

# This Week In PHOTONICS

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## PRISM20 AWARDS20 Call for Entries

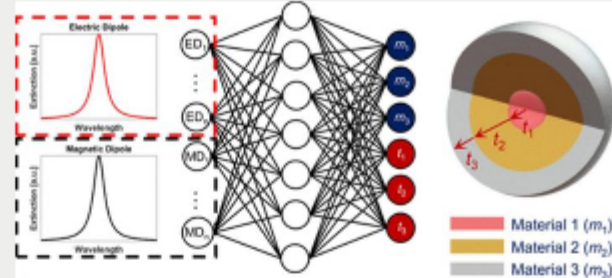
Recognizing the most innovative new products in optics and photonics.

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### Top Stories

#### Data-Based Design Method for Metamaterials Uses Artificial Intelligence

The process for designing metamaterials could be improved by using data-driven approaches based on deep learning, according to researchers at Pohang University of Science and Technology. The researchers used a deep-learning-assisted inverse design method to enable structural parameters and material for metamaterials to be designed simultaneously and with a greater degree of freedom.

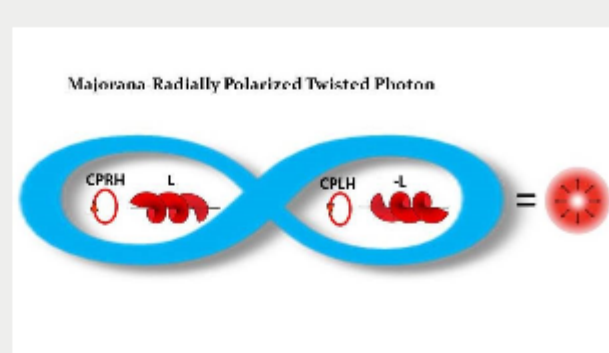


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#### Identification of New 'Super Class' of Photons Could Lead to Breakthroughs in Brain Imaging

A new super class of photons called "Majorana photons" could lead to enhanced information on quantum-level transition and imaging of the brain and its workings. City College of New York professor Robert R. Alfano and his research group based their work on the fact that photons — while possessing salient properties of polarization, wavelength, coherence, and spatial modes — take on several forms.

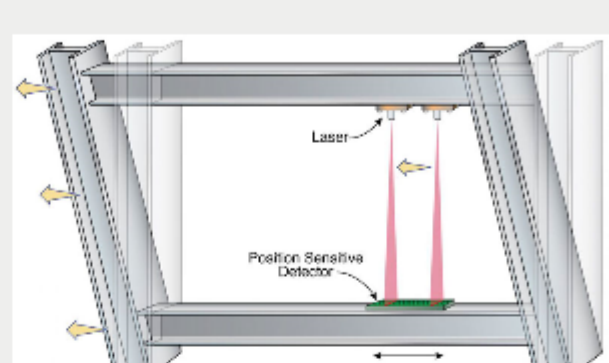


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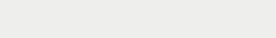


#### Sensor for Measuring Interstory Drift Could Aid in Earthquake Response

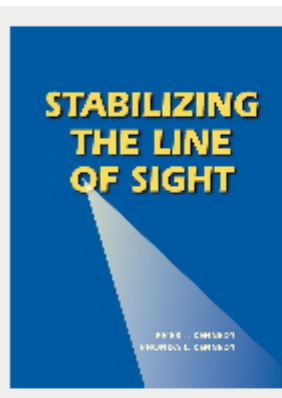
A new optical sensor developed by scientists and engineers at Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, and the University of Nevada-Reno could reduce the time needed to reliably evaluate whether critical buildings, such as hospitals and schools, are safe to reoccupy after an earthquake.



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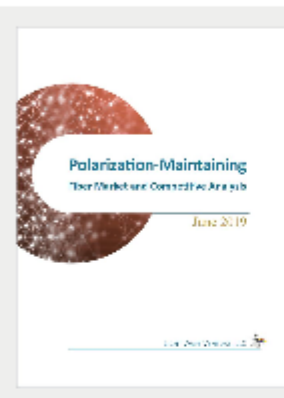
### Featured Products



#### Stabilizing the Line of Sight

**Photonics Media**  
In *Stabilizing the Line of Sight*, authors Peter J. and Rhonda L. Kennedy provide a methodology and an example for executing a successful end-to-end line-of-sight (LOS) design. Comprehensive in scope, this book will give readers a better understanding of the relationships between the various engineering disciplines that are required for successful LOS control.

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#### Polarization-Maintaining Fiber Market and Competitive Analysis - June 2019

**Photonics Media**  
The competitive polarization-maintaining (PM) fiber market is expected to grow over the next five years at rates between 5% to 12% depending on the market segment, but there's a lot more to the market than a growth forecast. Before you put your project out for bid or invest in new PM fiber product development, it pays to get the whole picture. This new PM Fiber Market report was written by an analyst with three decades of fiber market experience and a finger on the market's pulse today.

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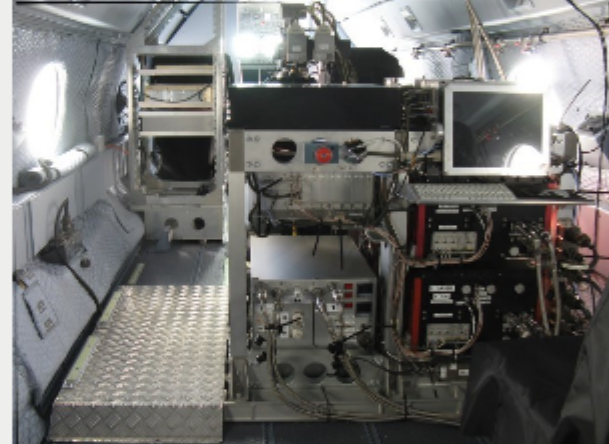
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### More News

#### Airborne Lidar Provides More Complete Picture of Atmospheric Gases

Researchers from Deutsches Zentrum für Luft- und Raumfahrt eV (DLR), Germany's national center for aerospace, energy, and transportation research, have developed a laser-based system for airborne measurement of atmospheric gases. The distribution of these gases in the troposphere, the lowest layer of Earth's atmosphere and where weather takes place, plays a central role in Earth's climate.



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#### Excess Solar Power Could Transform Seawater into Drinking Water

Researchers at King Abdullah University of Science and Technology have developed a multifunctional device that captures the excess heat shed by photovoltaic solar panels and uses it to desalinate seawater, without affecting the panels' electricity output.



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### More Headlines

**US Army Awards Northrop Grumman \$17.6M to Upgrade Lasers** [Read Article](#)

**New Images Demonstrate the Presence of Photon Entanglement** [Read Article](#)

**Jenoptik Lenses to Provide First Images from Mars Rover 2020 Mission** [Read Article](#)

**Quantum Interference Enables Constant-Time Quantum Information Processing** [Read Article](#)

**US Military Awards Intevac Photonics \$40M Digital Night Vision Contract** [Read Article](#)

### Industry Events

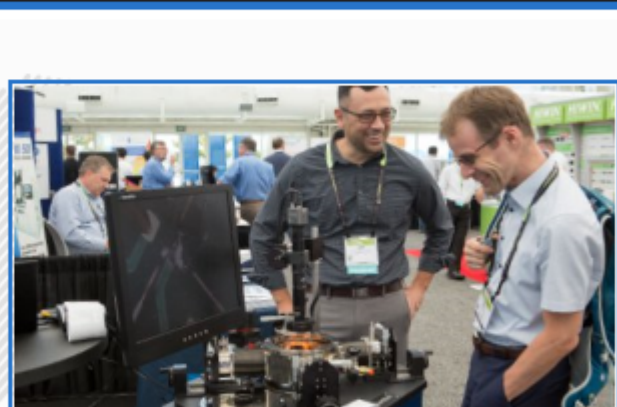
#### SPIE Optics & Photonics 2019

August 13-15, 2019 - San Diego Convention Center - San Diego United States

Photonics Media Booth: 823

This event will offer innovative technologies to help industry, academia, and government find better ways to preserve the environment, understand and develop new photonics technologies, and discuss emerging applications for optics and photonics. 68 conference topics will cover advances in optical engineering and applications, nanotechnology, quantum science, organic photonics and electronics, and astronomical instrumentation. Plenary speakers will include Nobel Laureate William E. Moerner from Stanford University.

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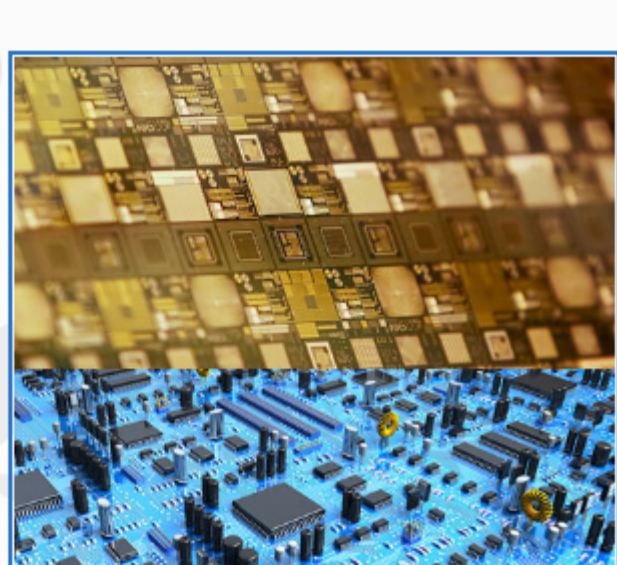
### Webinars

#### Optical Metrology Solutions for the Semiconductor and Microelectronic Industries

Wed, Jul 31, 2019 11:00 AM - 12:00 PM EDT

This webinar, presented by Sensofar Metrology, will discuss specific analysis for QC in PCB applications. It will also cover critical dimensional measurement, roughness, and defect identification. It will discuss solutions pertaining to ISO 4287, ISO 25178, and how Sensofar's proprietary software quickly identifies profiles, roughness parameters, and defects for surface texture, height, and traces. The focus will be on imaging wafers, pads, step heights, bonds, and probe cards.

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#### CALL FOR ARTICLES

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *BioPhotonics*, *Vision Spectra*, and *EuroPhotonics*). Please submit an informal 100-word abstract to [editorial@Photonics.com](mailto:editorial@Photonics.com), or use our [online submission form](#).

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