

SPECTROSCOPY

Tech Pulse



February 2019

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.

Advancements in Raman Spectroscopy Find Real-World Uses in the Life Sciences

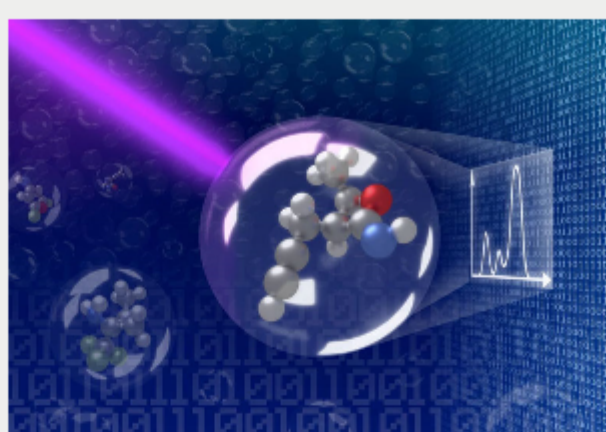
Since its development in the mid-1920s, Raman spectroscopy has been used to study various low-frequency vibrational modes in molecular systems. Raman spectroscopy offers an advantage over various traditional biophysical methods, as it simultaneously preserves the integrity of the sample being studied and can be performed in real time.



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Data-Driven Spectroscopy Has Potential to Lower R&D Costs, Speed Development

Artificial Intelligence for Spectroscopy (ARTIST) is a new approach to spectroscopy that uses artificial intelligence (AI) to accelerate the spectroscopic analysis of materials and the discovery of new molecules or materials. ARTIST could help speed the development of new technologies, from wearable electronics to flexible solar panels.



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Products



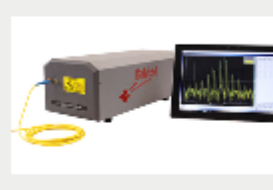
AvaSpec-ULS4096CL-EVO (CMOS)

Avantes BV

The AvaSpec-ULS4096CL-EVO

offers you the latest technology ensuring a spectrometer platform for the coming years. With our latest AS-7010 electronics it offers you a versatile device including USB3.0 Communication. Besides the high speed communication options, the EVO also offers a fast microprocessor and 50x more memory.

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771 Series Laser Spectrum Analyzer

Bristol Instruments Inc.

The 771 Series Laser Spectrum

operates as both a high-resolution spectrum analyzer and a high-accuracy wavelength meter. With spectral resolution up to 2 GHz, wavelength accuracy as high as ± 0.2 parts per million, and an optical rejection ratio of more than 40 dB, the model 771 provides the most detailed information about a laser's spectral properties.

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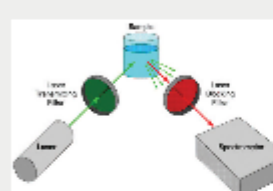
MIDORI™ ULB-35i Fiber-Optic LED Light Source

Ushio America Inc.

The Midori™ ULB-35i LED light

source series combines state-of-the-art, solid-state illumination technology with Ushio's distinctive optical design to create a very high output efficacy that is ideal for industrial applications where space is a premium.

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Trusted Solutions in Raman Detection

IDEX Health & Science - Semrock Optical Filters

Semrock offers a full range of long-wave pass, short-wave pass, and notch filter solutions for Stokes or anti-Stokes Raman signal. Need the highest accuracy as high as ± 0.2 parts per million, and an optical rejection ratio of more than 40 dB, the model 771 provides the most detailed information about a laser's spectral properties.

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More News

Technological Synergies Move Spectroscopy Out of the Lab

Spurred by manufacturing advancements over the past decade, lasers, sensors, and imaging devices have become more compact and reliable. This progress has allowed spectroscopy to grow into new and diverse fields. As portable and hand-held spectrometers continue to trend up, manufacturers face new challenges in analysis and support.



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FTIR Spectroscopy: A Comprehensive Biological Investigator

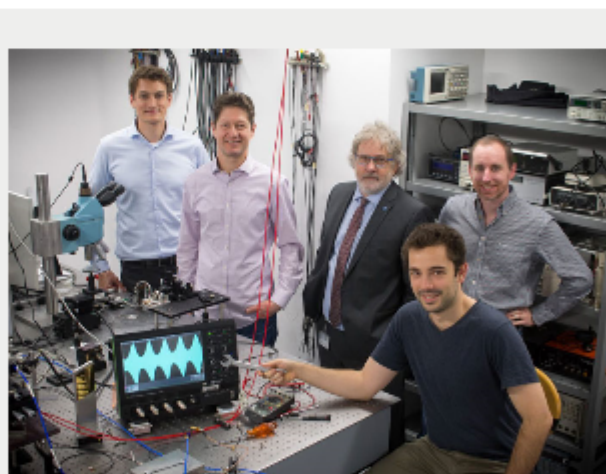
Almost every molecule in the universe interacts with IR radiation, which excites vibrations in the molecule, rendering Fourier transform IR (FTIR) spectroscopy a universal method to investigate biological systems. FTIR spectroscopy has become a dominant tool for examining biological samples in the study of neurological and other diseases, from Alzheimer's to cancer.



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Miniature QCL Frequency Combs Provide Robust Solution for Chemical Sensing

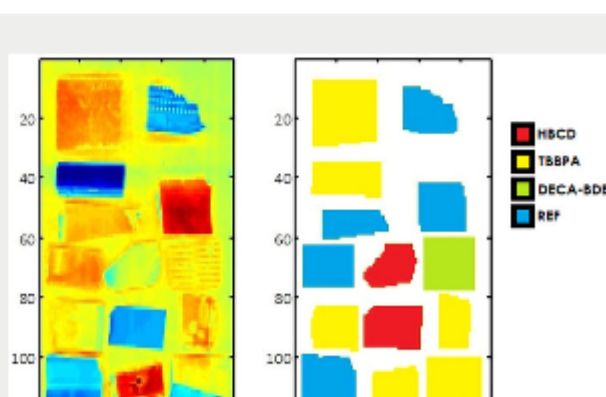
Researchers at the Vienna University of Technology (TU Wien) are working with laser frequency combs to enable chemical analysis on a chip. This new patent-pending technology will enable frequency combs to be created on a single chip in a simple, robust manner.



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Hyperspectral Imaging Could Automate, Improve Plastics Recycling

A new method using NIR hyperspectral imaging (HSI) and chemometrics could make it possible to sort between different types of plastic and between different flame retardants added to plastic — a necessity for recycling plastics more economically.



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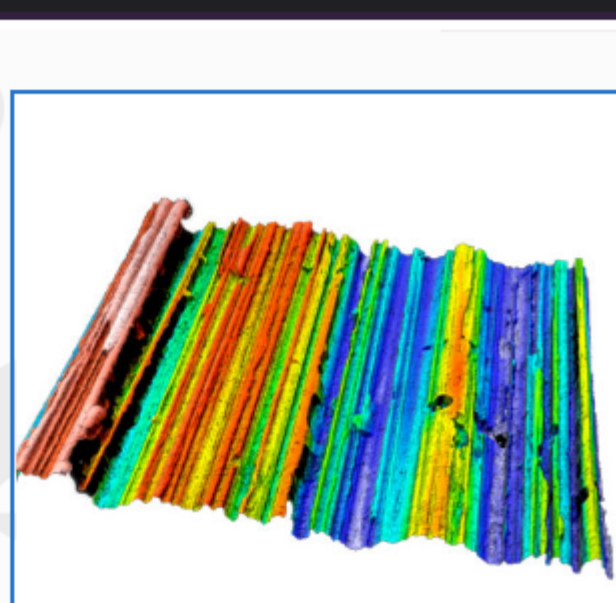
Webinars

Optical Metrology Solutions for the Semiconductor and Microelectronic Industries

Tue, Apr 2, 2019 11:00 AM - 12:00 PM EDT

This webinar will discuss specific analysis for quality control in PCB applications. It will also cover dimensional measurement, roughness, and defect identification. You will learn how Sensofar's proprietary software quickly identifies profiles, roughness parameters, and defects for surface texture, height, and traces. The focus will be on imaging wafers, pads, step heights, bonds, and probe cards.

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