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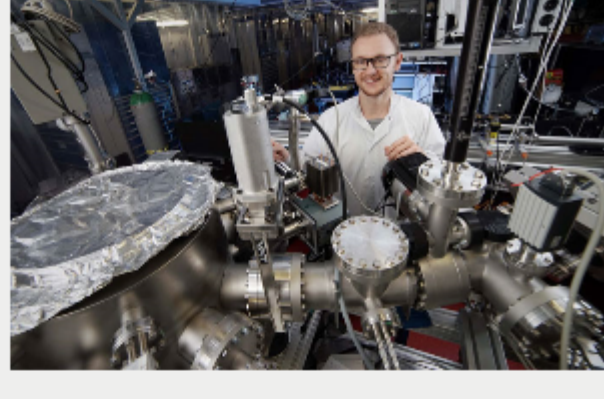


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A Tabletop OCT Approach Utilizes XUV Radiation

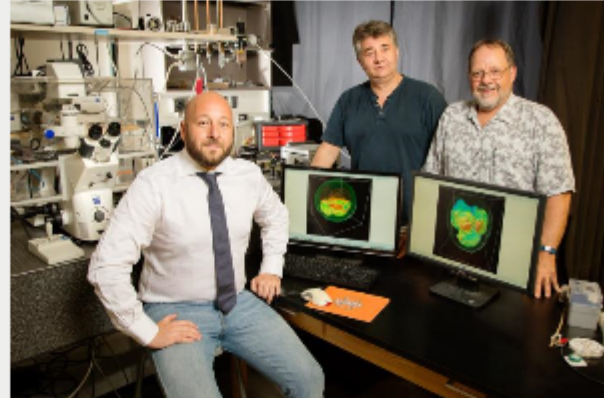
Three-dimensional noninvasive imaging with nanoscale axial resolution has been demonstrated using a high-harmonic extreme ultraviolet (XUV) radiation source. Specifically, XUV radiation was used to perform optical coherence tomography (OCT) at laboratory scale. Use of XUV to perform OCT allows for a shorter radiation wavelength to be used — 20-40 nm — leading to a higher-resolution image.



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Microscopy Technique Images Thick, Multicellular Samples in 3D

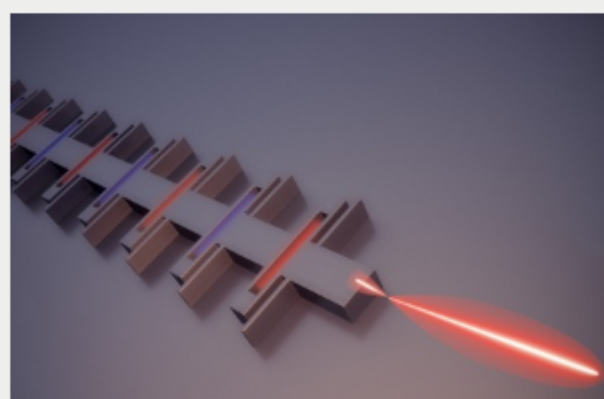
Gradient light interference microscopy (GLIM), an add-on module to a commercial differential interference contrast (DIC) microscope, could provide a novel technique for extracting 3D information from thin and thick unlabeled specimens. In contrast to most microscopy techniques, GLIM can probe deep into thick samples by controlling the path over which light travels through the specimen. It can be used to produce images from multiple depths that can then be composited into a single 3D image.



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Tiny Terahertz Laser Aids Industrial Imaging

A new terahertz design that can be etched on microchips boosts the power output of chip-mounted terahertz lasers by 80 percent. The novel design shows promise for future industrial imaging and chemical detection applications. The standard method for producing power-efficient sources of terahertz rays involves a bulky, power-hungry tabletop device.



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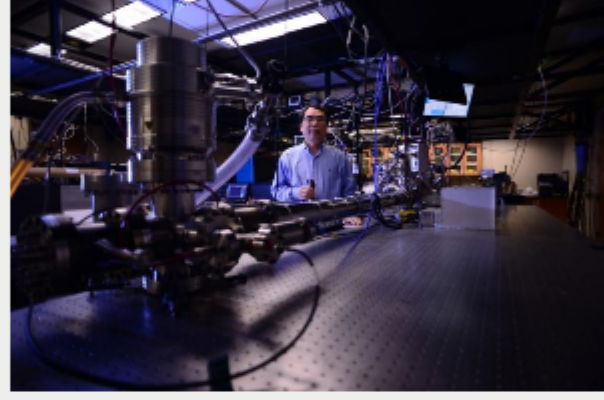


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53-Attosecond Light Pulse Sets a Record

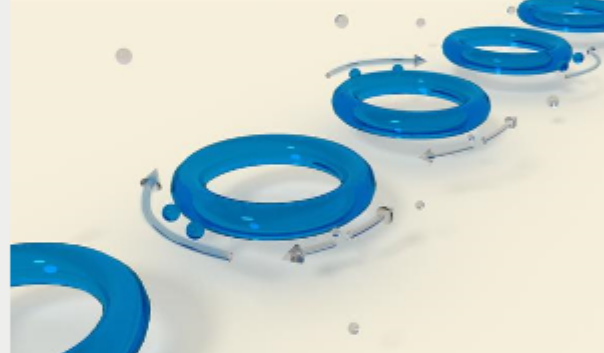
The demonstration of a 53-attosecond x-ray flash is the fastest light pulse recorded to date, and beats the team's own record of a 67-attosecond extreme UV light pulse, set in 2012. Soft x-ray pulse duration of 53 attoseconds and single pulse streaking reaching the carbon K-absorption edge (284 electronvolt, or eV) were achieved by utilizing intense two-cycle driving pulses near 1.8- μ m center wavelength.



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Exceptional Points Enhance Sensing at Nanoscale

A discovery regarding the sensing capability of microresonators could impact the creation of biomedical devices, electronics and biohazard detection devices. The novel sensing scheme for enhancing the sensitivity of optical microcavities was demonstrated using two light scatterers to tune sensors to exceptional points. The two nanoscale scatterers were used to tune a whispering-gallery-mode (WGM) micro-tight cavity.



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World Molecular Imaging Conference 2017

September 13-16, 2017 - Philadelphia Convention Center - Philadelphia United States

The World Molecular Imaging Congress (WMIC) is organized by the World Molecular Imaging Society (WMIS) and is led by senior academic and industry professionals who have widely recognized expertise in molecular imaging. WMIC 2017 provides a unique platform for scientists and clinicians to present and follow cutting-edge advances in molecular imaging. The program includes exhibits, industry workshops and social events, including an evening at Philadelphia's National Constitution Center. The theme for this year's conference is IMAGIning the Future: from Molecules to Medicine.

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