

PHOTONICS spectra



Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue.



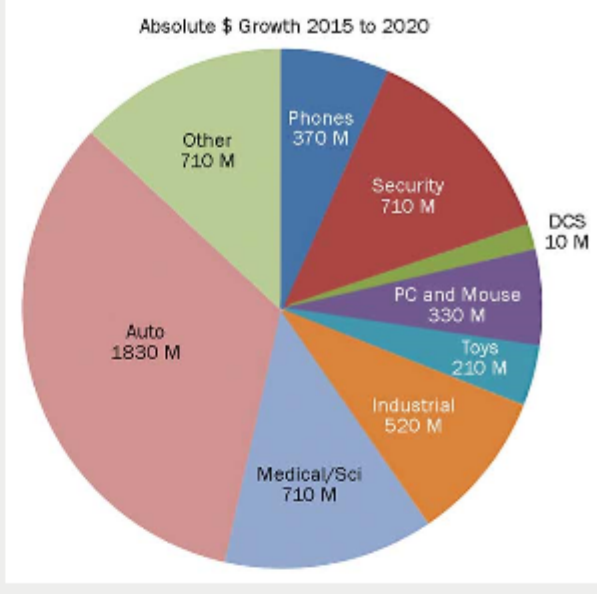
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Optical Biomedical Imaging

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Sensor Market Set to Soar

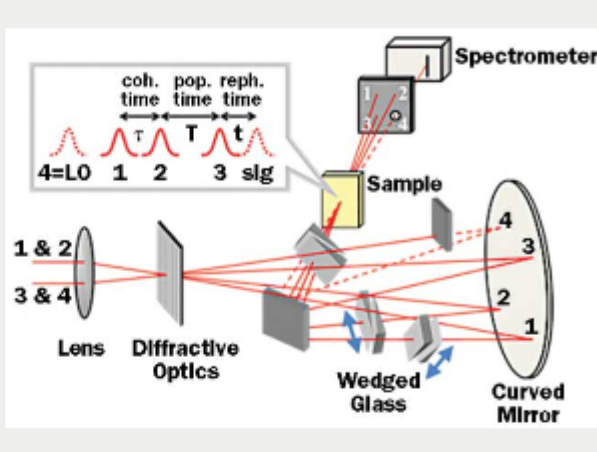
It is no secret that CMOS image sensor technology has undergone a rapid transformation. Driven by the consumer cellphone market's insatiable demand for fast, high-quality images, there has been substantial investment in CMOS sensor technology, resulting in products that deliver smaller pixels, higher sensitivity and lower noise at a decreased cost.



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2D Spectroscopy Simplified

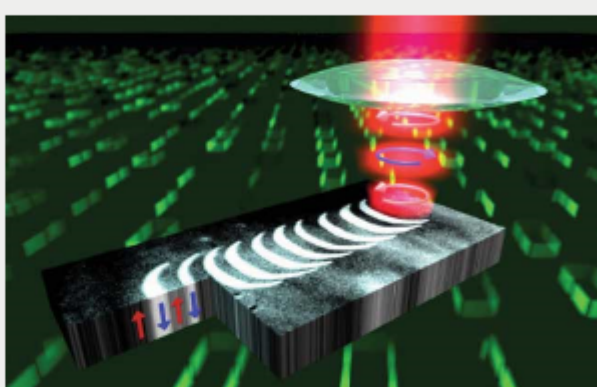
The many forms of conventional or linear spectroscopy such as vibrational, electronic and THz all involve measuring light absorption or an emission signal as a function of wavelength to yield information about the structure of the sample being interrogated. In recent years, 2D spectroscopy methods have been developed where the signal is plotted as a function of two different frequencies. This provides unique structural and dynamic information about samples, ranging from model photosynthesis systems to nanomaterials, enzymes, proteins, surface catalysts and semiconductors.



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For Ultrafast Photonics, New Applications Emerge

Ultrafast lasers can do a lot, including create a room-temperature superconductor. That type of material transformation is just one emerging area of ultrafast photonics. Today, new ultrafast photonics applications found in lasers and sensors enable systems to see deep into tissue and improve radar performance. Tomorrow, the technology could combat climate change, via more energy-efficient magnetic polarity switching, by transforming ceramics into room-temperature superconductors and more.



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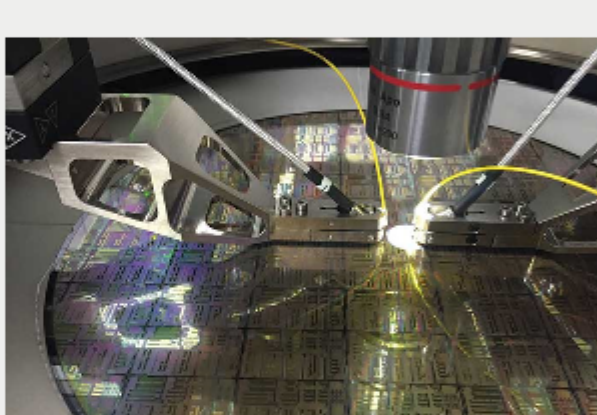
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In Case You Missed It

Conquering the Silicon Photonics Production Bottleneck

Alignments for silicon photonics had been slow and sequential, but new fast multichannel photon alignment systems are yielding breakthroughs in parallelism, scalability and speed.



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Nanophotonic Processor Uses Optics to Speed Deep Learning Computations

Using light instead of electricity to power neural networks could improve the speed and efficiency of certain deep learning computations, especially tasks that involve repeated multiplications of matrices that can be computationally intensive for conventional CPU or GPU chips.

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Tiny Terahertz Laser Aids Industrial Imaging

A new terahertz design that can be etched on microchips boosts the power output of chip-mounted terahertz lasers by 80 percent. The novel system shows promise for future industrial imaging and chemical detection applications.

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Featured Products



The Aries Spectroradiometer

Gooch & Housego Orlando

We are proud to introduce our next generation spectroradiometer, the Aries.

Based on the proven design and performance of the OL 770, the Aries offers an array of enhanced capabilities, including WiFi and Ethernet connectivity for easy integration into production environments.

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High Brightness Fiber-coupled Diode Laser

PhotonTec Berlin GmbH

New high power and brightness fiber-coupled diode lasers at 915nm and 976nm provide more power up to 150W from a single 105µm/0.22NA fiber and up to 210W from a single 200µm/0.22NA fiber. With the same package the power of wavelength stabilized diode laser at 976nm reaches max.

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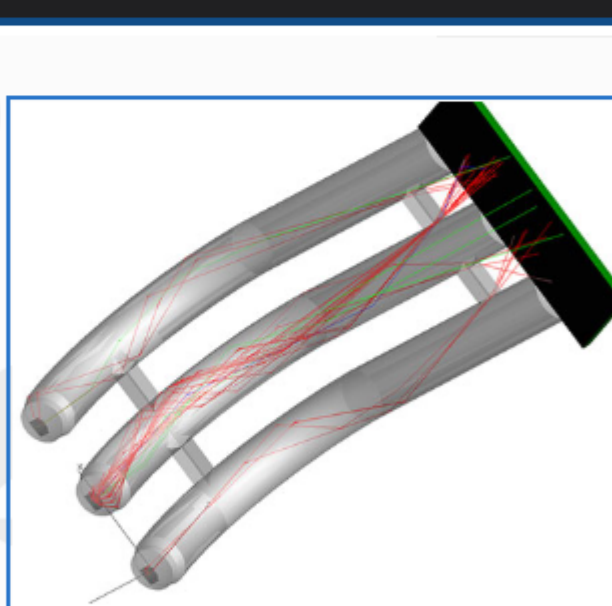
Webinars

Learn Efficient Light Pipe Design Using Virtual Prototyping

Tue, Sep 19, 2017 1:00 PM - 2:00 PM EDT

Attendees will learn how to design better, more efficient light pipes using Lambda Research's TracePro software - a 3D CAD virtual prototyping program with the power and tools to simulate and design light pipes. The presenter will demonstrate effective methods and detailed procedures for simulating light propagation in a light pipe model, analyzing cross-talk effects, producing desired output objectives, and optimizing models for efficiency and output. This webinar is for anyone designing light pipes, especially for automotive and avionic displays, industrial manufacturing, consumer electronics applications and medical devices. It's presented by Lambda Research Corporation.

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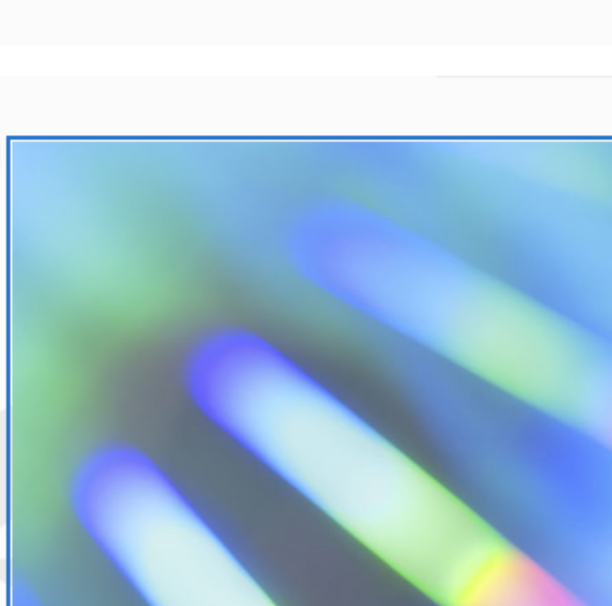


Mobile Hyperspectral Imagers: Implementations and Applications

Tue, Oct 17, 2017 1:00 PM - 2:00 PM EDT

This webinar will provide an overview of the state of the art in hyperspectral imaging (HSI) and cover a number of applications for HSI spanning medical imaging to agriculture and anti-counterfeiting. The webinar will conclude with an outlook on some of the exciting new technologies that are expected to continue to transform this imaging modality and move it into the domain of the consumer. Presenter Hod Finkelstein is CTO of TruTag Technologies where he leads imaging systems development and microparticle productization teams.

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Coming in October...

Features

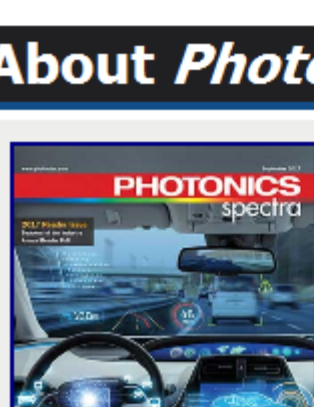
Optical Coatings; Solid-State Lasers; MOEMS-MEMS; Organic Photonics; Metrology

Issue Bonus

Optics: Past, Present & Future, with Directory: Enhanced Advertiser Listing

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About Photonics Spectra



Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

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