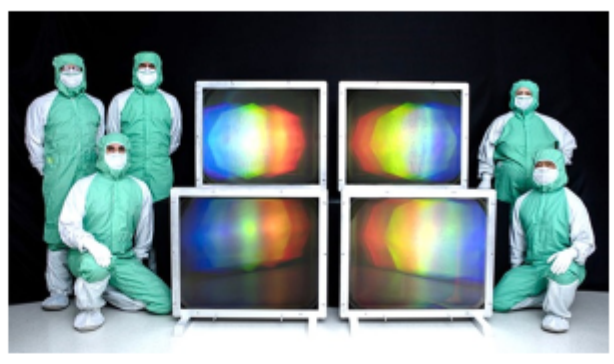
Tuesday, October 11, 2022

OPTICS TECH PULSE

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

LLNL's Diffraction Gratings to Enable Most Powerful Laser



Researchers from Lawrence Livermore National Laboratory (LLNL) and their collaborators developed high-energy pulse compression gratings that will be installed in what will be the world's most powerful laser system. The laser system is designed to deliver up to 10 PW of peak power. One petawatt is about 1000× the capacity of the entire U.S. electrical grid.

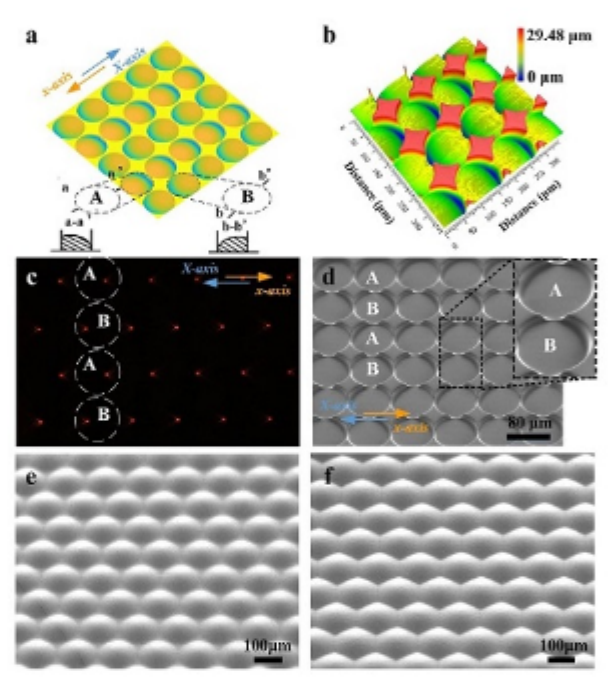
Read Article

LaCroix Precision Optics - Company Overview

LaCroix Precision Optics is a customer-driven, world-class manufacturer of custom precision optics. Our core competencies include spherical lenses, aspheres, achromats, windows, wedges, prisms, and optical coatings.

Watch Video

Microlens Array Fabrication Method Aims to Reduce Device Costs



Researchers at the Institute of Technological Sciences at Wuhan University developed a technique for fabricating and characterizing aspheric microlens arrays using 12-bit laser direct writing lithography technology with single beam exposure. The fabrication method points to many application prospects, such as laser beam shaping and wavefront sensing.

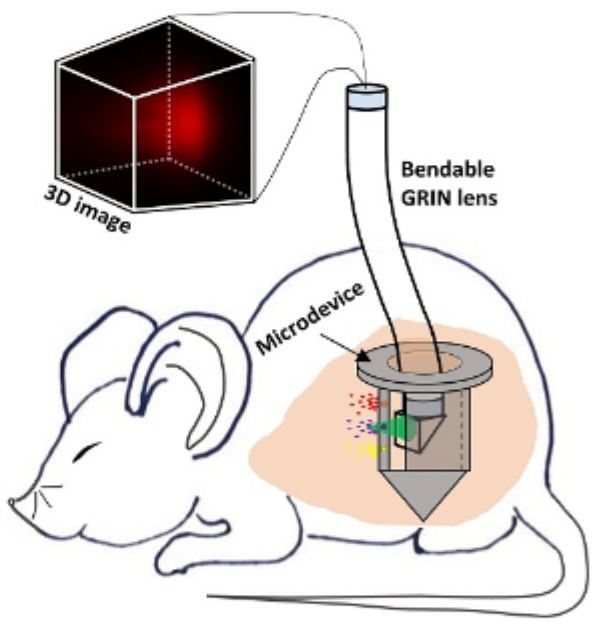
Read Article

Mechanoluminescent Glass-Ceramic Could Provide Readout of Structural Strain

A team at Friedrich Schiller University Jena has developed a glass-ceramic material that emits light in response to mechanical stress. With further development, the mechanoluminescent material could provide a means to detect and monitor mechanical stress in buildings and other structures, as well as in artificial joints in the body.

Read Article

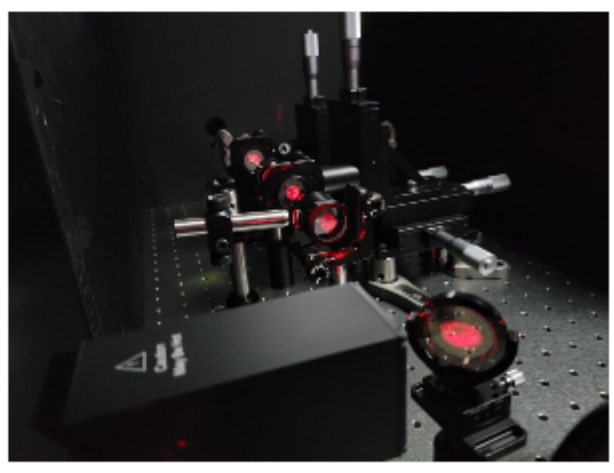
Bendable GRIN Lens Widens Imaging Potential of Endoscopic Probes



Researchers from Harvard Medical School and Mass General Brigham created a flexible endoscopic imaging probe that acquired 3D microscopic images of tissue. A flexible GRIN lens, which the researchers also developed, enables the probe's bendability. The development of the lens and demonstration of the probe challenge conventional belief that GRIN lenses can only be used as rigid imaging probes, which may limit their potential in certain applications.

Read Article

Self-Contained Light Trap Provides Near-Perfect Light Absorption



Researchers in Austria created a near-perfect "light trap" around a thin layer of material. In the system, the light beam is steered in a circle, then superimposed on itself so that the beam blocks itself and can no longer exit. Applications in light harvesting, energy delivery, and light control could benefit from the trapping approach. The system could provide a way to feed lightwaves from weak light sources, such as distant stars, into a detector.

Read Article