorption	Broad band