euroPHOTONICS

NEWSLETTER

Quarterly newsletter from Photonics Media highlighting the latest photonics news, features, and products from Europe.
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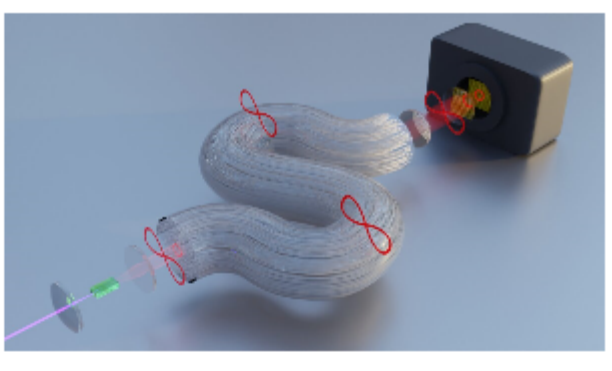
Quantum Light Transmitted Through Phase-Separated Anderson Localization Fiber



Following its development by a team at Corning in 1970, low-loss optical fiber became the best means to efficiently transport information from one place to another over long distances without loss of information. However, with the exponential increase in data generation, systems that use conventional optical fiber systems to transmit data are approaching information-carrying capacity limits. Research is therefore focused on methods to use the full potential of fibers by examining their inner structure and applying new approaches to signal generation and transmission.

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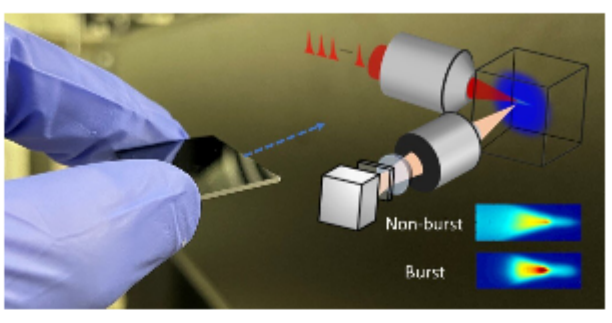
Light Burst Opens Path to On-Board 3D Processing in Semiconductor Chips



Because semiconductors serve as the backbone of modern technologies including cellphones, cars, robots, and other devices, the continuous need for miniaturized and powerful chips is placing increased pressure on semiconductor manufacturing technologies. The dominant technology, lithography, is limited in its ability to address these challenges, given its surface-processing nature. When intense light from ultrafast lasers is focused inside a semiconductor, highly efficient nonlinear ionization along the beam path creates an opaque plasma that prevents reaching enough energy localization near focus for material writing.

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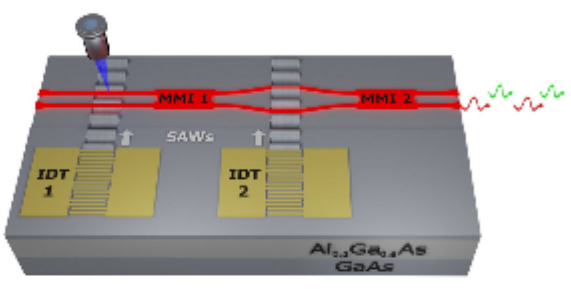
Sound Waves Enable Individual Photon Control at High Speed



Light and sound are foundational to modern communication technology. Glass fibers — with laser light— form the bedrock of the internet. Nanoscale sound waves on chips serve to process signals at gigahertz frequencies for wireless transmission between devices.

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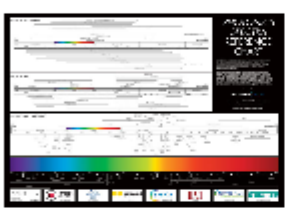

Photonics Spectra Reference Chart

Photonics Media
This full-color, 30 × 20.5-inch poster of the photonics spectrum displays the major commercial laser lines, detectors and optical materials in the ultraviolet to the far-infrared and beyond. The chart was updated in 2021 to reflect the changing technologies in the photonics industry. The convenient format makes it easy to quickly find the information you need.

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Alluxa Ultra Series Filters

Alluxa
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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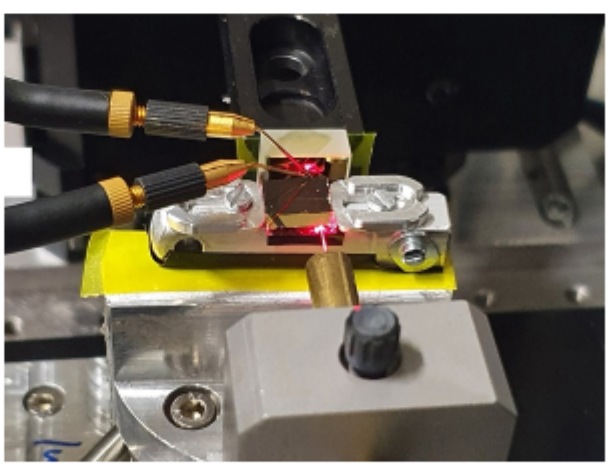
Miniaturized Spectrometer Proves a Fit for Compact Electronics



Scientists in Europe have collaborated to develop an ultracompact spectrometer design that offers large bandwidth, moderate spectral resolution, and a spectral sensitivity in the infrared region. According to the team, its design for a Fourier-transform waveguide spectrometer will allow optical measurement instruments to be integrated into compact devices such as consumer electronics and ultrasmall satellites.

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Phlux Secures Funding to Market Lidar-Boosting Sensors

Phlux Technology, a designer of high-performance infrared sensors, has secured £4 million ($4.89 million) in a seed funding round to bring its lidar sensors to the mass market. The Sheffield University spinout uses the semi-metal element antimony in its patented approach to infrared sensing. The proprietary technology reportedly provides 10× greater sensitivity and 50% more range compared to equivalent sensors, while reducing the cost of manufacturing. It is expected to dramatically improve performance in lidar systems.

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Metrology Center Is Latest Addition to Dutch Photonics Ecosystem

The Netherlands' Photonic Integration Technology Center has launched a dedicated metrology program, aimed at developing design-for-test methodologies and new product characterization and test automation tools. Within the PITC, which itself looks to accelerate the uptake of integrated photonics by bridging the divide between research and application, the metrology program consortium includes integrated photonics designers, manufacturers, and product suppliers, as well as automated test equipment suppliers.

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