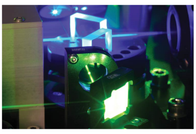
Wednesday, November 12, 2025

PHOTONICS spectra

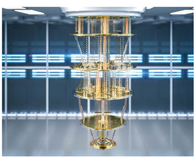
Monthly Newsletter

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. Photonics.com/subscribe.



In Transition from Battlefield to Industry, Dry Laser Cooling Makes a Splash

As lasers expand further into industrial, research, medical, and military applications, end users are placing increased scrutiny on system cooling requirements. All lasers require a form of thermal management. The appropriate method depends on both the laser design and its operating environment: If the heat load fluctuates, for example, a user must account for both the laser's range and rate of change. Regardless of scale and power, overheating can lead to efficiency losses, wavelength drift, and shortened operating lifetime. Read Article



With Optics at Its Core, Quantum Computing Moves from Curiosity to Cornerstone

Grounded in the principles of quantum mechanics — superposition, entanglement, and interference — quantum computing is one of the most intriguing technologies of our time. It is also deeply misunderstood; the term "quantum" is often misused in popular culture to imply futuristic speed or capability. While there is no doubt that quantum computing promises a transformative scientific leap that lacks a perfect analog, it is, at its core, a tangible, physical technology.

Read Article

Smart Spectroscopy Systems Expand Across Industries and Applications

Developments in integrated laser technology and improvements in basic optics, shrinking electronics, and the personalization of computing power are converging in the modern spectroscopy workstation. In combination, these factors are broadening accessibility and cross-industry adoption. They enable smart, connected setups — combining hardware, software, and workflows — to deliver precise, application-specific results. Read Article

Featured Products & Services

OptoFlash® Spectrometer Engines

MKS/Newport

OptoFlash® empowers spectral analysis across various industries, including clinical chemical analyzers, food and beverage analysis, environmental analysis (soil, water, and air), precision agriculture, and waste stream sorting. Ideal for applications where predetermined wavelength detection is essential to acquiring fast sample measurements for your unique OEM applications.

Visit Website | Request Info

PT Rugged Hexapod for Industrial Use

PI (Physik Instrumente) LP, Motion Control, Air Bearings, Piezo Mechanics

PI's new H-815 is a rugged 6-axis hexapod designed for 24/7 motion in industrial alignment tasks. It features absolute encoders (no referencing) and automatic motor brakes for extra safety during a power loss. Applications: alignment of camera lenses, fiber optics, photonics; micro assembly, etc.

Visit Website | Request Info

Looking for something else? Check the Photonics Marketplace.

PHOTONICS marketplace®

In Case You Missed It

Photonics in Transition: Strategic Insights from the Global Photonics Economic Forum
With most of northern Europe already gray and wet, early October still felt like summer on Spain's Costa del Sol. That warmth seemed to match the mood at the Global Photonics Economic Forum in Málaga, where more than 300 senior executives from across the industry gathered to talk strategy, investment, and the technological leaps reshaping their businesses. Read Article

Researchers Reveal Dual Function in Integrated Photonics Component
The combination of electrical and photonic circuits is a major goal of the integrated photonics industry, but it also presents a problem. Electrical circuits are notorious for generating heat. If photonic devices become a little bit too hot, or a little bit too cold, their finely tuned photonic properties can be disrupted. Read Article

Universal Coupler Promises to Cut the Costs of Photonic Quantum Computers
Quantum Pulse Ventures, a company developing technology to reduce barriers to quantum computing, has created what it describes as a universal directional coupler for photonic quantum computers. According to the company, the couplers can reduce the cost per computer by up to $900 million by lowering hardware requirements, reducing run time, and improving robustness against imperfections. Read Article

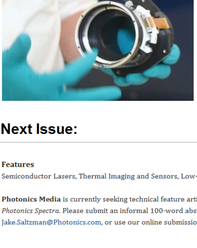
Star Catcher Industries Reports Wireless Power Beaming Record
Star Catcher Industries, a space energy company building an orbital power grid, has claimed a world record for wireless power transmission. According to the company, its result surpasses the previous benchmark set by the U.S. Defense Advanced Research Projects Agency (DARPA) earlier this year. Read Article

Latest Webinars

Advanced Motion Control for Semiconductor Metrology

Tue, Nov 18, 2025 1:00 PM - 2:00 PM EST
This webinar explores advanced motion control principles and critical technologies vital for semiconductor inspection and metrology tools, addressing the industry's escalating demands for accuracy, speed, and reliability. Participants will gain insight into how precision motion systems enable advanced applications such as wafer inspection, SWLI, SEM/FIB, AFM, and reticle/mask inspection. Presented by Aerotech.

Register Now



Design-for-Excellence (DfX): Building Scalable, Reliable Optical Systems

Wed, Nov 19, 2025 11:00 AM - 12:00 PM EST
Whether you are designing high-precision optical instruments, imaging systems, or ruggedized solutions for aerospace and medical markets, this session will offer actionable strategies to improve product outcomes, reduce total cost of ownership, and shorten time to market. Join the Optikos team as it shares real-world lessons from decades of optical system design and explore how a DfX mindset can future-proof your next product. Presented by Optikos.

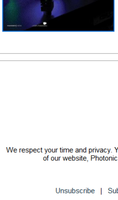
Register Now

Next Issue:

Features
Semiconductor Lasers, Thermal Imaging and Sensors, Low-Light Imaging

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Jake Saltzman, Senior Editor, at Jake.Saltzman@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

About *Photonics Spectra*



Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

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