Thursday, November 3, 2016

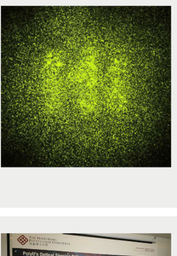
This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

User Friendly Crime Scene Forensics for Snow and Soil

Researchers are working on a new type of portable crime scene forensics technology that is capable of taking precise high-resolution 3D images of shoeprints and tire-tread marks in snow and soil. With help from a two-year, $788,167 grant from the National Institute of Justice, researchers are working on the 3D imaging system that will have "auto-exposure control." The system will also have an intuitive user interface, allowing investigators with little to no technical expertise to take high-quality images.



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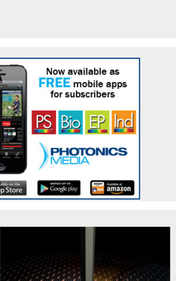
Camera System Images Weak Targets by Negating Glare

Coherence gated negation (CGN) is a novel imaging method that uses destructive optical interference to suppress glare and allow imaging of a target that may be hidden behind a scattering medium such as fog or clouds. In contrast to conventional coherence gating methods, which "gate in" the target optical signal, CGN works by actively "gating out" the unwanted optical contributions. Researchers at the California Institute of Technology (Caltech) created the device, which selectively cancels scattered light, leaving only the light that has been reflected or bounced off the target object.



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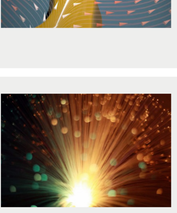
PolyU to Install Fiber Sensing Technology in Singapore Transit System

Hong Kong Polytechnic University's (PolyU) proprietary optical fiber sensing technology for railway monitoring has been adopted in Singapore metro lines. Sensors were also installed in in-service trains to monitor the tracks on which the trains run. PolyU is the first in the world using fiber optic sensors in in-service trains for continuous monitoring of the tracks.



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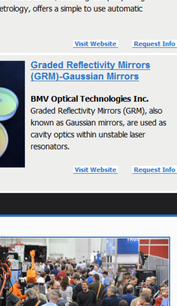
Nanowire Sensors Could Expand Use of AFM

An atomic force microscope (AFM) that uses nanowires as sensors has demonstrated the ability to measure force size as well as force direction. Due to slight asymmetries in geometry, a nanowire's flexural modes are split into doublets vibrating along orthogonal axes at nearly the same frequency. When the nanowires are integrated into an AFM, the changes in the vibrations caused by different forces can be measured. Essentially, the nanowires can be used as tiny mechanical "compasses" that point out both the direction and size of the surrounding forces.



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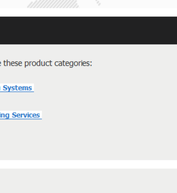
Out of This World Fiber Optics

Made in Space (MIS) produced the world's first zero-gravity 3D printer, which has been aboard the International Space Station (ISS) for the past two years. Now, the company is attempting to make fiber optics in zero-gravity conditions via its MIS Fiber making machine.



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Precisely the Right Semiconductor Laser

National Laser Company

Known as one of the highest quality replacement lasers, the NLC 488nm argon laser outlives and outperforms competitive models. It is one of the most robust lasers in the industry for Semiconductor Inspection Tools.

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Automatic Goniometer GONIOMAT A5

Moeller-Wedel Optical GmbH

Objective, precise and reliable prism angle measurement with the GONIOMAT A5. MÖLLER-WEDEL OPTICAL GmbH, a leading company in high precision angle metrology, offers a simple to use automatic goniometer.

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PhaseCam 6000 Dynamic Laser Interferometer

4D Technology Corporation

The PhaseCam@ 6000 is an extremely compact and lightweight laser interferometer for measurement of optics and optical systems with an easy-to-position, fiber-coupled measurement head and motorized controls.

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Graded Reflectivity Mirrors (GRM)-Gaussian Mirrors

BMV Optical Technologies Inc.

Graded Reflectivity Mirrors (GRM), also known as Gaussian mirrors, are used as cavity optics within unstable laser resonators.

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Industry Events

FABTECH 2016

November 16-18, 2016 - Las Vegas Convention Center - Las Vegas, NV
Photonics Media Booth: C21102
FABTECH is North America's largest metal forming, fabricating, welding and finishing event, with over 28,000 attendees and 1,300 exhibiting companies expected to participate in 2016. FABTECH provides a convenient "one stop shop" venue where you can meet with world-class suppliers, see the latest industry products and developments, and find the tools you need to improve productivity and increase profits. Educational sessions and expert-led presentations cover the latest trends and technology in the metal forming, fabricating, welding and finishing industries.

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