Wednesday, November 4, 2020

SPECTROSCOPY Tech Pulse

November 2020
Spectroscopy Tech Pulse is a special edition newsletter from Photonics Media covering key developments in spectroscopy technology. Manage your Photonics Media membership at Photonics.com/subscribe.

Inaugural *Photonics Spectra* Conference to Highlight Innovations in Lasers, Optics, More

The first Photonics Spectra Conference is set for Jan. 19-22, featuring presentations in four tracks: lasers, optics, biomedical imaging, and spectroscopy. Each day-long program will feature a keynote address and sessions highlighting the latest in applications, industry trends, and technological development, with expert insights from across academia and industry.

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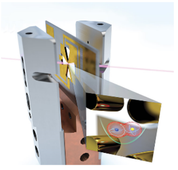
Tiny Quantum Effects Promise Big Impact on Future Instruments



While the quantum world may seem abstract and remote from day-to-day life, researchers are discovering that quantum effects such as photon entanglement could improve the performance and precision of everyday tools. Advancements in quantum metrology could help sharpen sensor location data, improve the precision of atomic clocks, or enable more versatile detectors for sensing greenhouse gas emissions.

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Optical Frequency Combs Enhance Hyperspectral Imaging

Optical frequency combs have become reference tools for optical frequency metrology and spectroscopy and have also found use in a range of other applications, including precision ranging, arbitrary signal generation, advanced telecommunications, and spectrograph calibration. Recent technological developments have triggered the evolution of new dual-comb sources that promise to surpass the performance of conventional mode-locked laser-based combs in some respects.

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Products

alpha300 apyron Raman Microscope

WITec GmbH

The alpha300 apyron Raman microscopy combines ease-of-use and ultimate capability by automating hardware control and offering pre-configured measurement routines. This streamlines the experimental workflow and yields reproducible results with unrivaled speed, sensitivity and resolution. WITec now takes 3D Raman imaging automation to the next level.

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IR Filters for Thermal Imaging and Gas Detection

Spectrogon US

Spectrogon manufactures infrared filters and windows with high transmission, high rejection outside the passband, while maintaining excellent coating uniformity — for thermal imaging and gas detection applications such as cryogenically cooled IR detectors and for uncooled microbolometers.

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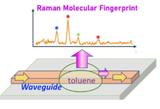
More News

Photonic Chip Gives Raman Spectroscopy a Downsize



Researchers at Texas A&M University have invented a technology that can drastically downsize the apparatus used for Raman spectroscopy.

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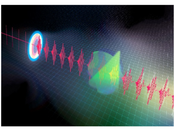
Infrared Spectroscopy Moves to the Fast Lane



Researchers at the University of Tokyo have developed a technique to drastically increase the speed of infrared spectroscopy. The technique, time-stretch infrared spectroscopy, surpasses dual-comb spectroscopy nearly 10× over.

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Using VIS-NIR Spectroscopy to Quantify Soil Contamination

Researchers at the University of Nebraska-Lincoln have found a new method to assess oil contamination in soil by using VIS-NIR spectroscopy. The technology works by sending wavelengths of light at a sample and measuring what is absorbed or reflected. Different chemical compounds have specific responses based upon their chemical makeup.

Read Article

Raman Spectroscopy Pinpoints Viral RNA in Single Cells

A new technique for identifying and quantifying viral RNA in living cells, based on surface-enhanced Raman spectroscopy (SERS) and developed by scientists at Rutgers University, can detect minor changes in RNA sequences that could give viruses an edge or make some people "superspreaders."

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Webinars

Applications for Video and High-Resolution Hyperspectral Imaging

Thu, Nov 19, 2020 1:00 PM - 2:00 PM EST

In this webinar with Paul Danini and Wouter Charle of imec, you will learn how the unique capabilities of hyperspectral imaging are applied to innovate businesses, applications, and research. The webinar will also elaborate on imec's unique on-chip technology and off-the-shelf camera systems, as well as advanced imaging software and the comprehensive support tools that imec can provide. Presented by imec.

Register Now

Good, Better, Best: Pushing the Limit in Optical Spectroscopy

Tue, Dec 8, 2020 11:00 AM - 12:00 PM EST

This webinar will present instruments and their respective uses for UV-VIS-NIR and Fourier transform infrared (FTIR) spectroscopy, some of the most commonly used analytical techniques prevalent in materials testing labs today. Presenters Doug Townsend and John Birtles, Ph.D., will discuss in detail the design benefits of PerkinElmer's high-performance Lambda 1050+ UV-VIS-NIR for a range of applications. Presented by PerkinElmer.

Register Now