

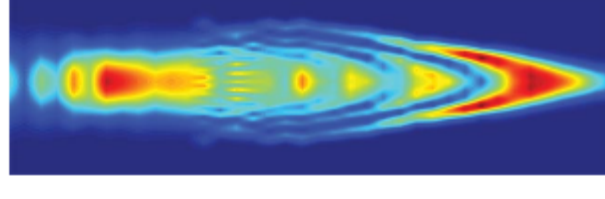


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The Path to Practical Attosecond Sources Is Getting Shorter

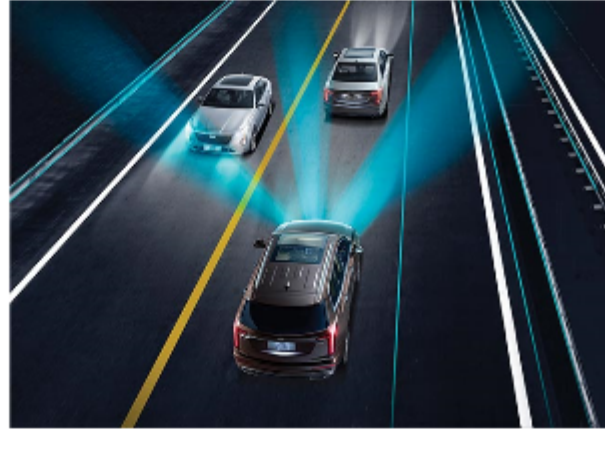
Attosecond photonics allows for deep insights into material dynamics on ultrashort timescales and at nanometer resolutions. Because the attosecond is the natural timescale of electron motion within atoms, molecules, and solids, the applications for attosecond photonics range from research in physics, chemistry, medicine, the life sciences, and perhaps even manufacturing.



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Automotive Lighting Turns a Corner

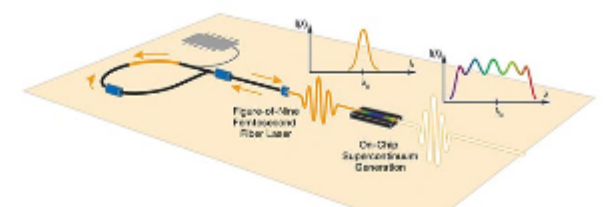
Studies cited by the Independent Institute for Highway Safety show that using automatic switching on old-fashioned high beams whenever possible reduces nighttime automotive crashes with animals, pedestrians, and unlit bicycles or cars by 26%. With the advent of inexpensive and rugged visible-range LEDs and other photonic technologies, automobile lighting is rapidly improving both inside and outside the vehicle.



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New Supercontinuum Generation Sources Put Handheld Devices Within Reach

With the development of patterned alternating dispersion waveguides, supercontinuum sources can be made significantly more compact and efficient in a package that fits in the palm of a hand.



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:: Featured Products & Services



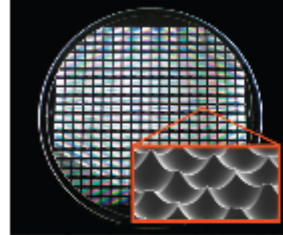
[Norland Optical Splice](#)

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Norland's optical splice provides a high-performance connection for optic fibers in a unique one-piece design.

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Wafer-level optics solutions from origination and nano-imprinting to assembly. Using advanced lithography and other manufacturing processes, a wide variety of micro/nano structures are created according to customers' desires in applications including refractive/diffractive optics, imaging optics, freeform optics, and many more.

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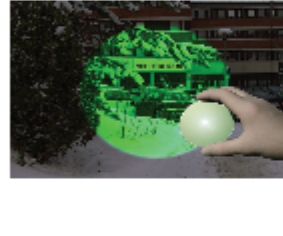
Spectrocell Inc.

This unique cell is a challenge for most but not for us at

Spectrocell. Because of its use in a high-radiation environment, this cell required special construction using fused silica with minimal metallic impurities. In addition to that, it required a 0.35-mm window, no distortions, and a 2-mm thermowell sitting at the top of the optical section of the cell.

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infrared filters and windows with high transmission, high rejection outside the passband, while maintaining excellent coating uniformity for thermal imaging and gas detection applications such as cryogenically cooled IR detectors and uncooled microbolometers.

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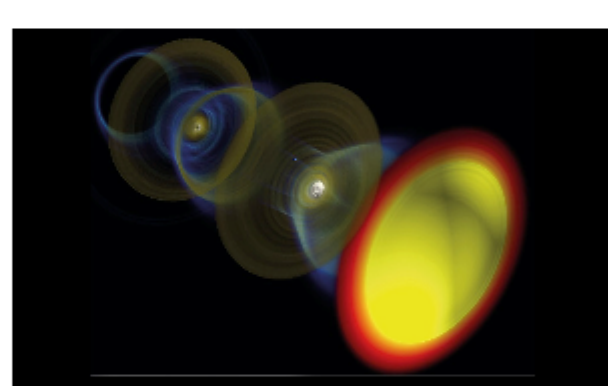
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:: In Case You Missed It

Quasiparticle Light Source Could Rival Super-Brightness of FELs

An international team of scientists is rethinking the principles of radiation physics, with the goal of creating super-bright light sources that are compact and relatively convenient to use. Coherent light sources such as free-electron lasers provide super-bright beams for studying biological, chemical, and physical phenomena. Although these super-bright sources can enhance the imaging for many applications from drug development to chip-making, their massive size and scarcity make them impractical for most laboratories, hospitals, and businesses.



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Photonic Crystals Imitate Gravitational Effects on Light

Researchers from Tohoku University, in collaboration with other institutions including Osaka University, set out to determine whether lattice distortion in photonic crystals could produce the effects of pseudogravity. They experimentally demonstrated pseudogravity in the terahertz range.

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Synthesized Nanoresonators Harness Power of IR for Optics and Electronics

To make high-quality crystals that resonate strongly with IR light, researchers at Stanford University and Lawrence Berkeley National Laboratory (LBNL) developed a bottom-up, self-assembly approach to synthesize nanostructures with crystal qualities consistent with bulk single crystals. The ultrathin nanostructures act as ultrahigh-quality, nanoscale resonators of lattice vibrations at IR frequencies, to provide a high-performance, low-loss platform for IR applications.

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:: Upcoming Webinars



Design and Optimization of Optical Waveguides

Thu, Nov 30, 2023 2:00 PM - 3:00 PM EST

Optical waveguides are important building blocks for many optical devices and systems. Well-known applications range from basic optical fibers to more complex multiphysical components, such as integrated optical modulators and semiconductor optoelectronic devices for telecommunication.

Moreover, waveguide devices are widely used for optical sensing and high-quality fiber laser light sources. This webinar shares about modeling optical waveguides using the Wave Optics Module, an add-on to COMSOL Multiphysics®. It covers topics such as the construction of complex waveguide structures using basic waveguide parts, the analysis of mode fields and propagation constants, and the modeling of wave propagation along optical waveguides. A representative from COMSOL introduces multiphysics couplings and shows optimization strategies while also sharing how to build and maintain custom simulation apps based on specific models, for use by colleagues or customers. Presented by COMSOL.

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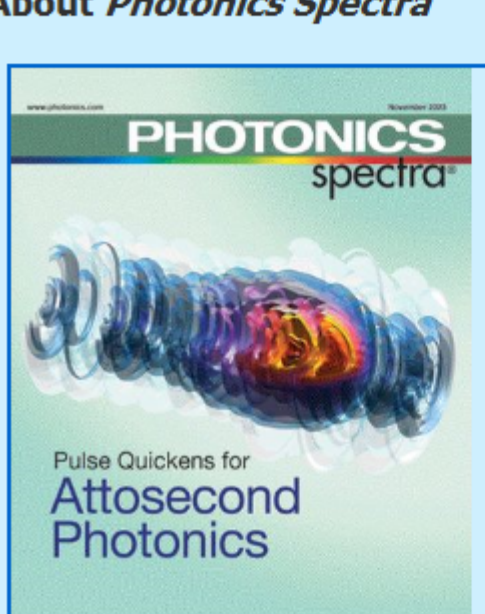
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Ultrafast Imaging, Terahertz Thickness Measurement, Interferometry, and EPIC Insights

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