Tuesday, May 08, 2018

OPTICS

Tech Pulse

PHOTONICS MEDIA

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

Quantum Dots: Taking the Display World by Storm

Quantum dots are changing the way we approach light conversion, resulting in more efficient, more colorful, and brighter displays. With improved color and energy efficiency, nearly every major display manufacturer is now incorporating QDs into their high-end displays.

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PROMOTED CONTENT

Zemax LLC, Optical & Illumination Design Software

Six Best Practices for Optical Product Design Teams

In their groundbreaking study Six Myths of Product Development, Stefan Thomke and Donald Reinertsen exposed common fallacies of product development and presented best practices for overcoming them (Harvard Business Review, May 2012). This eGuide highlights how Zemax Virtual Prototyping applies six of these best practices—and what it means for the optical products your team designs. Learn the value of:

- Remaining open to an evolving development plan
- Using iterative—not linear—design processes
- Experimenting with smaller batches for faster feedback
- Quantifying the cost of delays and factoring it into your decisions
- Making information flows visible

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Optically Rewritable LCD Could Enable Flexible Displays

As with conventional LCDs, the ORWLCD is structured like a sandwich, with a liquid crystal filling between two plates. However, unlike conventional LCDs, where electrical connections on the plates create the fields needed to switch pixels from light to dark, the plates of ORWLCDs are coated with molecules that realign in the presence of polarized light and switch the pixels.

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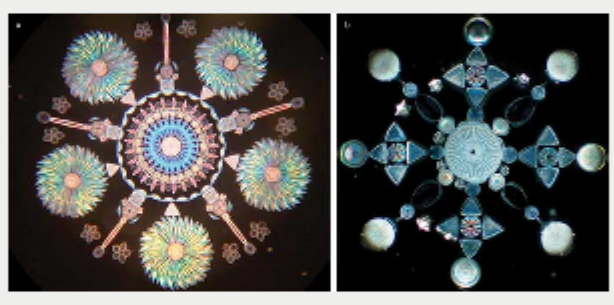
Bio-Inspired Photonics Comes Full Circle

Design at the intersection of light and nature leads to discoveries that benefit biomedical applications. Bio-inspired photonics extracts inspiration from the way organisms interact with light, applying it to photonics technology and manmade systems, using different materials, architectures or configurations.



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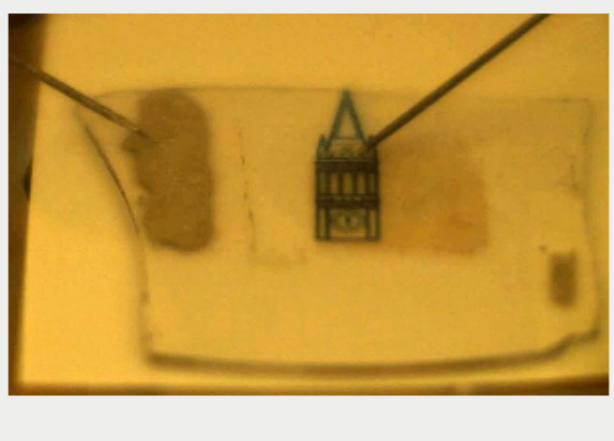
Atomically Thin Light-Emitting Device Could Advance 'Invisible' Displays

Engineers have built a bright light-emitting device that is millimeters wide and fully transparent when turned off. The light-emitting material in the device is a monolayer semiconductor that is just three atoms thick.



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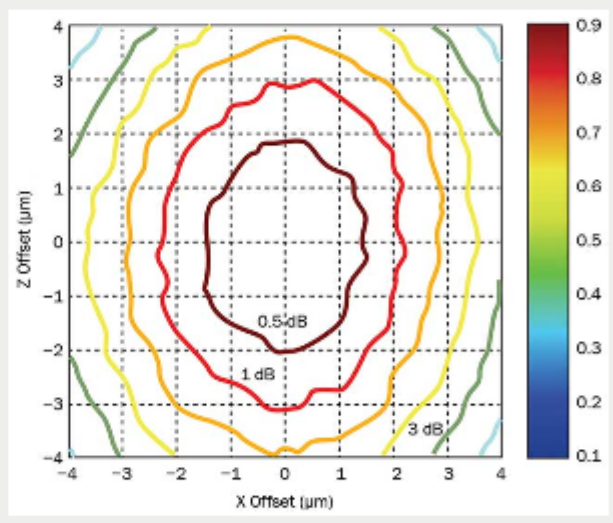
Maximizing Optical Alignment

Photonic device manufacturers are rushing to develop new alignment techniques and hardware to keep up with spatial tolerance requirements between optical components. These spatial tolerances can be controlled during automated alignment by implementing the optimal positioning system architecture.



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Diffractive Optical Elements: Minimizing Zero Order

Recent advances in diffractive optical elements have made them a standard component in laser material processing, medical and aesthetic lasers, and structured light projection systems. Enhancements in DOE design and manufacturing processes have reduced undesired orders and minimized zero order while improving uniformity and achieving higher diffractive efficiencies.

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Iridescent Spiders Provide Inspiration for Optics Design

The iridescent signal produced by miniature Australian peacock spiders during courtship displays could provide inspiration for the development of light-dispersive components that would be able to perform under irradiances and at scales not currently possible.

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