Photon Spot

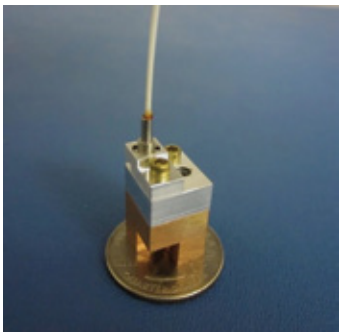
SUPERCONDUCTING NANOWIRE SINGLE-PHOTON DETECTORS

HIGH EFFICIENCY FOR UV, VISIBLE & NIR APPLICATIONS

sales@photonspot.com

Product Description

Superconducting nanowire single-photon detectors simultaneously achieve high efficiency, low dark counts, low timing jitter, and fast recovery time in one small fiber-coupled package. Our detectors provide the highest efficiencies available on the market. We grow our own superconducting films and have refined our detector fabrication techniques to consistently produce high performance detectors with high fabrication yield.



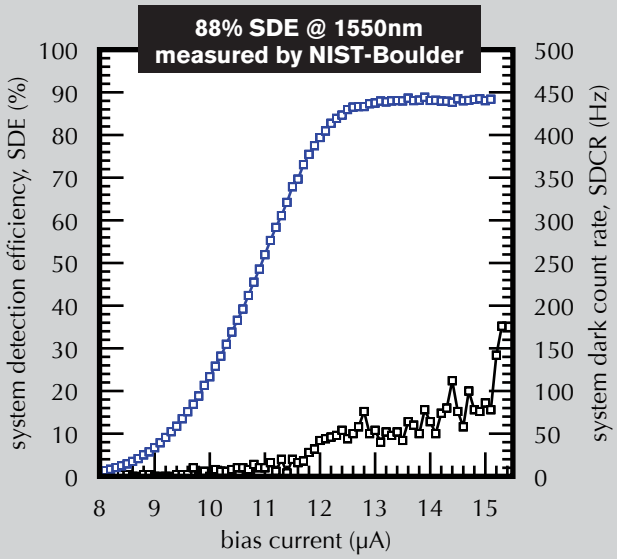
We have built a large library of detectors that have been customized to operate at custom wavelengths, from the UV to NIR, including broadband detectors that provide high efficiency across a broad spectrum. Our patented multi-element detectors provide photon number resolving capabilities, along with the capability to couple to large-core multimode fibers.

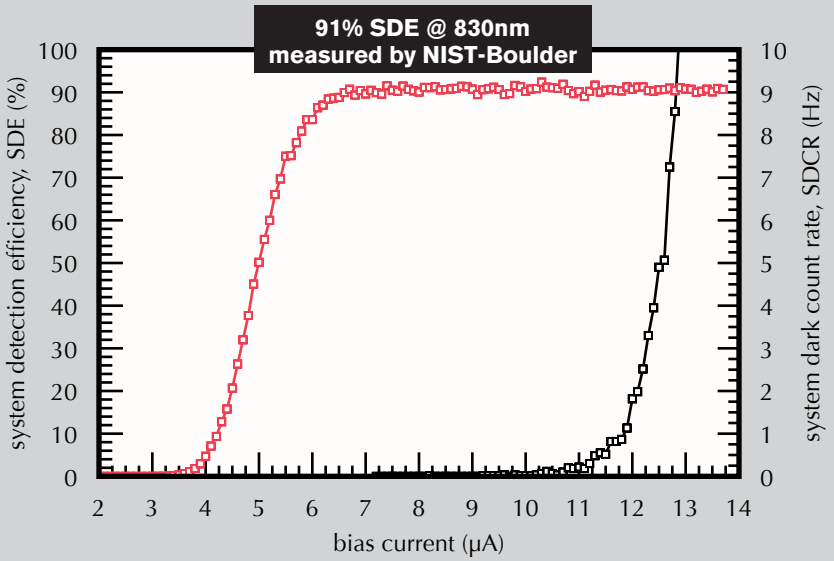
Our detectors work best when operated in our Cryospot cryogenic system, but can be purchased separately.

Specifications

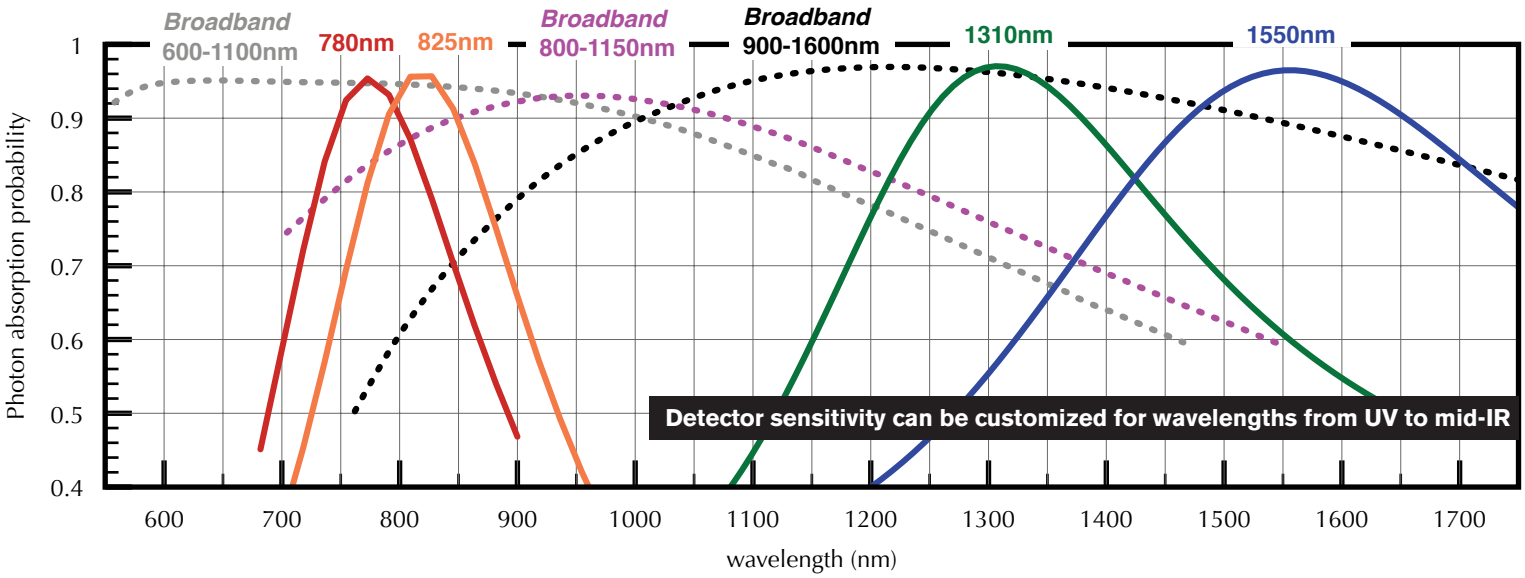
System detection efficiency	85 ± 5% (or better) at the target wavelength for max. polarization.
System dark count rate	Dark counts partly depend on the fiber and its ability to transmit blackbody photons. These can be sub-Hz to 100s of Hz depending on the fiber and detector.
Timing jitter	< 100 ps FWHM (typ. 50-70ps). No cryogenic amplifiers required.
Recovery time	< 100 ns standard < 50 ns and below available for most wavelengths.
Operating temperature	Depends on superconducting material and photon energy, but ideally < 1 K for long wavelengths.
Output pulse	150mV sharp rising edge or -150mV sharp falling edge. LVTTL converter available as optional add-on.

Detector Performance





Absorption Spectra



Photon Spot Inc.
142 W Olive Ave Monrovia, CA 91016, USA
sales@photonspot.com
+1 (626) 228 2610
Cage# 5TVA1