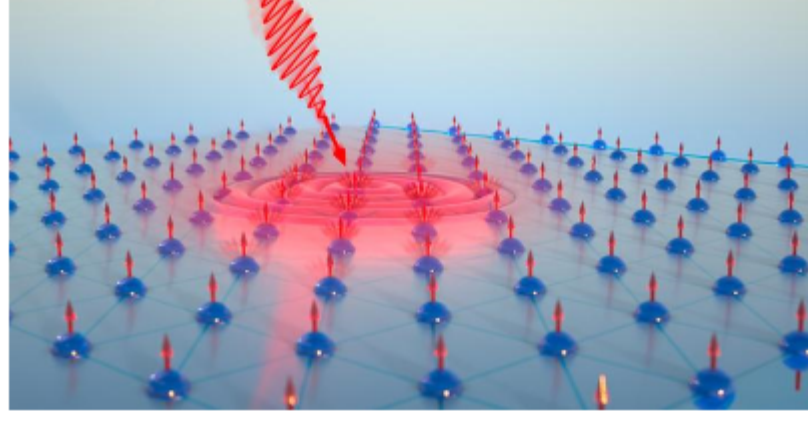




Weekly News



MTI Could Significantly Improve Optical Memory Device Efficiency

While investigating MnBi₂Te₄, a material composed of manganese, bismuth, and tellurium, a University of Chicago research team observed that the material's magnetic properties changed quickly and easily in response to light. Based on this response, the team inferred that a laser could be used to encode information within the magnetic states of the

material to optically store computational data. [Read Article](#)



Adaptive Sensors Optimize Indoor Transmissions for Smart City Networks

Through various information and communication technologies, smart cities provide services like education, medical care, safety, transportation, and utilities. Many of the services that smart cities are expected to provide rely on accurate 3D sensing of urban spaces, both indoors and outdoors. To manage the resources in a smart city, multiple lidar devices form sensor networks to collect data about the position of 3D shapes and objects in real time. The network

covers blind spots by aggregating point clouds from multiple lidar sensors that have different viewpoints. [Read Article](#)

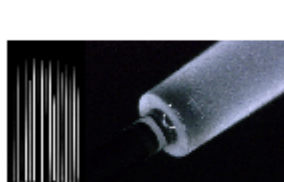


Specialty Optical Fibers Tackle Challenge of Quantum Data Transfer

To support efficient data transfer between quantum computers in the future, researchers at the University of Bath are developing a new generation of optical fibers that feature a microstructured core. The microstructure consists of a complex pattern of air pockets running along the entire length of the fiber. [Read Article](#)



Featured Products & Services



CO₂ Laser Glass-Processing

NYFORS Teknologi AB
CO₂ laser glass-processing is

designed to produce high-power and sensitive photonic components and complex structures. It guarantees contamination-free processing for fiber linear, 2D and gapless array splicing, ball lensing, end-capping, and many other challenging processes. NYFORS also manufactures automated high-precision solutions for fiber preparation, such as stripping, cleaving, recoating, and end-face inspection. NYFORS offers custom workcell automation solutions.

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High Performance IBS Coatings

Northrop Grumman

Synoptics

Quasi-Rugate thin film designs are optimized for high-power laser applications for ultra-fast through CW applications across the wavelength range of 355 nm to 2200 nm. Each design has a unique refractive index profile specifically tuned to give optimal performance for our customer's applications. Quasi-Rugate design structures have the highest demonstrated Laser Damage Thresholds of any Ion Beam Sputtered films.

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More News

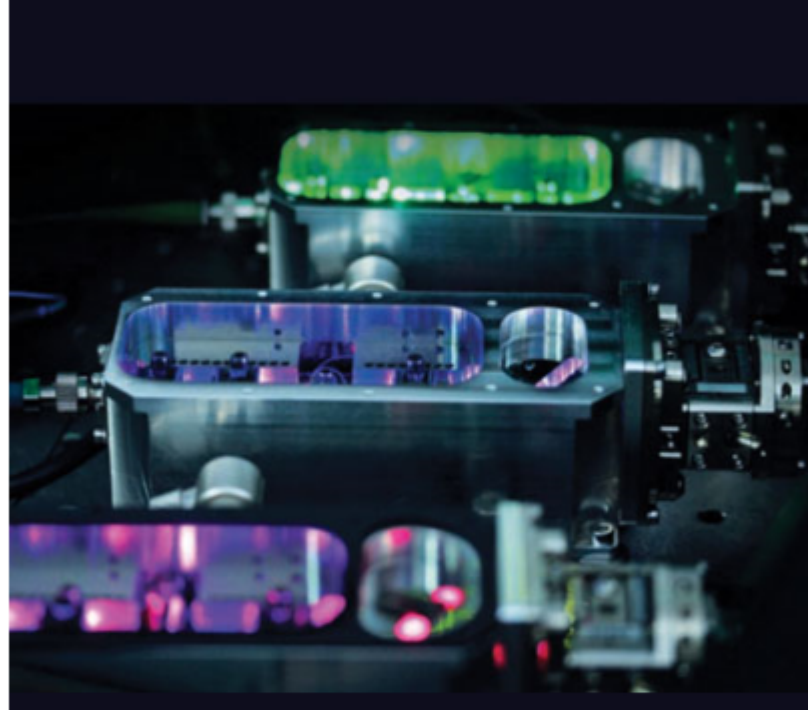
[Nanoscience, Organic Photonics Headline SPIE Optics + Photonics 2024](#)

[Joint imec-ASML Lithography Lab Reports Breakthroughs](#)

[SPIE Names 107 Senior Members](#)

[Project ARCTIC Pushes Quantum Processors Toward Scalability](#)

Latest Webinars



Industry Innovations in Fiber-Based Frequency Combs: Ultrabroadband Comb with Sub-3-kHz Free-Running Linewidths

Tue, Aug 27, 2024 1:00 PM - 2:00 PM EDT

Femtosecond frequency combs represent unparalleled measurement tools with diverse applications in spectroscopy, metrology, and quantum physics. This discussion delves into the critical aspects of maximizing the passive stability of these instruments to unlock their full potential in fundamental science and high-tech industries. By studying the noise properties of fiber-based frequency combs across varying intracavity dispersion, pump power, and repetition rate parameters, researchers have notably identified carrier-envelope minima (CEM) where the free-running linewidth of the carrier-envelope offset (CEO) frequency (fCEO) drops below 1 kHz. A comprehensive analysis

of individual comb lines across a broad spectral range unveils the specific contributions to phase noise and their interplay. Leveraging these insights, this presentation showcases the development of frequency combs with sharp teeth at designated positions throughout the spectrum from fCEO to 300 THz. These compact systems offer ultrabroadband stability, presenting a new standard for front-end measurement, such as integrated quantum clock experiments based on Strontium atoms.

Sponsored by Topptica Photonics.

[Register Now](#)



Reflective Optics for Multispectral EO Systems

Wed, Aug 28, 2024 9:00 AM - 10:00 AM EDT

Large reflective optics are essential for high-performance multispectral, electro-optics imaging systems in defense, surveillance, and aerospace. These systems capture multiple wavelengths to improve target identification and combine data from various bands to offer a comprehensive environmental view, enhancing situational awareness. They excel in adverse conditions by penetrating haze, smoke, and challenging weather better than visible light, and they provide high-resolution imaging for detailed analysis and accurate decision-making. Utilizing advanced data fusion, these systems enhance target recognition and tracking, adapt to various mission requirements from surveillance to disaster response, and reduce operational costs by minimizing the number of necessary maneuvers. Join

MKS Ophir for an insightful webinar on the latest advancements in reflective optics for multispectral systems. Presented by MKS Ophir IR Optics.

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