NIR Streak Camera for Measurements up to 1650 nm

Hamamatsu Photonics introduces a new streak camera with sensitivity in the near infrared region up to 1650 nm that is many orders of magnitude higher than previously available. Like other streak cameras, the new C11293 model simultaneously records intensity vs. time vs. position (or wavelength) with very high temporal resolution.

Up to now, the only photocathode material available for streak measurements at > 1000 nm has been the so-called S-1 material. S-1 material features excellent temporal resolution of better than 1 ps, but suffers from low quantum efficiencies at longer wavelengths. After many years of development, Hamamatsu Photonics is now, for the first time, making commercially available a streak photocathode made of InP/InGaAs. This photocathode has a sensitivity several orders of magnitude higher than S-1, and also extends its range up to 1650 nm, where S-1 is unsuitable.

A crucial characteristic of all IR detectors is their dark current. In order to suppress the dark current, and thereby make the device suitable for low-light-level applications, the photocathode operates at a working temperature of approximately -100 °C by means of liquid nitrogen cooling.

The time resolution of the C11293 is better than 20 ps FWHM. It can run at arbitrary repetition rates up to a maximum of 20 MHz, making it very versatile and easy to combine with many experimental setups.

Hamamatsu Photonics
www.hamamatsu.eu [1]

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