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PHOTONICS MEDIA

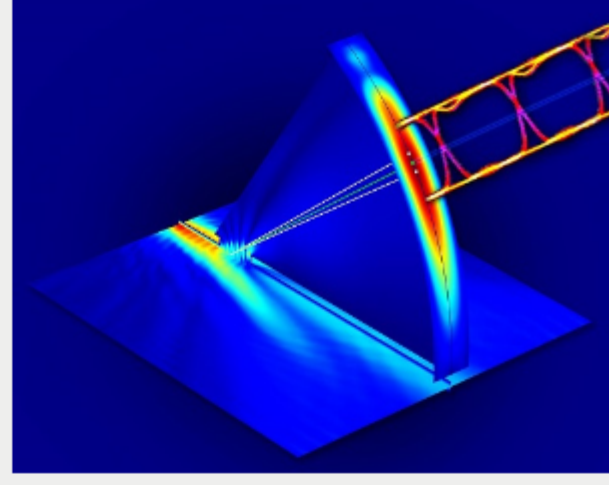


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Data Transmission via Terahertz Multiplexer

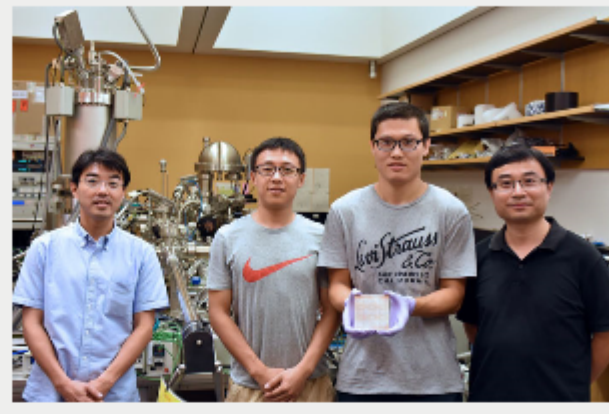
A method for multiplexing data carried on terahertz waves and high-frequency radiation may enable the next generation of ultrahigh-bandwidth wireless networks. Researchers report the transmission of two real-time video signals through a terahertz multiplexer at an aggregate data rate of 50 gigabits per second.



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From Solar Cells to LEDs, Improvements in Perovskite-Based Technology Accelerate

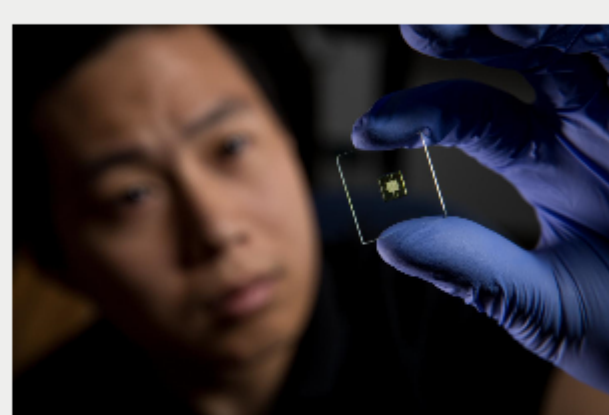
In just seven years of development, the efficiency of the perovskite solar cell has increased to the point where it rivals — and could soon overtake — the efficiency of the conventional photovoltaic cell. However, the perovskite structure continues to experience stability issues, causing these cells to degrade quickly and shortening their lifespans. Scientists have identified degradation factors and developed a potential solution to improving perovskite solar cell architecture.



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DLP-SLA Enables 3D Printing of Labs-on-a-Chip

A custom 3D printer built using digital light processor stereolithography (DLP-SLA) has demonstrated the ability to print a viable microfluidic device compact enough to achieve flow channel cross-sections as small as 18 μm \times 20 μm . The 3D printer has a projected image plane resolution of 7.6 μm and uses a 385-nm LED. Researchers also developed a low-cost, high-resolution resin.



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Portable Spectrometry Device Assesses Soil Health

A portable field sensor has been used to accurately measure minerals in soils more easily and efficiently than laboratory-based methods. The technique, known as portable x-ray fluorescence spectrometry (PXRF), was used to determine the calcium (Ca) concentration of 75 soil samples from four U.S. states. PXRF can provide data on about 20 different elements in 60 seconds.



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Anapole Lasers Generate Ultrafast Pulses for Managing Nanoscale Optics

Anapole lasers made from semiconductors shaped into energy-storing nanodisks could be used as an energy source for nanoscale optics in silicon-compatible platforms. According to researchers, the lasers could be made small enough to fit onto computer circuit boards while retaining the ability to shape and control laser pulses for manipulating things such as data switches, biomedical implants and solar cells.

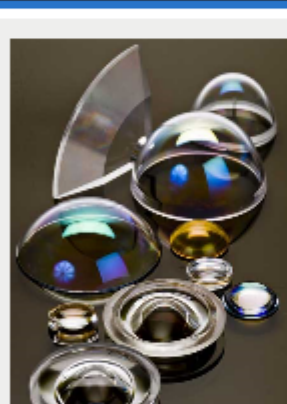


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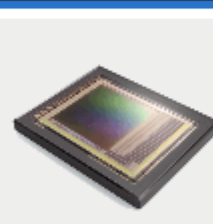


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