

This Week In PHOTONICS

PHOTONICS MEDIA



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Top Stories

High-Dimensional Quantum Encryption Takes Place in Real-World City Conditions

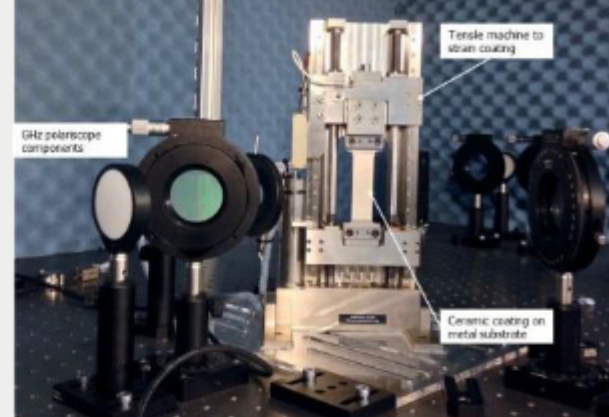
A quantum-secured message containing more than one bit of information per photon has been sent through the air above the city of Ottawa, Ontario, Canada. According to scientists, this is the first time high-dimensional quantum encryption has been demonstrated with free-space optical communication in real-world conditions.



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Optical Approach Pinpoints Weak Spots in Jet Engine Thermal Coatings

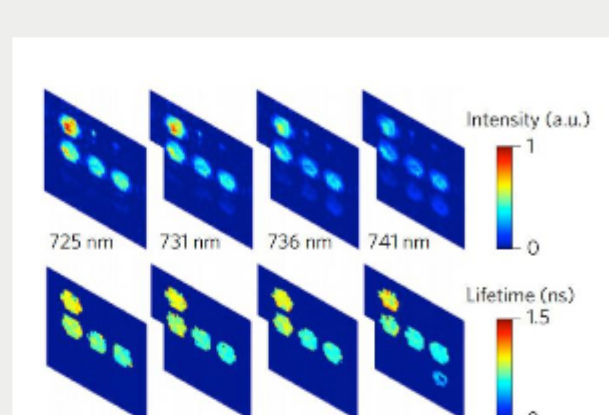
A strain-measurement technique uses optical analysis to reveal weak areas in the ceramic thermal barrier coatings that protect jet engine turbines from high temperatures and wear. This technique could be used to predict coating lifetime and could lead to novel thermal barrier coatings that would make engines more efficient.



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New Biimaging Technique Accurately Tracks Multiple In Vivo Interactions

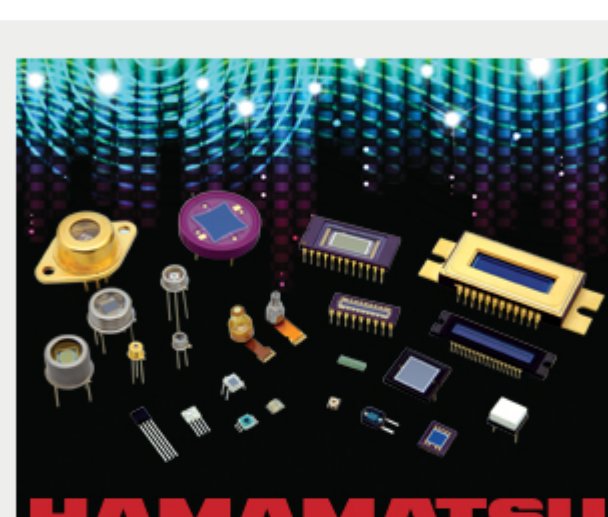
A novel approach to optical imaging makes it possible to quickly and economically monitor multiple molecular interactions in a large area of living tissue. This technology could have applications in medical diagnosis, guided surgery or preclinical drug testing. The method is capable of simultaneously tracking 16 colors of spatially linked information over an area spanning several centimeters; it can capture interactions that occur in mere billionths of a second.



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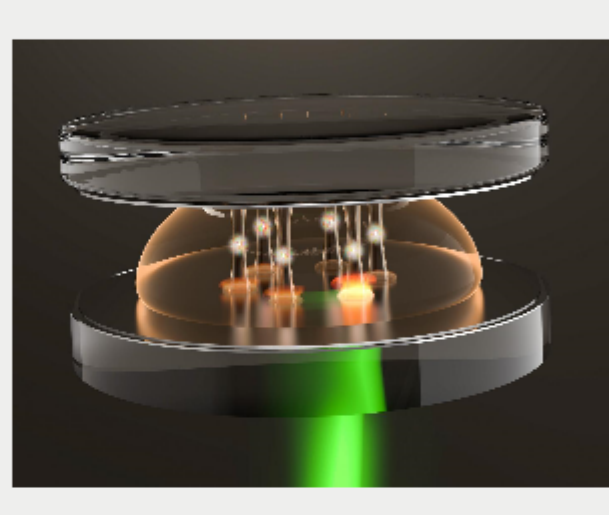


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Optical Wells for Super-Photons Could be Forerunner of Quantum Circuits

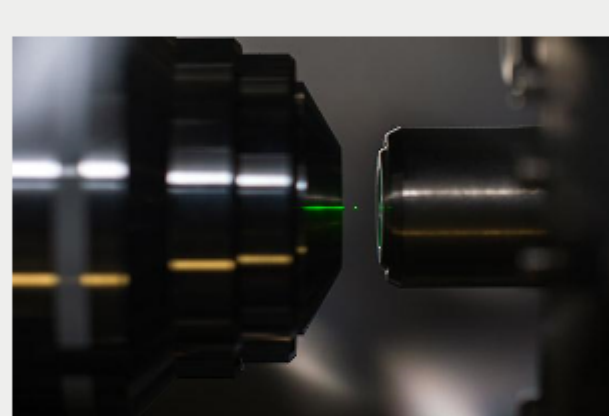
Experiments with a "super-photon," — known as a Bose-Einstein condensate and formed when thousands of photons merge with each other — led scientists to create an optical well that could lead to a novel approach to variable microstructuring in photonics. In the experimental setup, a laser beam was bounced back and forth rapidly between two mirrors. Researchers placed a dye-polymer solution within an ultrahigh-finesse microcavity between the mirrors, which cooled the laser light, causing the photons to concentrate and form a super-photon.



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Levitated Optomechanics Could Lead to Advances in Sensing Technology

A study led by researchers at the Rochester Institute of Technology (RIT), and supported by the U.S. Navy's Office of Naval Research (ONR), will employ the emerging field of levitated optomechanics to investigate precision quantum sensing technologies. Laser trapping techniques and quantum mechanics will be used to test the limits of quantum effects on nanoparticles in isolation.



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Rudolph Receives Chinese Order for OLED Displays [Read Article](#)

Featured Products

Optical Fabrication

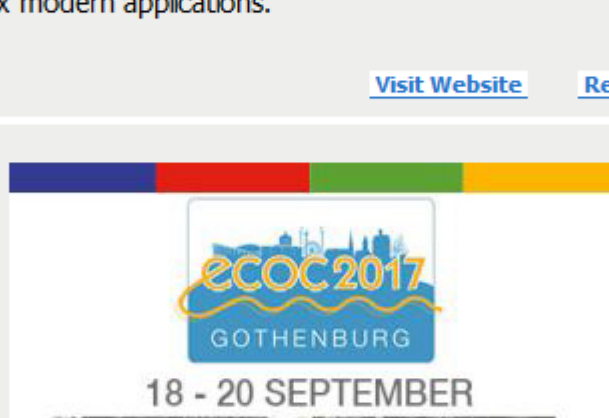
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Optical Fabrication is a new book for anyone working on or interested in the methods, materials and measurement techniques used in modern lens and optical component manufacturing. The book will serve as an introduction or update, moving beyond methods and materials to design and complex modern applications.

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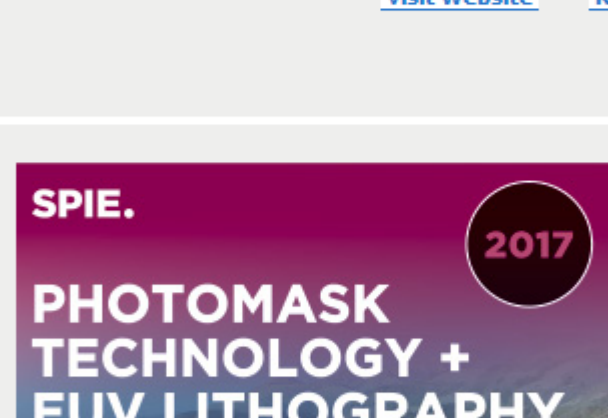
Canon Surface Reflectance Analyzer

Canon U.S.A. Inc., Industrial Products Div.
Canon RA-352H, Surface Reflectance Analyzer (goniophotometer), is a compact, portable device capable of measuring GLOSS, HAZE, IMAGE CLARITY, and BRDF (bidirectional reflectance distribution function) in a single pass.

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Industry Events

OLEDs World Summit 2017

September 20-22, 2017 - Parc 55 San Francisco by Hilton at Union Square - San Francisco United States

The OLEDs World Summit is the only conference that brings together all parts of the OLED value chain, from technical talks on materials and devices, to information on the current and future state of the market, to new applications and innovations. Presentations this year will include OLED lighting in automotive applications, the TV of the future and more. Speakers will include top names and businesses in the lighting and display industry. Attendees will have ample opportunity to network with more than 100 leading industry experts in the international OLED community during dedicated networking breaks, lunches and events including the opening reception.



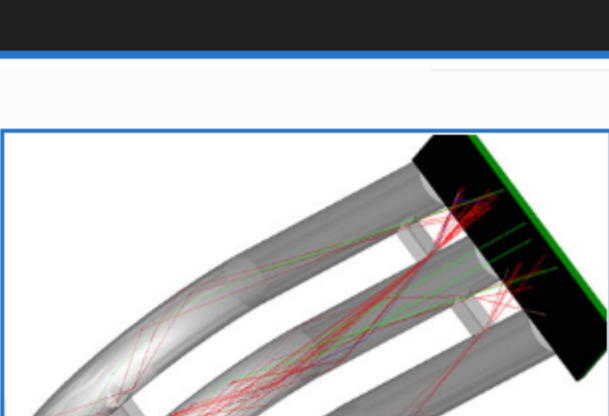
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Webinars

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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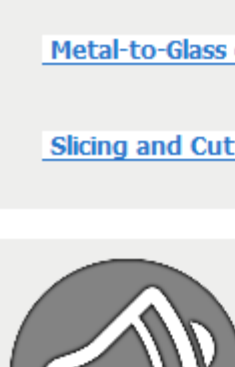
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