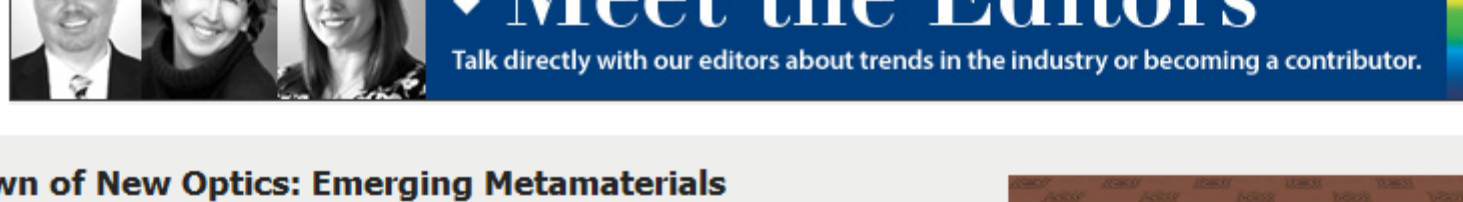


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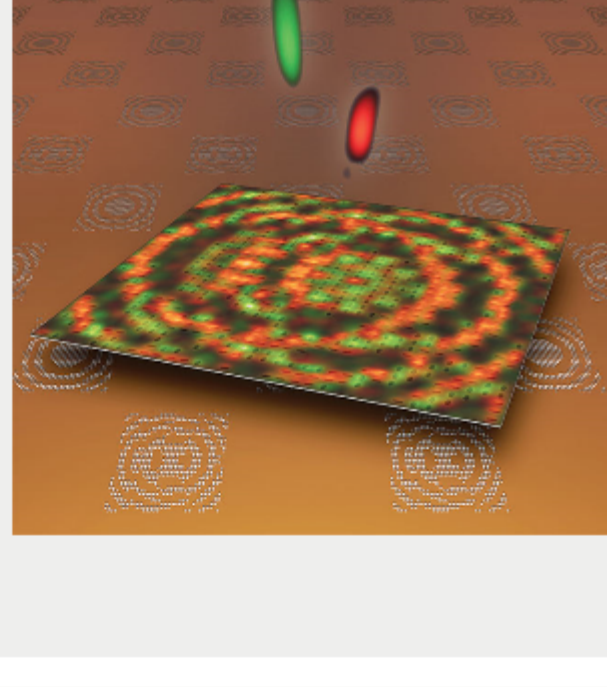
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The Dawn of New Optics: Emerging Metamaterials

Science has long sought novel or modified materials that could reach beyond the conventional laws of optics to replace bulky glass and polymer optical components with flatter, more robust, lower-cost, stackable ones — perhaps even with subwavelength properties that could benefit virtually every light-enabled device from cellphones to microscopes. One goal of a tunable, isotropic negative-index (left-handed) metamaterial is control of both phase and amplitude of light, an advancement that could lead to optical cloaking, holographic displays, and quantum levitation.



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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. The tabletop semiconductor laser, the benchtop FTIR (Fourier transform infrared) and hand-held x-ray fluorescence (XRF) spectrometers, and the advent of silicon photonics are opening new areas of inquiry and industry — often for individuals untrained in spectroscopy.



[Read Article](#)

Trends in Industrial Laser Solutions

The demands on lasers grow as the need for precision in manufacturing and other applications increases. In general, lasers enable processes that cannot be performed economically in any other way — such as drilling holes, selectively removing material, or texturing a surface. Lasers also allow novel methods of imaging. Such uses may require a variety of laser advancements, however, including shorter pulse width, higher repetition rate, varying wavelengths, greater power, better beam quality, and improved uptime.



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Featured Products



Norland Optical Splice - Easy To Use!

Norland Products Inc.

The Norland UVC Optical Splice is the first really easy to use, high performance connection for optical fibers. This splice incorporates a precision TRW glass alignment guide and a proactive glass sleeve in a unique one piece design that minimizes handling of bare fiber.

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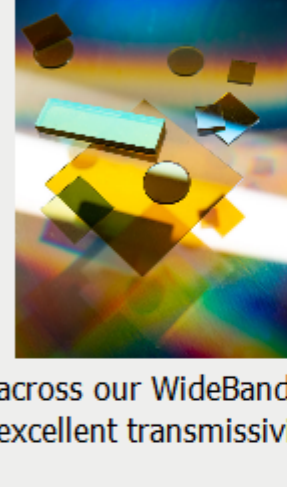


Protection for Femtosecond Applications

Kentek Corporation

Kentek's C120C coated filter is an excellent choice for femtosecond applications including Ti:Sapphire for industrial, medical and scientific environments. The C120C filter provides scratchproof laser safety, 40% visibility and protection levels up to OD 9 at select wavelengths.

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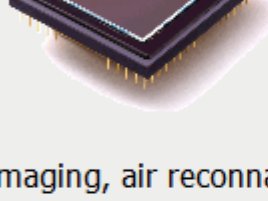


Polarcor™ 0.12mm

Corning Incorporated, Advanced Optics

Polarcor™ 0.12mm thin polarizers capitalize on the market leading performance of Polarcor™ in a new thinner format. Polarcor™ 0.12mm polarizers offers 50dB contrast ratio across our WideBand bandwidth (1275-1635nm) with excellent transmissivity.

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Filters for Hyperspectral Imaging

Delta Optical Thin Film A/S

Hyperspectral imaging has been used for a couple of decades in applications such as satellite imaging, air reconnaissance and other not overly price sensitive markets. Classical Hyperspectral imaging cameras use prisms or gratings as dispersive elements. These cameras are bulky, sensitive to misalignment and very expensive.

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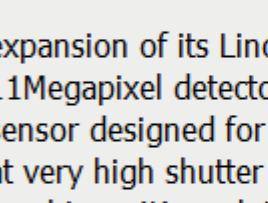


Cobolt Bolero™ 640 nm

Cobolt AB

Cobolt proudly highlights the addition of a new wavelength of 640 nm to the Cobolt 05-01 Series of single frequency lasers. With up to 500 mW and a linewidth of <1 MHz, the Cobolt Bolero™ is ideal for holographic and advanced interferometric applications. The Cobolt Bolero™ complements Cobolt's current offering of RGB single frequency lasers.

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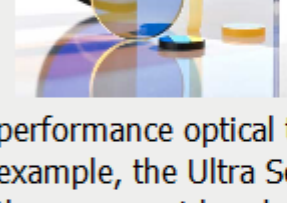


Lince 11M Sensor for High-speed Applications

Teledyne e2v (UK) Ltd.

Teledyne e2v announces the expansion of its Lince family of image sensors with a new 11Megapixel detector. Lince11M is a new CMOS image sensor designed for applications that require 4K resolution at very high shutter speed. This standard sensor uniquely combines 4K resolution at 710 fps in APS-C format.

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Alluxa Ultra Series Filters and Coatings

Alluxa

Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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In Case You Missed It

IR Image Encoding and Camouflage System Uses Plasmonics to Hide Images from Naked Eye

Using a plasmonic nanostructure, researchers at the University of Central Florida (UCF) have devised a way to hide information on the surface of a material, so that it is only visible through an IR lens or camera that is tuned to the correct IR band.



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LIGO and Virgo Announce Four New Gravitational-Wave Detections

The National Science Foundation's LIGO (Laser Interferometer Gravitational-Wave Observatory) and the European-based Virgo gravitational-wave detector have detected four new black hole merger events.

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British Researchers Awarded EPSRC Funding for Quantum Laser Project

Scientists at the University of Plymouth have been awarded funding to investigate quantum physics using lasers.

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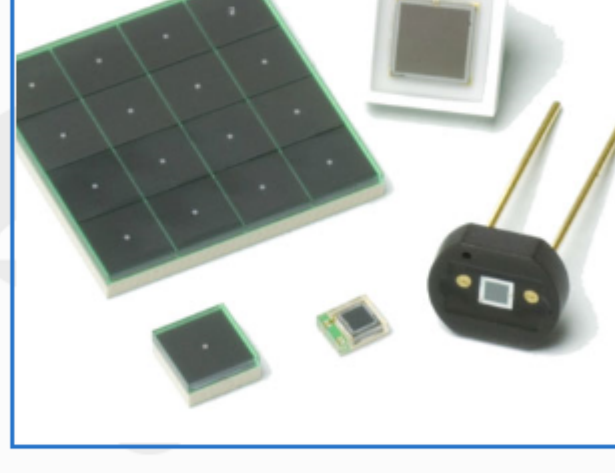
Webinars

SiPM and SPAD: Emerging Applications for Single-Photon Detection

Thu, Jan 17, 2019 2:00 PM - 3:00 PM EST

This webinar, presented by Hamamatsu Corporation, will provide a thorough overview of silicon photomultipliers (SiPMs) and single-photon avalanche photodiodes (SPADs) for low-light level photodetection. Compared to photomultiplier tubes (PMTs), SiPMs and SPADs are smaller, more durable, and more energy efficient. They also offer better immunity to magnetic fields and ambient light than PMTs. By attending this webinar, you will gain a better understanding of SiPM and SPAD technology, so you can determine whether it is the right choice for you.

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Lasers, LiFi, Spectroscopy, Smart Structures

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