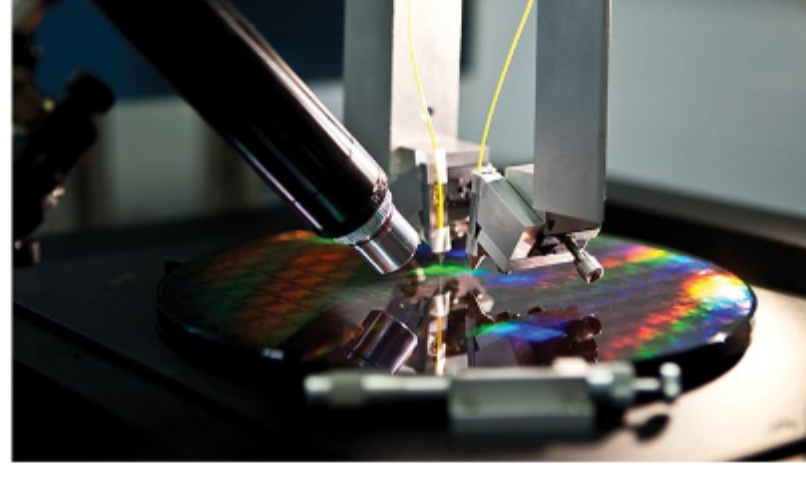




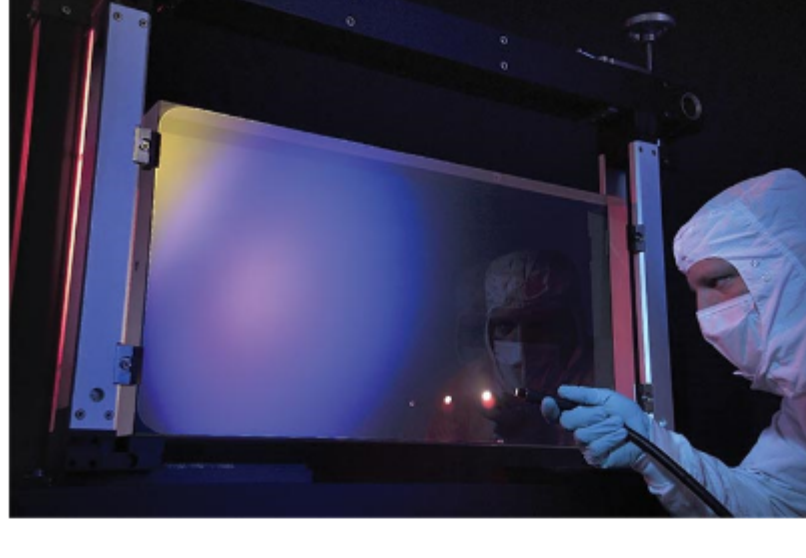
Monthly Newsletter

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.



Test Design Kits Accelerate a 'Fab-less to Lab-less' Transition

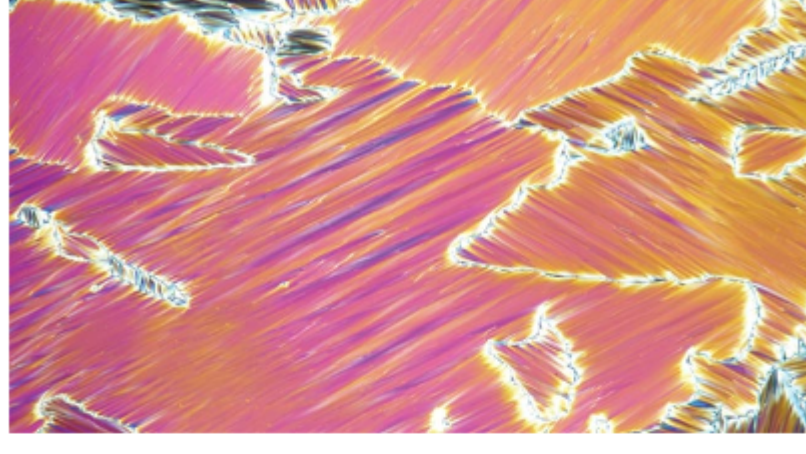
For all the promise that market projections offer, forecasts fail to focus on existing challenges that must be met to ensure that integrated photonics maintains and builds on its current momentum. One of the greatest hurdles that currently faces the industry is testing. As the production of photonic chips continues to increase, current test practices, as well as necessary infrastructure, do not scale effectively. [Read Article](#)



Lessons from the Past Shape the Future of Large Optics

In the 1990s, several daunting technological challenges converged, redefining both the perception and parameters of large optics. With the unprecedented demands of initiatives, such as the Lawrence Livermore National Laboratory's National Ignition Facility, the James Webb Space Telescope, the Extremely Large Telescope, and numerous other large telescope projects on the drawing board, the optics industry required a scale-up and new levels of performance. In the

electronics sector, meanwhile, new-to-emerge classes of consumer and industrial devices demanded large-format, defect-free glass panels, which further influenced the upward growth trajectory of large optics. [Read Article](#)



Polymers and Liquid Crystals Harness the Power of Polarization Control

In his early works on polarization, luminary physicist William Shurcliff offered a powerful sentiment: "If light is man's most useful tool, then polarized light is the quintessence of utility." Considerable evidence, both in the form of applications and commercially available products and devices, suggests that Shurcliff's assessment holds true. Optical materials and components that can control and measure polarization are

critical enabling technologies. [Read Article](#)



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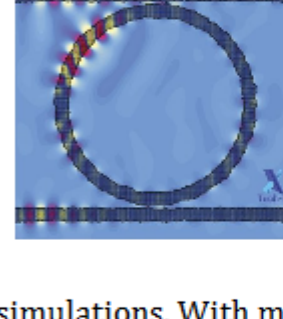
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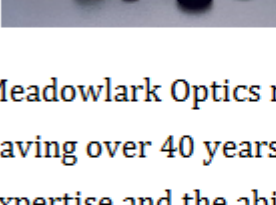
Tech-X Corporation XSim

Tech-X Corp.

XSim is a powerful GPU-enabled FDTD tool for precise time-dependent EM simulations. With multi-GPU scalability, start on your laptop and seamlessly transition to AWS for faster, cost-effective results. Ideal for photonic integrated circuit designers, convert GDS files to detailed 3D simulations, optimizing performance and ensuring robustness against manufacturing variations. Achieve unmatched accuracy and efficiency.

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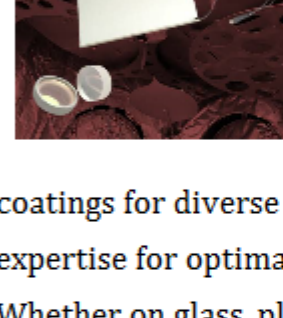
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Micron-Scale Entangled Photon Source Could Open Mobile Applications

An international team of researchers led by the Friedrich Schiller University Jena has proposed a method to generate entangled photon pairs using 2D materials. The advance could open the door to quantum encryption on mobile devices. [Read Article](#)

Pre-designed Perovskites with Edge Lasing Allow Nonlinear Optical Effects

A research team from the University of Warsaw, in collaboration with institutions in Europe and Australia, developed a way to efficiently fabricate large-scale waveguiding perovskite crystals in predefined shapes such as couplers, splitters, or microwires. The optical, lasing, and waveguiding capabilities of perovskite make the material a promising platform for integrated photonic circuits for classical and quantum signal processing. [Read Article](#)

Coherence Entropy Unlocks Insights into Light-Field Behavior

Environments like turbulent atmospheres or deformed optical systems can distort and disrupt the light field, making it difficult to achieve clear and reliable results. Researchers at Soochow University have uncovered details on how light behaves as it travels through complex and fluctuating media. The work could provide opportunities to advance applications ranging from optical communications to advanced imaging techniques. [Read Article](#)

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Understanding Commercial Off The Shelf (COTS) Lens Tolerances

Tue, Sep 17, 2024 1:00 PM - 2:00 PM EDT

The technical data sheet, the most basic form of communication about lens specification in the industry, should provide an objective and uniform key to helping buyers understand the tolerances surrounding the key optical parameters that are provided about a lens. This webinar focuses on ISO tolerances and what questions an end user needs to ask the manufacturer about tolerances after manufacturing and delivering a lens. Individuals need to know what they are buying to be sure the lens associated tolerances once delivered will meet overall system requirements. Theoretical data sheets do not provide what will truly be received. Being an educated consumer upfront during the lens selection process will ensure the lens meets individual requirements. Sponsored by Schneider Optics.

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