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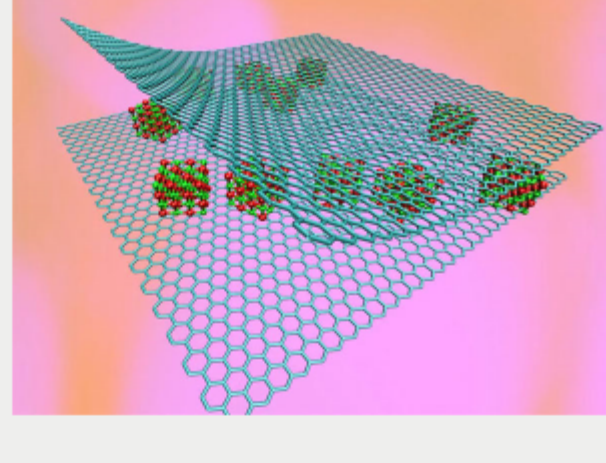
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Top Stories

Nano 'Sandwich' Could Enhance Optical Properties, Tunability of Graphene

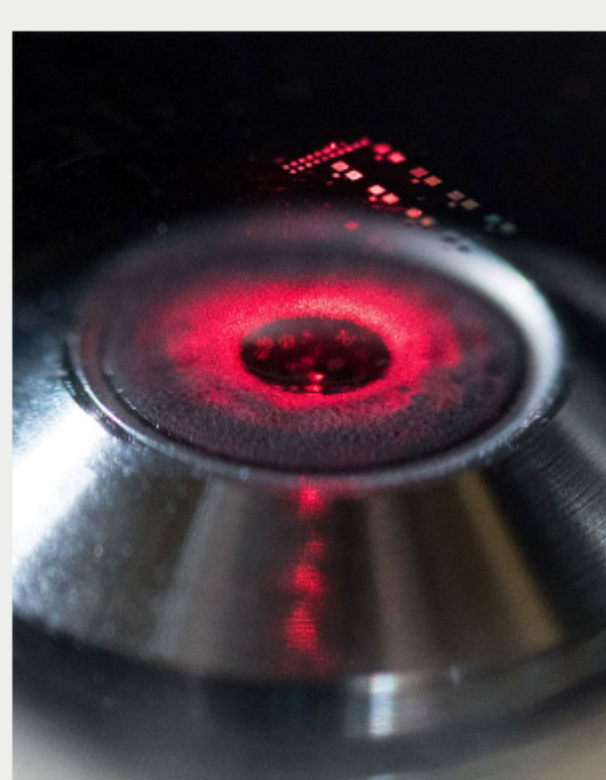
Use of a "nanoscale sandwich," made from two-atom-thick slices of graphene around nanoclusters of magnesium oxide (MgO), could expand the optoelectronic properties for graphene. Researchers at Rice University, using previous experiments on hybrid materials as a reference point, applied high-level first-principle calculations to their exploration of the electronic and optical properties of mono- and double-layer graphene encapsulating MgO clusters.



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Chiral Metamaterial Causes Optical Shift in mW Range

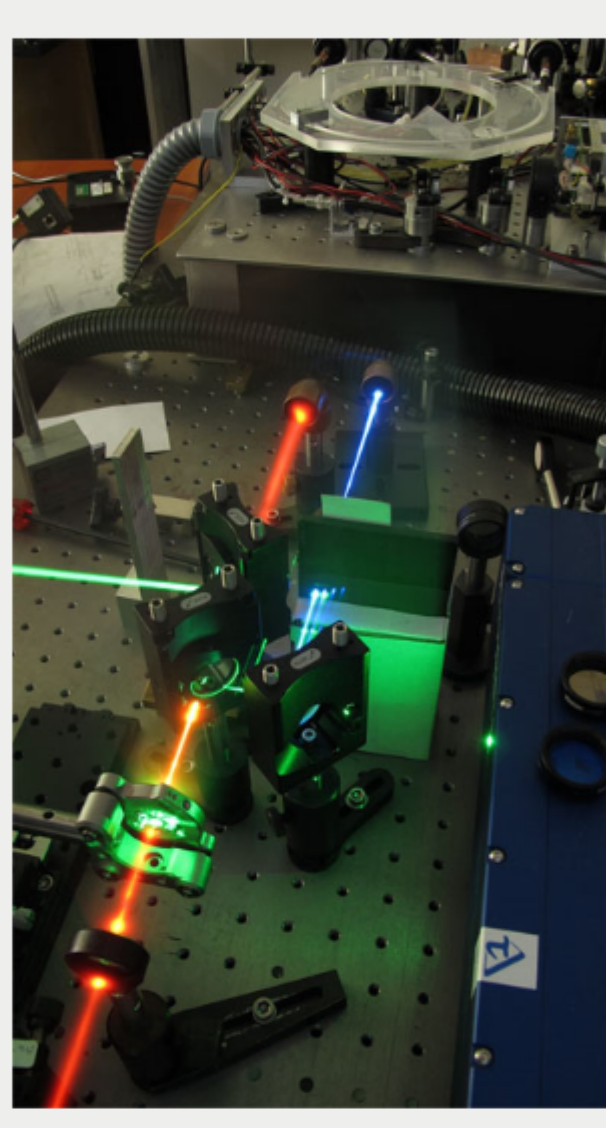
A metamaterial with chiroptical properties in the nonlinear regime has shown the ability to produce a significant spectral shift with power levels in the milliwatt (mW) range. Two absorptive resonances were spectrally modified through incremental exposure to power intensities beyond the material's linear optical regime. When a 15 mW change in excitation power was made, there was a 10-nm spectral shift in the material's transmission resonances and a 14° polarization rotation.



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Device Generates FS Pulses in UV Wavelength More Efficiently

A miniature tripler for generating femtosecond (fs) pulses in the UV has demonstrated three times higher efficiency than previously used devices, in a design that is tiny enough to fit on a fingertip. The increase in efficiency is related to the global optimization of the frequency conversion process from IR to UV. Although laser technology has advanced to cover a greater number of spectral regions, the UV band around 300 nm is still not easy to access, especially if short pulse durations and/or high intensities are required.



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Using Mathematics to Improve Effectiveness of Tomography

Novel mathematical theories could advance imaging techniques in optical tomography — a technique for creating three-dimensional images of the internal structures of a solid object by analyzing the travel of waves of energy, such as x-rays, electromagnetic or acoustic waves, through the object. Researchers at the University of Texas at Arlington (UTA) are developing new mathematical theories that can help solve outstanding problems. The project could have a sizable impact on imaging technologies.



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Green LED Could Provide Safe, Inexpensive Way to Treat Chronic Pain

Exposure to green LED could provide an inexpensive, non-pharmacological approach to managing chronic pain, by altering the levels of endogenous substances that potentially inhibit pain and decrease inflammation of the nervous system. In a study at the University of Arizona, rats with experimental neuropathic pain that were bathed in 525-nm wavelength green LED showed more tolerance for thermal and tactile stimulus than rats that were not bathed in green LED.

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Window Protection Shades and Blocks

Kentek Corp.
Kentek's laser safe window protection shades and blocks are made-to-measure for virtually every shape and size window. Shades come on clutch-driven roller assemblies and will retract quickly and neatly. Kentek's removable window blocks can be mounted to surfaces with supplied Velcro®, magnets, grommets, or snaps.

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841-PE-USB Optical Power Meter

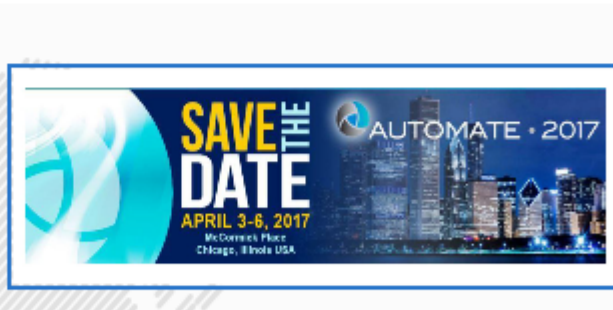
Newport Corporation
The 841-PE-USB is a Power Meter with a USB connection to use a computer as the monitor. When the meter channels, 841-PE-USB is an ideal solution. In addition to a USB output, it also has a 0 – 1 V analog output.

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Industry Events

AUTOMATE 2017

April 3-6, 2017 - McCormick Place North - Chicago United States
Automate is the largest solutions-based showcase of automation technologies in North America, demonstrating the full spectrum of automation technologies and solutions for a broad array of industries. Companies that provide integration of automation, robotics and machine vision will show live demos of their systems, that may help attendees solve challenges they face in their own industry, and/or learn from solutions used in other industries. The show will feature the latest automation, robotic, vision and motion control technologies and systems on display from leading global suppliers. A comprehensive educational conference accompanies the Automate show. Classes are taught by experienced industry professionals who understand the industry challenges that attendees face.



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Webinars

Technology Business Champions' Guide to Successful Commercialization

Thu, Apr 13, 2017 1:00P EDT
This webinar, presented by David Krohn, Managing Partner of Light Wave Venture LLC, is for scientists, engineers and others seeking potential opportunities for marketing and selling a new technology, whether it is a product, a service or a groundbreaking idea. You will learn how to focus R&D with an eye toward commercialization; how to source funding and much more. The instructor has over 50 years of experience in the photonics industry. A trained scientist turned businessman, Krohn has assisted more than 127 companies and organizations, funding and key management on product development, commercialization, funding and acquisitions. Please note: there is a registration fee for this webinar.

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