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Top Stories

Widened 3D Field of View Enhances OCT Diagnostic Imaging

Researchers at Duke University developed an optical coherence tomography (OCT) technique that delivers high contrast and high resolution over a wide, 3D field of view. The enhanced OCT technique, called 3D optical coherence refraction tomography (3D OCRT), produces highly detailed images that reveal features difficult to observe with traditional OCT.

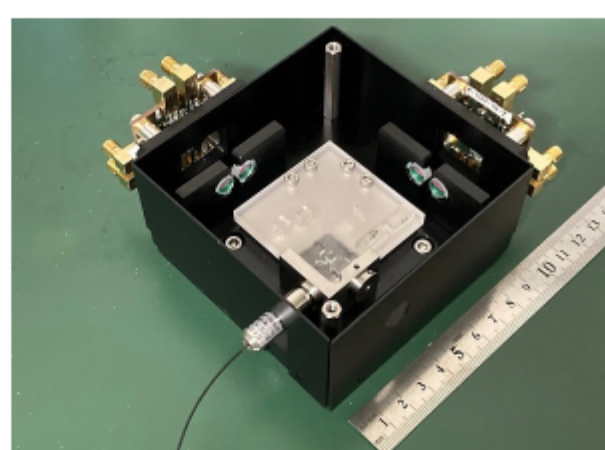
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Mitsubishi Electric Develops Laser Communications Terminal for Use in Space

Mitsubishi Electric Corp. developed a prototype of an optical receiver for use in laser communication terminals (LCTs). The company claimed that the prototype is the first to integrate space optical communication using laser beams and a function to detect the direction of received beams in the 1.5- μ m band, a general purpose band used for terrestrial optical fiber communications and other applications.

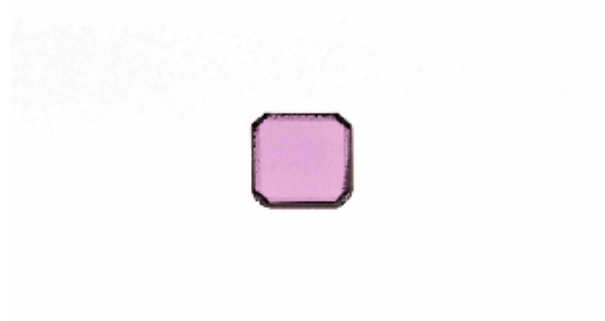
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Fraunhofer Tests Lasers for Magnetic Field-Based Diagnostics

Researchers from the Fraunhofer Institute for Applied Solid State Physics (Fraunhofer IAF) demonstrated the principle of laser threshold magnetometry for the first time, they said. The Fraunhofer team is working to develop diamond-based laser threshold magnetometry — a practice that enables measurement of even the smallest magnetic fields. The application can be used in medical care.

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Featured Products & Services

Blue 450 nm Laser Diode

PhotonTec Berlin GmbH
PhotonTec Berlin extends the wavelength of high-power laser diodes to blue 450 nm. The modules come with hermetically sealed packages in compact size with integrated thermistor, photodiode, and optional red aiming. The output power reaches up to 120 W from 200 μ m or 400 μ m optical fiber.

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Upcoming Webinars

Laser Measurement Solutions for Materials Microprocessing Applications
Wed, Jun 15, 2022 11:00 AM - 12:00 PM EDT
Mark Slutzki, a product manager at Ophir, shares innovative solutions for the challenges that accompany materials microprocessing applications. Those who use lasers in these applications, such as drilling via holes in PCBs, organic LED display lift-off, and cutting smartphone cover glass, are faced with many challenges. While the combination of laser parameters enables new and innovative processes, they can also cause unexpected damage to the measurement tools used to keep the process stable. These parameters include ultra-short pulse duration, high repetition rates, short wavelengths, and many others. Sponsored by Ophir, LaserPoint srl, and DataRay Inc.

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Thermal Modeling of Lasers in Manufacturing Processes
Wed, Jun 22, 2022 2:00 PM - 3:00 PM EDT
Walter Frei shares an overview of laser thermal modeling and presents a demonstration of the software in action. Laser modeling in manufacturing processes commonly views the laser as a spatially or volumetrically distributed heat source that moves and reorients over time. The COMSOL Multiphysics® software provides a computational modeling platform that can easily model such heat sources. In addition to the modeling of heating profiles over time, this software is able to model phase change, ablation, and irreversible transformations. The applications of these different modeling techniques include precision fabrication processes, medical treatments, and additive manufacturing. Presented by COMSOL, Inc.

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