

This paper presents a novel flexible all-optical opto-intelligence spectrometer, termed OIS, using a diffractive neural network for high-precision spectral reconstruction, featuring low energy ...

The device contains the spectrometer, calibration data and an illumination control. The analysis of the spectroscopic data is done with artificial intelligence (AI). A neural network architecture was ...

The combination of miniaturised spectrometer technology, a spectrometer-independent network interface and a neural network that requires no instrument transfer enables the use of NIR ...

The modular and intelligent spectrometer system "SmartSpectrometer" developed by Fraunhofer IOSB enables the monitoring of quality-relevant material parameters in real time.

In this paper, a smart phone Raman system is studied. By the optical path design and slit coupling technology, the sensitivity of the device is improved while the size of the spectrometer itself is ...

c. Spectrometer Interface and Signal Processing Using the proprietary stellarnet_driver3 SDK, the script initializes the StellarNet spectrometer, configures acquisition parameters (integration time, averaging, ...

With advanced connectivity at its core, the DXR3 SmartRaman+ Spectrometer is designed for you to maximize your operational efficiency as you advance into the future.

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Our work provides a valuable reference for using diffractive neural networks in spectral interaction and perception, contributing to ongoing developments in photonic computing and machine...

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