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OLED Technology Gives Displays New Flexibility

For generations, televisions were furniture — bulky appliances that were nearly impossible to ignore, even when turned off. But at this past January's Consumer Electronics Show, LG Display pulled a dazzling disappearing act, with a 65-in. television that rolled itself up tightly when not in use, essentially vanishing from view. The core technology behind such flexible screens — organic light-emitting diodes (OLEDs) — is now being explored by most of the world's leading display manufacturers as a means for producing bright, high-contrast images on plastic screens that can readily be sculpted, bent, and rolled. "In five years, I think this notion of a flat display built on glass is going to seem obsolete, like legacy technology," said Michael Hack, vice president of business development at Universal Display Corp. (UDC), a company that has played a major role in commercializing OLEDs over the past 25 years.

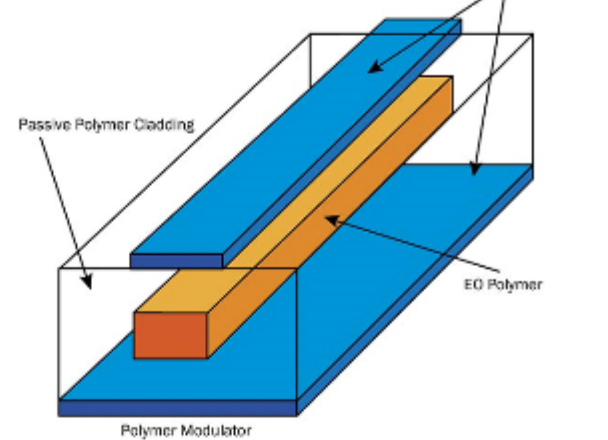
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Developing a New Class of Electro-Optic On-Fiber Devices

To take advantage of 5G technology, networks must be capable of moving huge amounts of data at unimaginable speeds and extremely broad bandwidth. 5G networks should enable downloads at a rate of more than 30 gigabytes per second (GB/s), which is more than 1000x faster than the current 4G. Unfortunately, available technologies are not qualified to unleash these capabilities. Available communications networks are hindered by the integration of optical devices used to manipulate signals. Such devices include modulators, switches, couplers, and dense wavelength division multiplexers. Additionally, integrated optical devices are constructed of rectangular waveguides that connect to cylindrical optical fibers. This design results in high insertion loss, coupling problems, low speed, and problems due to polarization dependency. For the past three decades, significant research has been done to overcome these limitations, with only moderate success. Incremental improvement is no longer acceptable for the coming 5G networks. There is a strong need for a paradigm shift in communications technology and networks.

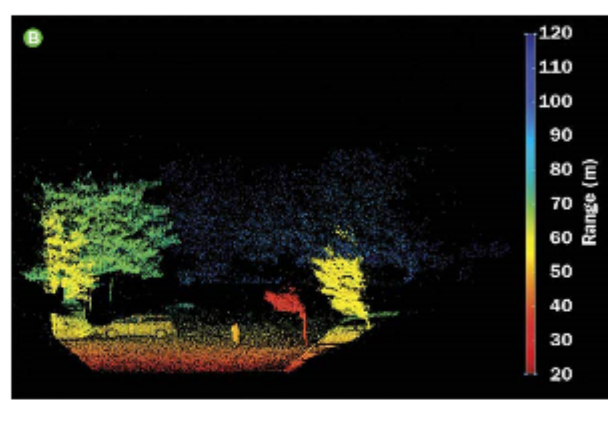
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Imaging Goes 4D

3D imaging has taken off, with applications in cellphones, cars, robots, and more. Now, companies and researchers are looking to what's next: 4D. While 3D imaging captures information about width, height, and depth (x, y, and z), 4D imaging adds another dimension and incorporates time, velocity, or light-matter interactions. Going 4D makes economic sense; the pulses that leave a laser system are expensive. With each laser pulse, many photons are sent out, but only a fraction return to be detected. But more return than are needed for 3D imaging. These extra photons could provide additional information.

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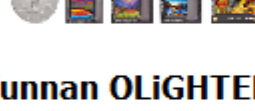
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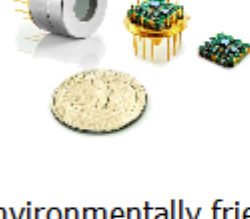


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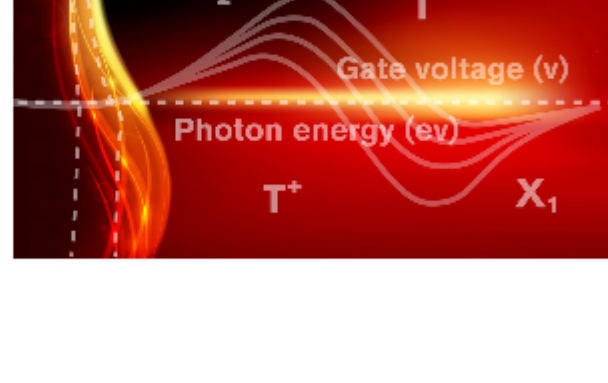
June 27-29, 2020
SNIEC, SHANGHAI

.: In Case You Missed It

Scientists Discover Process That Enables Low-Power Nanolasers in 2D Semi-Materials

Scientists at Arizona State University have identified the process in physics that enables nanolasers to be created using 2D materials. This led them to the discovery of a mechanism for providing optical gain in 2D materials at much lower density levels than traditional semiconductors. The research could provide an alternative to conventional semiconductors and could be game-changing for energy-efficient photonic devices.

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Pentagon Adopts FLIR EST Screening System to Stop Spread of COVID-19

FLIR has announced that it has installed its EST screening system at the Pentagon Visitor Center. The company's integrated EST screening system, the A700 EST-IS, features the FLIR A700 thermal imaging camera. The system is being used to screen visitors for elevated or higher than expected skin temperatures, which can help guard against the spread of COVID-19.

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Artificial Chemist Combines AI, Robotics to Autonomously Develop Quantum Dots

Artificial Chemist, a technology invented by researchers at North Carolina State University and the University at Buffalo, integrates artificial intelligence and an automated system for performing chemical reactions to speed R&D and manufacturing of solution-processed materials.

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.: Upcoming Webinars



Principles of Laser Power/Energy Measurement

Wed, Jun 24, 2020 12:00 PM - 1:00 PM EDT
The better you understand how laser measurement instruments work, the better your ability to choose the right equipment and make sense of its outputs. In this webinar, you'll learn how laser power and energy measurement work. Presenter Mark Slutzki of Ophir will clearly define the various beam parameters and look at the technologies typically used for measuring each of them. You will see how these are implemented in various types of instruments and develop an understanding of what type of equipment is best for what type of measurement.

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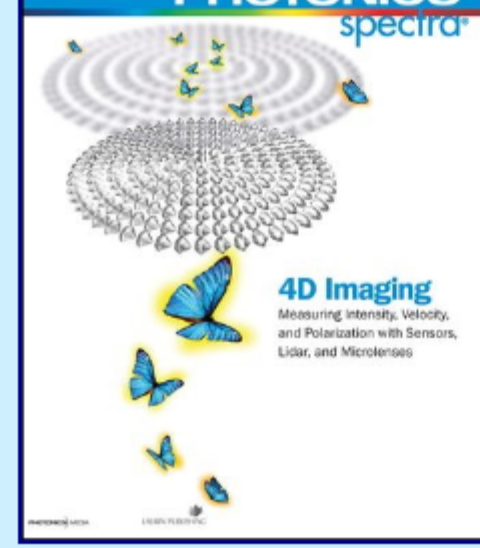
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Features
Hybrid III-V Materials, Ruby laser, Robotics and e-mobility.

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Susan Petrie, Senior Editor, at Susan.Petrie@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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