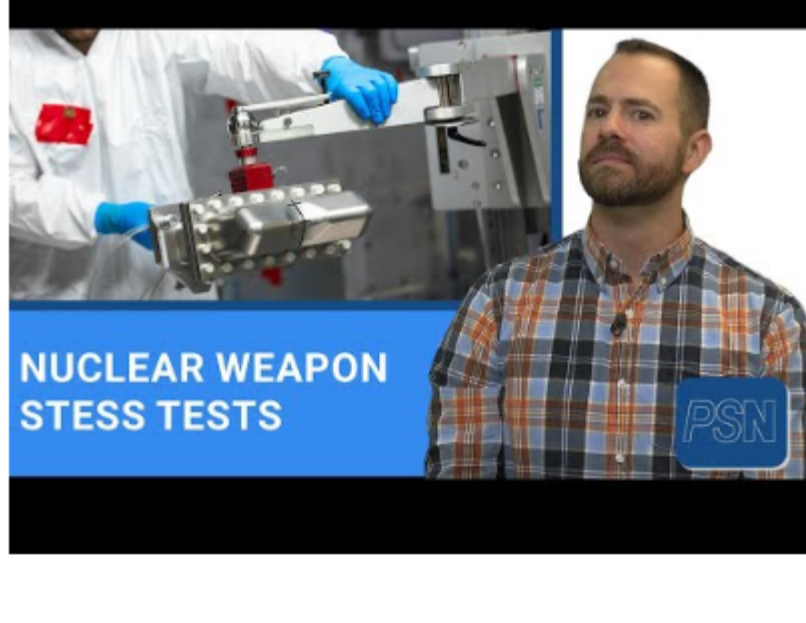




Weekly News

OHARA



Testing Nuclear Deterrents at NIF, A Cool Solution for Thulium Fiber Lasers

The Lawrence Livermore National Laboratory is gaining valuable data as it stress tests nuclear weapons at the National Ignition Facility. And researchers at Fraunhofer Institute for Applied Optics and Precision Engineering have found a way to cool down high-powered thulium fiber lasers.

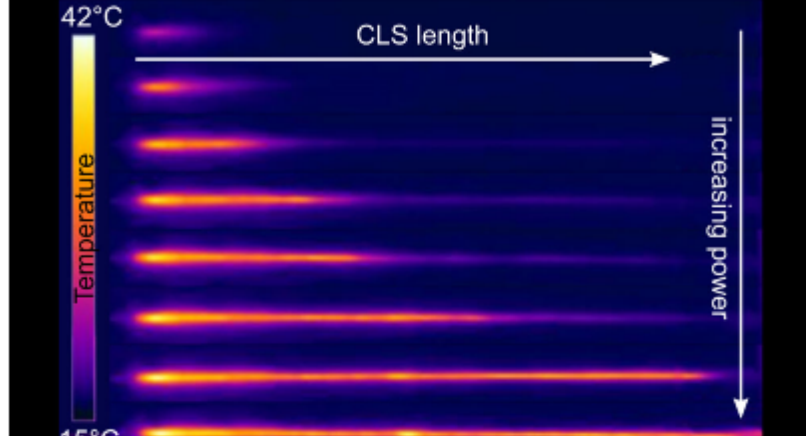
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NLLL Holds Nuclear Weapon Stress Test at NIF

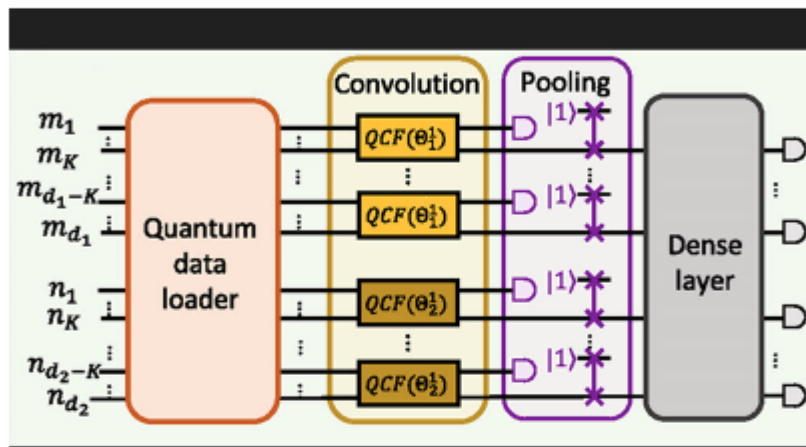
The Lawrence Livermore National Laboratory held an experiment at the National Ignition Facility to test the strength of U.S. nuclear weapons against missile defenses. The experiment analyzed nuclear materials under extreme conditions, such as heat, shock, and radiation, which will help the U.S. military modernize its stockpile of nuclear weapons.

The researchers exposed weapon-grade plutonium samples to pulsed thermonuclear neutron radiation. [Read Article](#)



Design Scheme Cools Down Thulium Fiber Lasers

Thulium fiber lasers, operating at a wavelength of 2 μm , are valued for applications in medicine, materials processing, and defense. Their longer wavelength makes stray light less damaging compared to the more common ytterbium lasers at 1 μm . Yet, despite this advantage, thulium lasers have been stuck at around 1 kW of output power for more than a decade, limited by nonlinear effects and heat buildup. [Read Article](#)



research plans to accelerate the adoption of photonic quantum convolutional neural networks. [Read Article](#)



Featured Products & Services



T165 Laser Diode Pulser

Highland Technology Inc.

The T165 is a picosecond to nanosecond laser diode pulser that incorporates an edge-triggered pulse generator with fast rise and fall times into a butterfly or TO-packaged laser. Its 2" x 2" design connects directly to standard 0.1" pin-pitch butterfly laser packages, making it ideal for OEM use in laser systems. Laser current, bias, and pulse widths are settable with onboard trimpots or via external analog inputs.

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Andor CB2 sCMOS Series

Oxford Instruments

The Andor CB2 Series is a new family of ultra-high performance scientific CMOS cameras with a spectral sensitivity from 200 to 1000 nm and resolutions ranging from 0.5 MP to 24.5 MP, designed for speed, sensitivity, and reliability across life sciences, physical sciences, and the semiconductor industry.

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More News

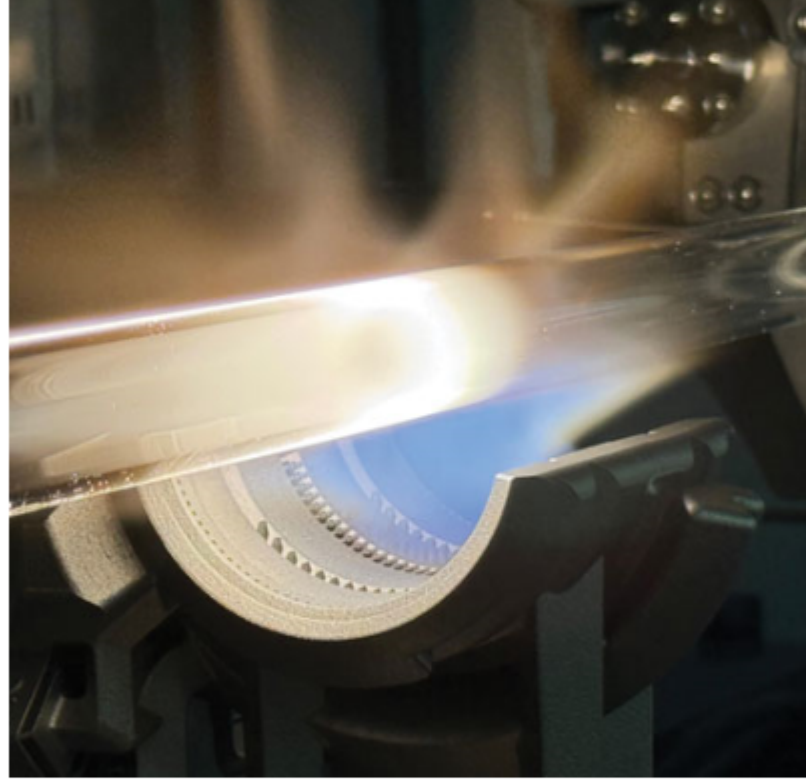
[Marvell to Acquire Celestial AI for \\$3.25B](#)

[Memory Design Charts a Course for Scalability](#)

[PHOTRON LIMITED Acquires AOS Technologies AG](#)

[IMI Divests Stake in VIA Optronics](#)

Latest Webinars

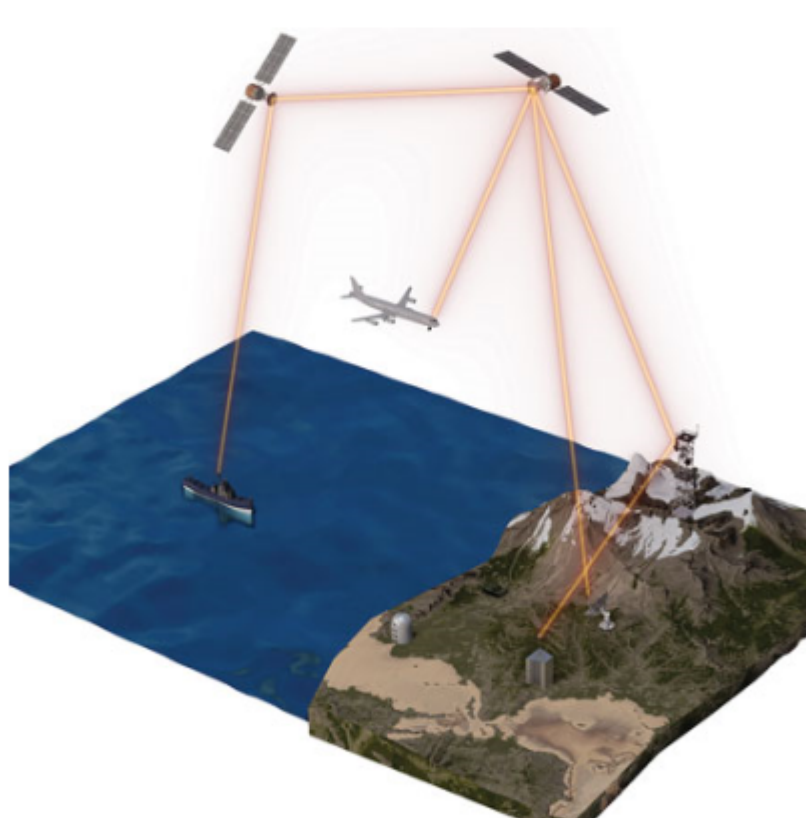


Manufacturing Solutions for Hollow-Core Fibers

Tue, Dec 16, 2025 10:00 AM - 11:00 AM EST

This webinar explores the complete hollow-core fiber manufacturing chain and the Nextrom machinery that enables it. Beginning with preform manufacturing systems, it examines equipment designed to produce high-quality structures for hollow-core geometries. The webinar will then focus on the fiber draw tower, where precise control of furnace temperature, capstan tension, and internal gas pressure is essential. Finally, it will cover how proof testing equipment ensures the mechanical strength and long-term reliability of the hollow-core fiber. Along the way, the webinar will show how Nextrom's advanced process control and automation features improve yield, reduce defects, and enable consistent fiber quality. Presented by Nextrom.

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Dynamic Beam Lasers for Free-Space Optical Propagation

Mon, Dec 22, 2025 11:00 AM - 12:00 PM EST

This webinar will explore how CBC and dynamic beam shaping are redefining high-power optical propagation. Attendees will learn how DBLs overcome turbulence, enhance beam stability, and enable precise, controllable optical transmission in real-world free-space environments. Dynamic beam lasers (DBLs), based on coherent beam combining (CBC), mark a new frontier in free-space optical propagation. Unlike traditional single-beam sources, DBLs can dynamically control beam shape, phase, and direction in real time. With power levels reaching up to 120-kW continuous wave, flexible beam steering, and adaptive beam shaping, DBLs deliver high-precision, high-reliability optical transmission across free-space environments.

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All Things Photonics



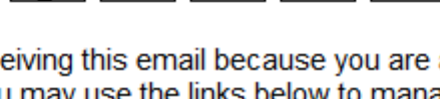
In Association with the Journal Optica, Imaging With Freeform Optics — With Jannick Rolland

We are teaming up with Optica to bring you insights into the latest studies that are leading to breakthroughs in optics and photonics. In this episode, we're joined by **Jannick Rolland**, the Brian J. Thompson Professor in Optical Engineering at the University of Rochester, to explore how freeform optics are reshaping modern optical design. Following her work in a study published in the journal *Optica*, Rolland discusses her successes and setbacks in her early works with freeform optics and talks about the potential for this technology in a range of applications.

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Call for Articles

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *BioPhotonics*, and *Vision Spectra*). Please submit an informal 100-word abstract to editorial@Photonics.com, or use our [online submission form](#).

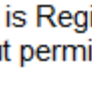


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