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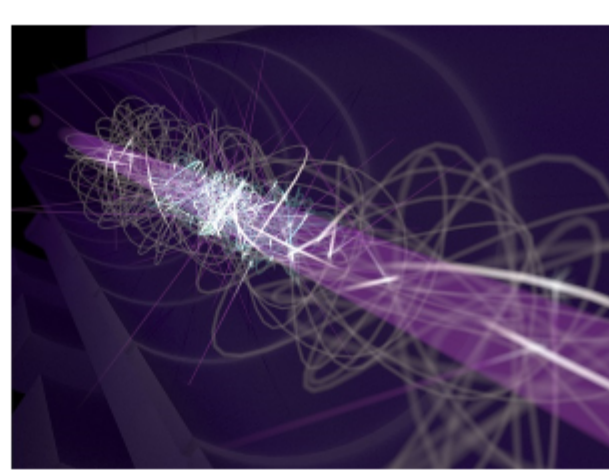


:: Top Stories

Laser Cools Antimatter to Near Absolute Zero

A custom-built laser has cooled antimatter to near absolute zero. The work holds implications for the study of antimatter and of foundational theories of the universe. Antimatter, nearly identical to matter in terms of its behavior and characteristics, possesses the opposite charge. When matter and antimatter come into contact, they annihilate one another. Experimentation remains difficult for this reason.

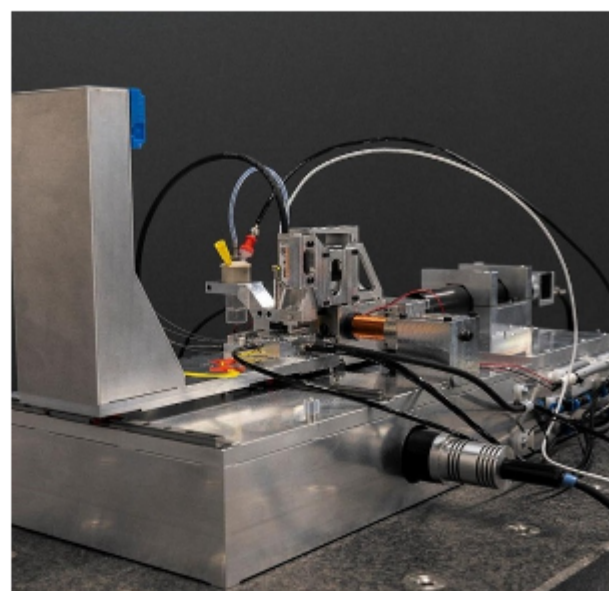
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Optical Fiber Production Method Reduces Photonic Chip Cost, Errors

Eindhoven University of Technology researchers have shown an improved method of constructing optical fiber arrays, which could significantly improve efficiency and lower the cost of developing photonic chips. The research specifically addresses improvements to optical fiber coupling, which is used to guide light in and out of the chip.

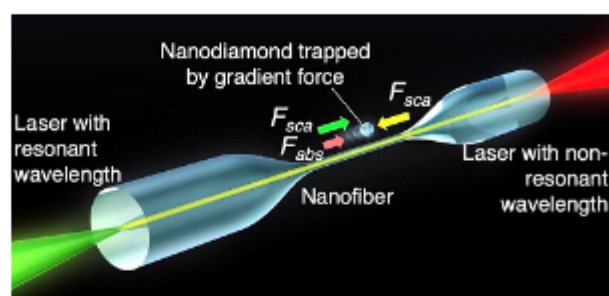
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Lasers Manipulate Diamond Nanoparticles to Open Applications in Biosensing

Collaborating scientists in Japan showed the ability to use laser beams of different wavelengths, and from opposing directions, to move diamond nanoparticles (roughly 50 nm in size) in a proof-of-concept experiment. The demonstrated approach builds on optical trapping, and aims to establish a foundation for future biological imaging and quantum computing applications.

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:: Photonics Spectra Optics Conference



Presentation: "Optics Manufacturing: An Engine for Advancement in Astronomy"
Presented by: **Jonathan Arenberg, Northrop Grumman**

Chief Engineer for Space Science Missions at Northrop Grumman Space Systems Jonathan Arenberg presents on the foundational role of optics in the telescopic observation of the universe, and the influence of optical manufacturing on imaging technologies used in astronomy. Arenberg's session spans the important joint roles of technical, cost, and schedule performance in mission selection and execution, and includes forward-looking insights into the future of astronomical systems and projects with emphasis on the role of manufacturing technologies past mid-century.

Arenberg's presentation will be available live starting at 1:15 p.m. EDT on April 27.

Additional sessions will include the keynote, "From the Design Lab to the Factory Floor: How Optics Manufacturers Move Swiftly from Concept to Creation," from Ulrike Fuchs, vice president of strategy and innovation at asphericon; an optics market analysis on the effects of COVID-19, from Tom Hausken, senior industry adviser at The Optical Society (OSA); and "Optical Coatings: A Full Spectrum of Solutions," from Dan Fiore, vice president of North American Coating Laboratories (NACL).

The two-day *Photonics Spectra* Optics Conference runs April 27-28. Registration is free for the event, which is offered exclusively online. For more information and registration, please visit www.photonics.com/ps2021. Continued coverage of this inaugural event will also be available on Photonics.com leading up to the conference.

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:: Upcoming Webinars

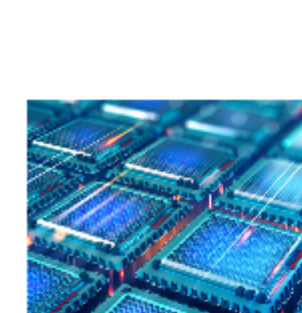


Bringing AI Inference to the Edge: AI Processing for Imaging Devices

Tue, Apr 13, 2021 10:00 AM - 11:00 AM EDT

Smartphones, robots, drones, cameras - how can companies keep up as AI-based imaging becomes mainstream? Join as Rastislav Struharik, Ph.D., associate professor of the University of Novi Sad and chief architect for IDS's FPGA IP core technology for hardware acceleration in edge AI applications, discusses options for running AI on imaging devices. Presented by IDS Imaging Development Systems GmbH.

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Introduction to Quantum Computer Hardware and Modalities

Thu, Apr 15, 2021 12:00 PM - 1:00 PM EDT

This webinar with William D. Oliver, Ph.D., Director of the Center for Quantum Engineering and Associate Director of the Research Laboratory of Electronics at MIT, will discuss several qubit modalities that are currently being pursued by industry and academia for quantum computing applications on the path toward realizing the promises and challenges of engineering future quantum machines. This webinar is the first presentation in Hamamatsu's Quantum Technologies Series, presented by Hamamatsu Corporation.

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