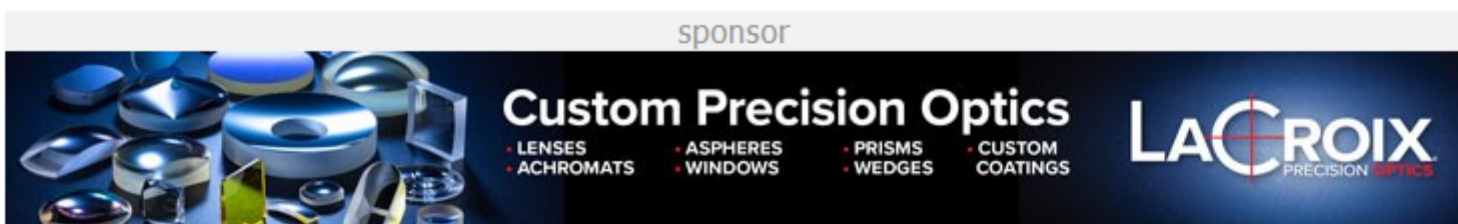




February 2021

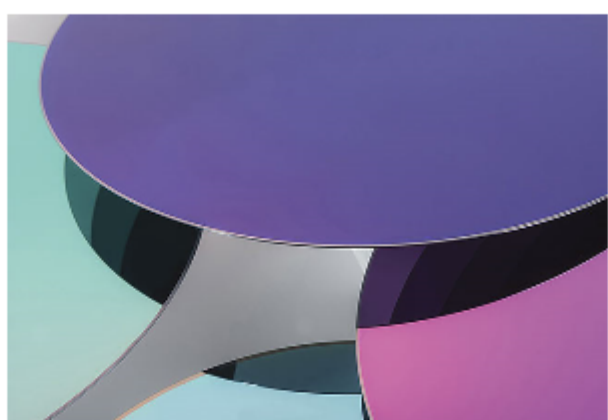
Optics Tech Pulse is a special edition newsletter from Photonics Media and LaCroix Precision Optics covering key developments in optics technology.



SOI Technology Lights Up the Next Wave of Photonics Solutions

Silicon has been the mainstay of micro-nanoelectronics since the late 1950s, being widely adopted for electronic devices and complementary metal oxide semiconductor (CMOS) technologies. In the early years of the semiconductor industry, germanium was the favored material for electronic applications due to its higher carrier mobility; however, innovations at Bell Labs in surface passivation by thermal oxidation processing enabled a breakthrough in silicon semiconductor technology in the second half of the 1950s.

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**LaCroix Precision Optics
LaCroix Cost Estimator**

The LaCroix Cost Estimator provides an instant ROM estimate for prototype optics, assisting optical designers in achieving an estimate while designing their optics using Zemax OpticStudio. In addition to the ROM estimates, the LaCroix Cost Estimator provides feedback on manufacturability through error codes. Register today for the LaCroix Cost Estimator. LaCroix Precision Optics specializes in spherical lenses, aspheres, achromats, windows, wedges, prisms, and custom coatings.

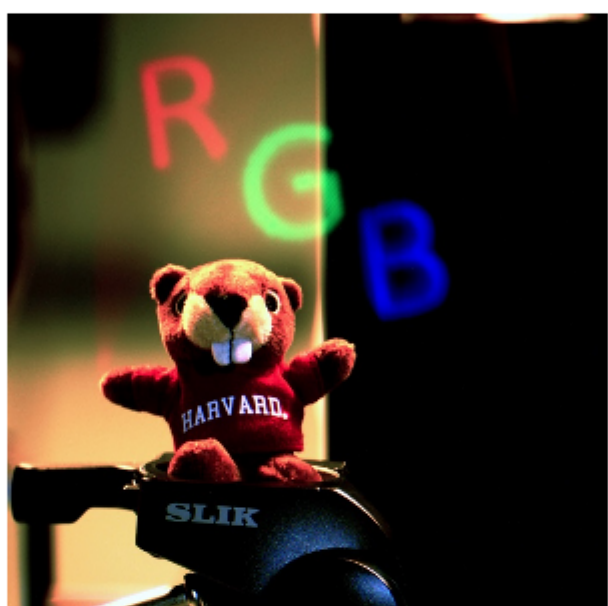
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Capasso Group's Largest Metalens to Date Demonstrates Potential in VR

Researchers led by Federico Capasso at the Harvard John A. Paulson School of Engineering and Applied Science (SEAS) have developed a 2-mm achromatic metalens capable of focusing RGB colors without aberrations. The researchers also developed a miniaturized display for virtual reality and augmented reality applications.

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Metamaterial Tiles Perform in Vast Temperature Range, Support Highly Sensitive Measurements

Metamaterial tiles are poised to improve the sensitivity of telescopes currently under development at Simons Observatory in Chile. A multi-institutional team created the tiles, which have been incorporated into the receivers of telescopes that scientists at the observatory will deploy next year.

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Optical Coating Simultaneously Reflects, Transmits Same Wavelength

A multi-institutional team led by professor Chunlei Guo from the University of Rochester's Institute of Optics has developed an optical coating capable of simultaneously reflecting and transmitting the same wavelength. The new class of optical coatings has been dubbed Fano Resonance Optical Coatings (FROCs). The advance could significantly improve the efficiency of devices using hybrid thermal-electric power generation as a solar energy option.

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Imaging Without Limit, on Demand

A team at Columbia University has introduced a way to program a layered crystal in such a way that it is able to open doors to imaging capabilities beyond common limits, on demand. The technique exerts control over nanolight — light that is able to access the nanoscale — providing insight into the field of optical quantum information processing.

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Federico Capasso Awarded 2021 Frederic Ives Medal/Jarus W. Quinn Prize

OSA will present Federico Capasso with the 2021 Frederic Ives Medal/Jarus W. Quinn Prize, which recognizes overall distinction in optics. Capasso, the Robert L. Wallace Professor of Applied Physics and Vinton Hayes Senior Research Fellow in Electrical Engineering at the John A. Paulson School of Engineering and Applied Sciences at Harvard University, earns the highest award granted by OSA.

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