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Top Stories

Interferometric Systems Detect Gravitational Waves

The observation of gravitational waves — described as ripples in the fabric of spacetime — arriving at the earth confirms a major prediction of Albert Einstein's 1915 general theory of relativity. The gravitational waves were detected on September 14, 2015 by both of the twin Laser Interferometer Gravitational-wave Observatory (LIGO) detectors, located in Livingston, La., and Hanford, Wash.

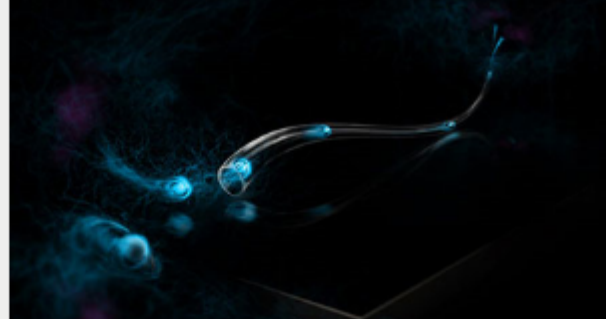


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Photon-Based Heat Transport May Advance Quantum Computing

A thermal-transport method that uses photons as carriers has been demonstrated over 1-m distances. The fundamental advance in heat conduction could drive the development of quantum computers. The successful operation of a quantum computer requires efficient cooling mechanisms. At the same time, a quantum computer is prone to errors caused by external noise. The photon-carrier method, developed in the lab of Mikko Möttönen at the University of Aalto, could be used to cool quantum processors without disturbing operation of the computer.

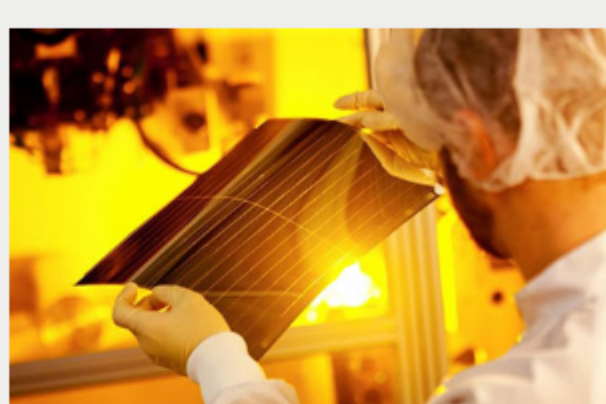


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Heliatek OPV Cell Sets New World Record

The R&D teams from organic flexible solar film manufacturer Heliatek GmbH said they have reached conversion efficiency of 13.2 percent for an organic photovoltaic (OPV) multi-injection cell, setting a new world record for the direct conversion of sunlight into electricity using OPV cells.



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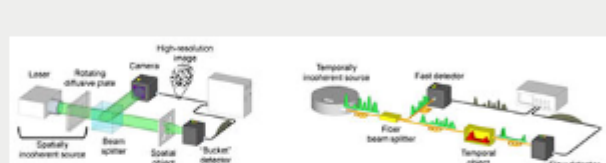
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Robust Technique Demonstrated for Ghost-Imaging in the Time Domain

A technique for producing ghost-imaging in the time domain offers promise for the dynamic imaging of ultrafast waveforms with applications in communications, remote sensing and ultrafast spectroscopy. Researchers from the Tampere University of Technology and the University of Eastern Finland have demonstrated how ultrafast pulses that carry information over durations <1 billionth of a second can be detected without actually "seeing" those pulses directly.



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Femtosecond Laser Welds Neurons In Vitro

An experimental method involving ultrashort laser pulses has been used to connect neurons in vitro. The technique holds promise for the repair of severed nerves. Researchers from the University of Alberta used a femtosecond laser to bond a neuronal axon and a neuronal soma. Neurons are nervous system cells responsible for transferring information between the brain and the rest of the body.



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Featured Video

OSA Centennial – Nicholas Wong, University of Southampton

The Optical Society members share their reflections on 100 years of optics innovation, what inspired their interest in the field and how OSA has impacted their career.



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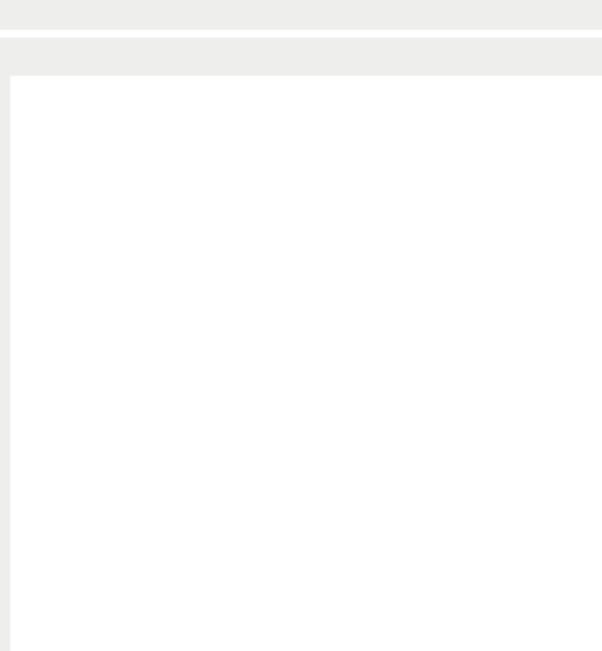
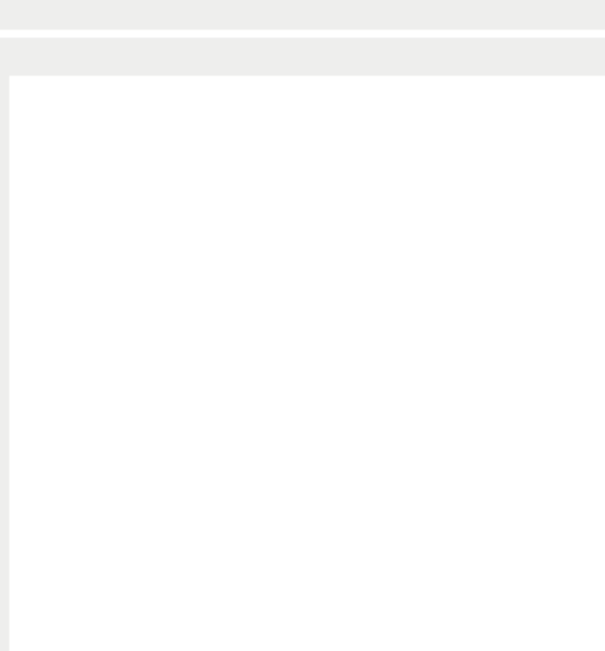
Uniform Light Source Systems
Labsphere, Inc.
 Labsphere's new HELIOS brand of modular uniform light sources for absolute calibration of imagers and sensors offers the versatility of a custom design with the proven performance of a standard.
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Infrared Source
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OptoSigma Corp.
 For more than twenty years, OptoSigma has been at the forefront of the optical components industry, manufacturing thin-film coatings to precision standards.
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Spectroscopy-Certified Laser Diodes
Photodigm Inc.
 Photodigm developed the Mercury™ package shown here with the TS-1000A test mount. This robust package provides up to 300mW of single frequency laser power in a free space beam.
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Industry Events

LIA Laser Additive Manufacturing Workshop

March 2-3 – Embassy Suites, Orlando, Fla.
 LIA's 8th annual Laser Additive Manufacturing Workshop (LAM) will bring industry specialists, executives, users and researchers from around the world to show how cladding and rapid manufacturing can be worked effectively and affordably to today's manufacturing challenges. This workshop will have a significant impact on the widespread industrial implementations of laser additive manufacturing (cladding, sintering and rapid manufacturing).



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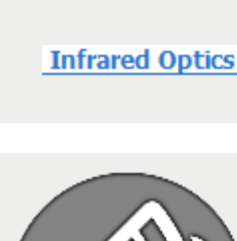
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