Thursday, August 25, 2016

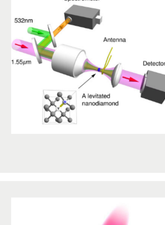
This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

Solar Lighting Could Create 2 Million Jobs in Developing Countries

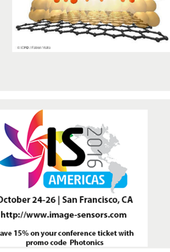
A shift to solar LED systems and away from fuel-based lighting in the developing world may spur economic development as well as environmental improvements, creating an estimated 2 million solar-based jobs in some of the world's poorest regions. A survey of major solar LED lighting companies, conducted by Evan Mills at Lawrence Berkeley National Laboratory (Berkeley Lab), found that 38 solar-related jobs are created for each 10,000 people living off-grid and for whom stand-alone solar LED lights are suitable.



Read Article

Electron Spin Control of Nanoparticles May Advance Sensor Technology

A technique used to detect and control the electron spin resonance (ESR) of nanodiamonds in a vacuum chamber may lead to the development of novel sensors for detecting, measuring and monitoring gases. It may also provide a future template for the testing of quantum physics at the macroscopic level using nanoparticles.



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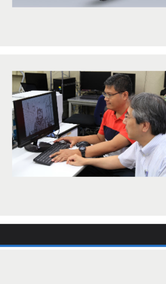
2D Graphene Photodetectors Offer Path to Novel Optoelectronics

A novel way to detect and harvest low-energy photons using heterostructures made of 2D materials and graphene may overcome the limitations of conventional semiconductor devices, and could lead to greater speed and efficiency in optoelectronic applications. The technique — termed the photo-thermionic effect — makes use of the optical properties of graphene including graphene's broadband absorption, ultrafast response and gate tunability.



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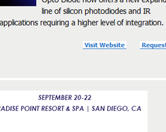
Wearable Device May Lower PTSD Risk

Use of a wearable neurotechnology device by military personnel could improve sleep and help regulate circadian rhythms, thereby lowering the risk of developing post-traumatic stress disorder (PTSD), a condition that has been linked to sleep disturbance.



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Imaging Technique Enhances Face Recognition in Variable Lighting Conditions

A novel technique manages the effect of lighting on photometric-based human face recognition through a fuzzy-based illumination invariant method. The technique, named QotFuzz, uses an extended reflectance model to adjust the effect of lighting on human faces, thereby improving face detection and recognition results under a variety of illumination conditions.

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Athermal Fixed Focal Length Assemblies

ISP Optics Corporation

ISP Optics is expanding and demonstrating its LWIR Imaging Athermal Fixed Focal Length Assemblies. These Fixed Focal Length Lenses are designed for uncooled IR detectors and for a single angular field of view, with focal lengths ranging from 19 mm to 60 mm.

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Opto Diode Corporation

Opto Diode now offers a new expanded line of silicon photodiodes and IR detectors for applications requiring a higher level of integration.

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Industry Events

IMTS 2016

September 12-17, 2016 - McCormick Place - Chicago United States
Photonics Media Booth: N-6183
The International Manufacturing Technology Show is one of the largest industrial trade shows in the world, with more than 114,000 registrants for 2016. Manufacturing industry professionals from all over the world attend to see more than 15,000 new machine tools, controls, computers, software, components, systems and processes that can improve their efficiency.

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