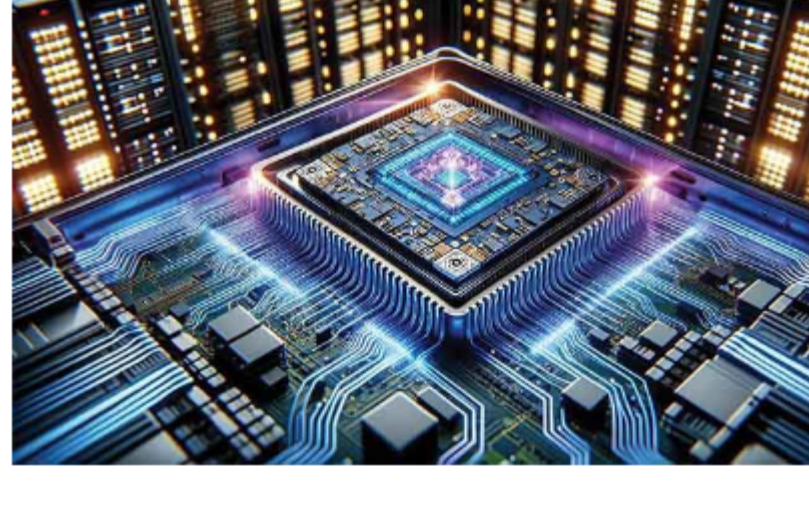




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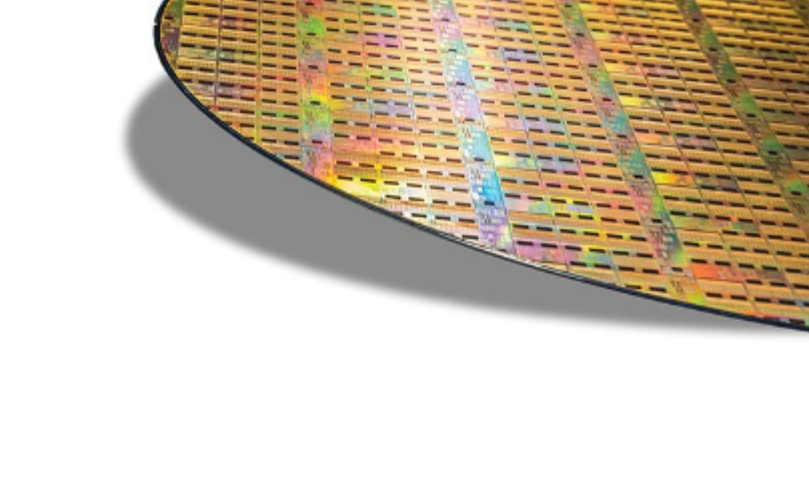
Has Silicon Photonics Finally Found Its Killer Application?

During the last decade, the exponential growth of data center traffic has been largely fueled by general-purpose cloud- and internet-based applications, such as video streaming, social networks, internet search engines, and e-commerce platforms. More recently, the onset of artificial intelligence (AI) and machine learning that leverage large language models for both AI training and inference has added significant upside growth

perspectives to the traditional data center market. [Read Article](#)

Understanding In-Package Optical I/O Versus Co-Packaged Optics

Recent advancements in silicon photonics are upending the optical market in the data center, with significant ramifications for how future AI, cloud, and high-performance computing systems will be designed, architected, and deployed. The core problem involves how to best connect compute chips over longer distances while maintaining bandwidth, energy, and density metrics that are acceptable for a given application. [Read Article](#)



Advanced Filters Help Space Lasers Deliver Internet from Above

Rapid, on-demand access to information is a necessary facet of daily life in the present "age of communications." The reliable communication links that society necessitates support person-to-person and device-to-device communications at any time and, increasingly, in any place. Satellite

communications presents a viable supplement to terrestrial telecom in the quest to achieve future communications needs. [Read Article](#)



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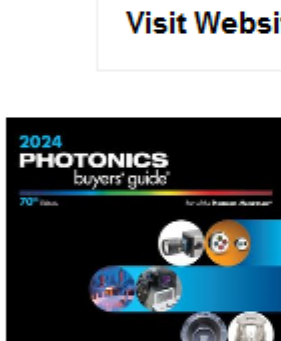
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In Case You Missed It

Measurement Tool Helps Optimize Semiconductors for Optoelectronics

To enable efficient, complete characterization of semiconductors, scientists at Helmholtz Zentrum Berlin developed a method that records 14 different parameters characterizing transport properties in a single measurement. The new method, which the researchers call Constant Light-Induced Magneto-Transport (CLIMAT), is based on the Hall effect and could help scientists accurately assess new materials for optoelectronic devices in far less time than existing methods.

[Read Article](#)

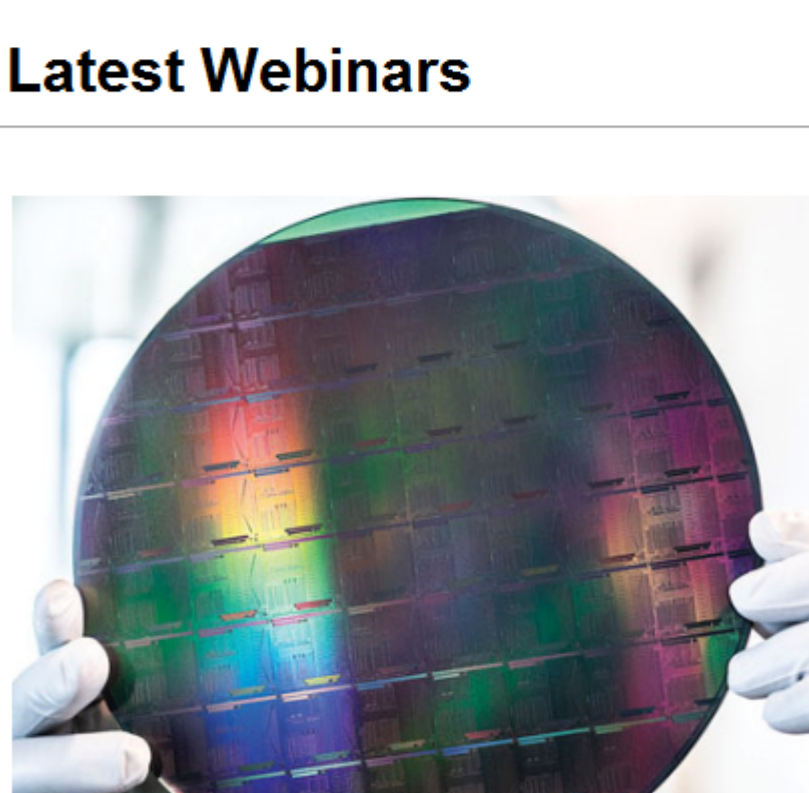
AEgIS Cools Positronium with Lasers, Enabling New Antimatter Studies

Researchers at CERN's Antimatter Factory working on the Antihydrogen Experiment: Gravity, Interferometry, Spectroscopy have cooled positronium with laser light for the first time. According to the researchers, the achievement could mark the first step towards a matter-antimatter system that emits laser-like gamma-ray light. [Read Article](#)

Metamaterial's Magnetolectric Response Could Enable New Applications

An optical metamaterial from Aalto University has the potential to enable applications that would otherwise need a strong external magnetic field to work, including one-way glass. [Read Article](#)

Latest Webinars



Integrated Photonics for Quantum Computing

Tue, May 28, 2024 10:00 AM - 11:00 AM EDT

Realizing photonic quantum technologies, such as an optical quantum computer or a quantum communication link between distant superconducting qubits, will require the development of novel photonic components. Monolithic silicon or silicon nitride photonic platforms are falling short with respect to the requirements of the quantum domain, and it is envisioned that a hybrid solution is needed. In this talk, Christian Haffner of IMEC shortly discusses what hybrid solutions the silicon photonic platform can offer in terms of detectors, the sources, and modulators. His primary focus lies on the electro-optical modulator covering the requirements that the quantum world enforces. He compares the classical and quantum theoretical framework, and sketches out what performance metrics a

quantum electro-optical modulator needs to fulfill.

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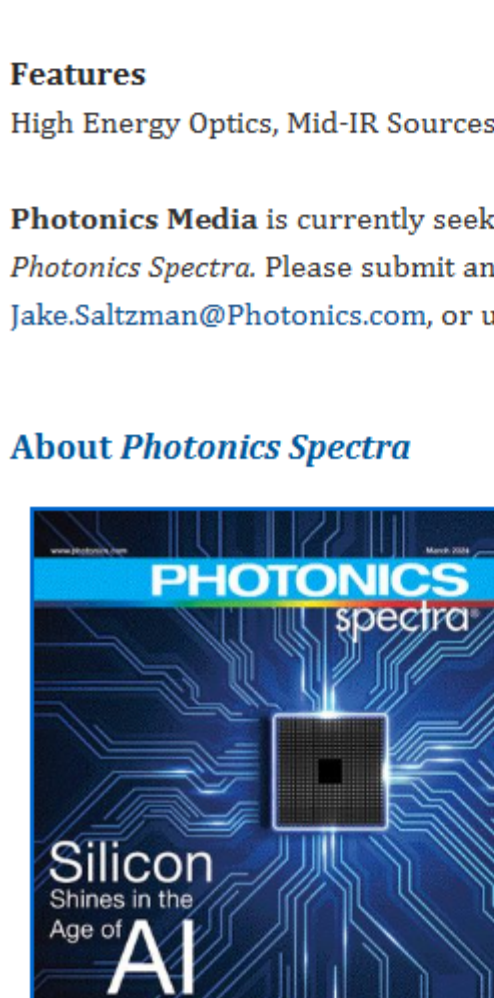
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High Energy Optics, Mid-IR Sources, Machine Vision Sensors, and Programmable PICs

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