Wednesday, April 14, 2021

PHOTONICS spectra

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Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. Manage your Photonics Media membership at Photonics.com/subscribe.

Thermal Imaging Takes the Temperature of New Applications

While thermal infrared imaging technology was once limited to defense and government-funded applications, it has become more mainstream over the past few decades. The growing awareness of the technology's industrial benefits has primarily been driven by the increasing popularity of hand-held thermal cameras for maintenance and electrical troubleshooting. Then came the COVID-19 crisis last year, and with it an onslaught of thermal imaging solutions flooded the market. A variety of thermal imaging sensor technologies and cameras have been used for fever detection, although, technically speaking, the sensors only measure surface skin temperature.

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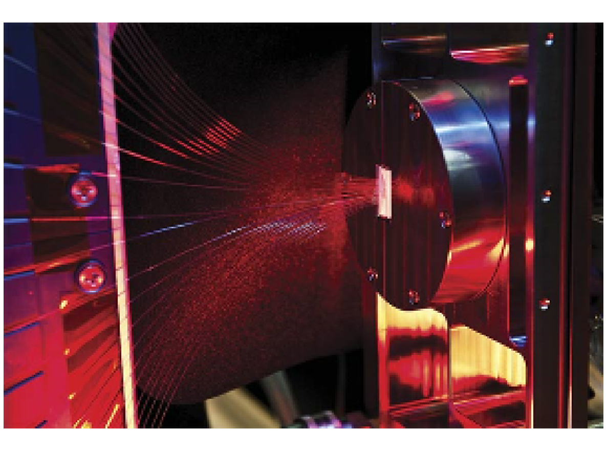
Worsening Wildfires Spark Photonics Demand and Innovations

In October 2016, a downed powerline sparked a wildfire that raged for two weeks and destroyed more than 18,000 acres in the Pike and San Isabel National Forests west of Pueblo, Colo. The so-called Junkins fire ended up destroying nine homes and 17 other structures, and the carnage could have been worse had it not been for photonics.

Read Article

High-Energy Lasers Advance Defense and Industry



Ever since the laser first appeared in the public consciousness, popular culture has reframed it as a prospective weapon of infinite range and power. This is largely because popular culture is unshackled from the concerns of engineering and physics. But the idea of light-based directed energy has nevertheless prompted interest and investment in the laser's potential military applications — where it is most often viewed as a defensive countermeasure. Decades of government-funded demonstrations have yielded promising results that indicate laser-based weapons are finally ready for the battlefield.

Read Article

.: Featured Products

Automated Glass Components Processing

NYFORS Teknologi AB
The NYFORS SMARTSPLICER is a CO2 laser glass-processing system designed for the production of high-power and sensitive photonic components. It offers contamination free end-capping, splicing, tapering, bundling, and many other glass-shaping processes.

Visit Website | Request Info

Norland Optical Splice

Norland Products Inc.
Norland's optical splice provides a high-performance connection for optic fibers in a unique one-piece design.

Visit Website | Request Info

High-Precision Aspherical Lenses & Acylindrical Lenses

CASTECH INC.
CASTECH offers CNC precision-polished aspherical and acylindrical lenses up to 200 mm. Our aspheric lenses are iteratively ground and polished under a software supported computer-controlled processing procedure to provide better controlled quality to guaranty the high performance of each aspheric lens.

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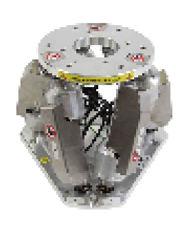

HXP50 High Precision Hexapod

MKS/Newport
The HXP50-MECA 6-Axis Hexapod is a parallel kinematic motion device that provides six degrees of freedom: X, Y, Z, pitch, roll, and yaw. The HXP50 has a 5 kg centered load capacity and is a cost-effective solution to complex motion applications...

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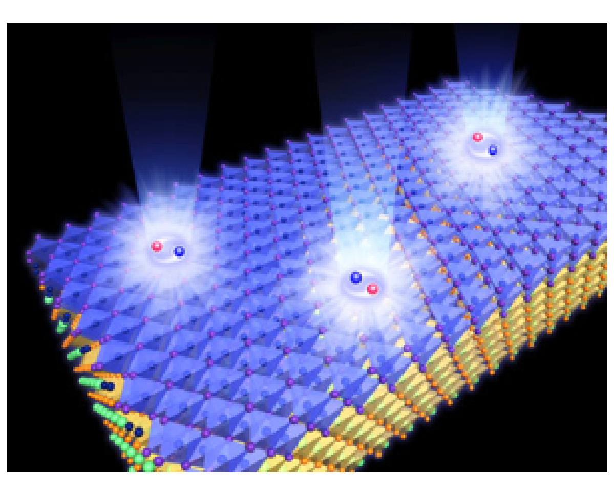
.: In Case You Missed It

Cuprous Iodide Film Shows Promise for Semiconductors, Optoelectronics



Physicists from RIKEN have taken a step to enhance semiconductor performance, developing a single-crystal thin film of cuprous iodide. The film is atomically flat and free of any defects.

Read Article

Source Mask Optimization Technique Improves Extreme UV Lithography

Researchers from the Shanghai Institute of Optics and Fine Mechanics of the Chinese Academy of Sciences proposed a source mask optimization technique for extreme-ultraviolet lithography based on a thick mask model and a social learning particle swarm optimization algorithm.

Read Article

Light Source Offers Improved Evaluation of Quantum Materials

Researchers from the College of Advanced Interdisciplinary Studies at the National University of Defense Technology developed a vacuum ultraviolet (VUV) laser system for scanning photoemission microscopy. The 177-nm VUV system was developed with a focal spot of less than 1 µm at a long focal length of approximately 45 mm using a spherical aberration-free zone plate.

Read Article

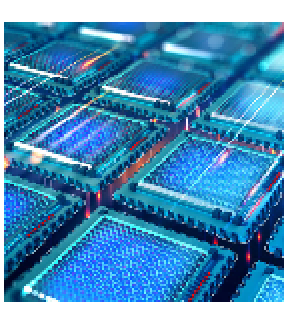
.: Upcoming Webinars

Bringing AI Inference to the Edge: AI Processing for Imaging Devices

Tue, Apr 13, 2021 10:00 AM - 11:00 AM EDT

Smartphones, robots, drones, cameras - how can companies keep up as AI-based imaging becomes mainstream? Join as Rastislav Struharik, Ph.D., associate professor of the University of Novi Sad and chief architect for IDS's FPGA IP core technology for hardware acceleration in edge AI applications, discusses options for running AI on imaging devices. Presented by IDS Imaging Development Systems GmbH.

Register Now



Introduction to Quantum Computer Hardware and Modalities

Thu, Apr 15, 2021 12:00 PM - 1:00 PM EDT

This webinar with William D. Oliver, Ph.D., Director of the Center for Quantum Engineering and Associate Director of the Research Laboratory of Electronics at MIT, will discuss several qubit modalities that are currently being pursued by industry and academia for quantum computing applications on the path toward realizing the promises and challenges of engineering future quantum machines. This webinar is the first presentation in Hamamatsu's Quantum Technologies Series, presented by Hamamatsu Corporation.

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.: Featured Video

Mildex Inc. - Automatic Lens Centering Machine with Robot

Model SPCM-M1-AT50 lens centering machine features an integrated robot for loading and unloading the workpieces increasing throughput, efficiency and precision. This machine can process spherical lenses and/or plano-plano workpieces up to 82mm diameter.

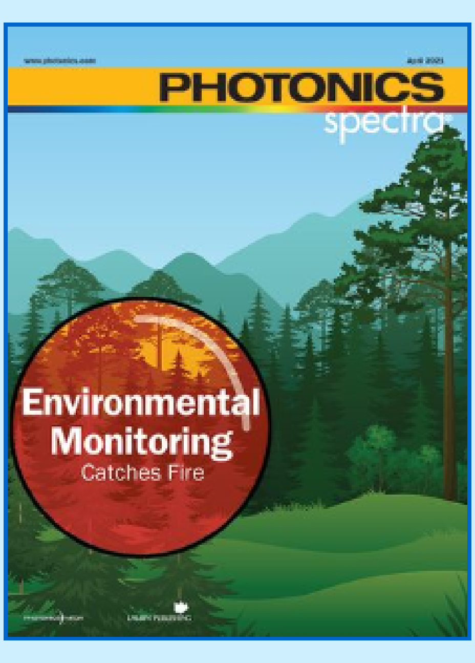
Watch Now

.: Next Issue:

Features
Laser Marking, Low Light Detection, Freeform Optics, and more.

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra.* Please submit an informal 100-word abstract to Daniel McCarthy, Senior Editor, at Daniel.McCarthy@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

About *Photonics Spectra*



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