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OPTICS NEWSLETTER

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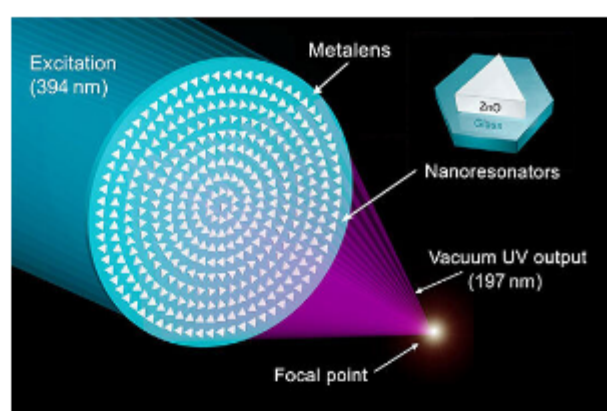


CUSTOM LARGE OPTICS
IR, UV and visible windows from 300 to 600mm

Metalens Cuts Complexities for Semiconductor Manufacturing

Rice University researchers have developed a metalens that transforms incoming longwave UV light (UVA) into a focused output of vacuum UV (VUV) radiation. VUV is used in semiconductor manufacturing, photochemistry, and materials science. Historically it has been costly to work with, in part because it is absorbed by almost all types of glass used to make conventional lenses.

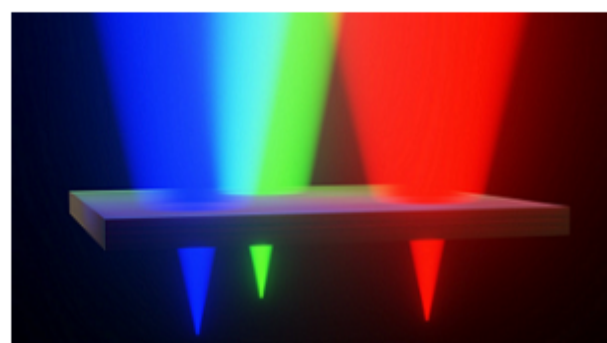
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Understanding Limits Solidifies Spaceplates in Optical Systems

Researchers at Cornell University have proposed a definition for the fundamental and practical limits of spaceplates, a technology developed to support the miniaturization of optical systems. The researchers believe their attempt marks the first time spaceplate bounds have been identified.

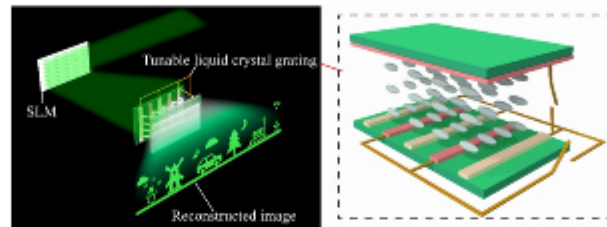
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3D Holographic Display Achieves Wide Viewing Angle, Large Images

A Beihang University research team created a holographic 3D display system that enlarges image size through the simultaneous implementation of two different hologram generation methods. The system features a tunable liquid crystal grating with an adjustable period to widen the viewing angle.

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Featured Products & Services



Optical Fabrication

Photonics Media
Optical Fabrication is a new book for anyone working on or interested in the methods, materials and measurement techniques used in modern lens and optical component manufacturing. The book will serve as an introduction or update, moving beyond methods and materials to design and complex modern applications.

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Sydor Optics Inc.
Sydor Optics can fabricate and manufacture custom IR, UV, and visible windows in a variety of custom sizes, shapes, and substrates based on decades of experience in medical, defense, industrial and scientific fields. Sydor houses the largest collection of double-sided grinding and polishing machines in North America for:...

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More News

European Initiative Moves to Introduce Standardizations for Diffuse Optics

A collaboration between 12 European institutions aims to deliver performance assessment and standardization (PAS) in the field of diffuse optics (DO). DO analyzes how light is absorbed and scattered by biological tissues, using low-power near-infrared light to probe tissues at depths up to a few centimeters. The approach can also detect functional activation and oxygenation of the brain or muscles.

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Soft Material Filters Specific Wavelengths in Response to Temperature Changes

A colloidal gel developed at the National Institute of Standards and Technology (NIST) has demonstrated that it can control structural color and light transmission. Called SeedGel by its creators, the material was originally developed for industrial and bioengineering use.

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Liquid Silica Resin Optimizes 3D Printing for Complex Micro-Optics

A liquid silica resin (LSR) developed by researchers at the University of Arizona has proven successful as a 3D-printing medium for complex micro-optics. The organic-inorganic hybrid material has shown high curing speeds, better mechanical properties, lower thermal treatment temperatures, and reduced shrinkage. Inorganic silica glass can be achieved by thermally treating the printed sample at 600 °C in air.

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Liquid Crystal-Based Devices Manipulate Light with Flat Optics to Uncover Hidden Images

An ancient optical illusion has been updated using the flat optics of today to create a device that reveals a hidden image when light is shined on it. Developed at the University of Ottawa, the magic window is a liquid crystal-based device that can produce any image desired — an effect that could potentially be used in 3D displays.

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Upcoming Webinars



Intraoperative OCT in Veterinary Surgery for Cancer

Tue, Aug 16, 2022 1:00 PM - 2:00 PM EDT

Surgery is a common cancer treatment performed in dogs and cats but the process of assessing the tumor takes several days and is only able to evaluate a small portion. Optical coherence tomography (OCT) is a non-invasive optical imaging technique that helps solve issues that accompany this process. OCT enables real-time intraoperative surgical margin assessment, allowing rapid visualization of the tissue microstructure at the surgical margins. To date, Dr. Laura Selmic, and her team have found high sensitivity and specificity for detection of incomplete margins after surgical excision of skin tumors, including STS and mast cell tumors, in dog and feline injection site sarcoma. The results reveal that OCT has potential for showing the demarcation between tumor and other normal tissues including muscle, fat, and skin.

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