

PHOTONICS IN DEFENSE & AEROSPACE



A quarterly newsletter presenting significant developments in the use of photonics in the vital defense and aerospace industries. Manage your Photonics Media membership at Photonics.com/subscribe.

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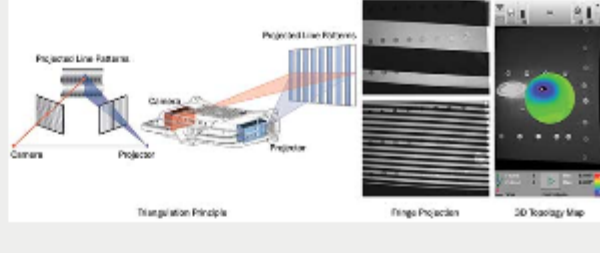
Difference Frequency Combs
low-noise operation - compact design

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Defense & Aerospace News

Application-Specific Machine Vision Simplifies Aircraft Maintenance

Machine vision systems, however automated, do not exist in isolation. They must augment and intelligently interact with human operators. Workflows can benefit from 3D optical vision systems. In particular, vision systems technology shows significant promise to improve aircraft inspection efficiency while providing operators with a better understanding of airframe integrity and safety. However, to deliver these gains to an airline's bottom line, the vision system must coexist with and empower the technician/engineer.



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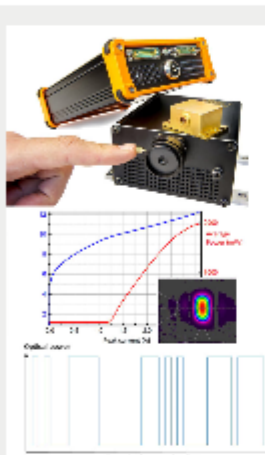
Harsh-Environment Fiber Optics for Aerospace

In its most basic form, bare optical fiber consists of a silica core and a cladding whose indices of refraction vary slightly. However, bare fiber is not very useful beyond a laboratory setting because its performance is highly susceptible to its environment. An outer coating is usually added to provide extra flexibility...



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Featured Products



High-Power Quantum Cascade Lasers made in France

mirSense
mirSense brings to the market an ITAR free solution in the world of high-power mid-infrared sources. Applications such as, but not limited to, DIRCM can be deployed anywhere and on many platforms due to the intrinsic performance of Quantum Cascade Lasers (QCLs).

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Compact, High-Performance Frequency Comb

TOPTICA Photonics Inc.
TOPTICA's DFC CORE features turnkey operation in a robust, small volume housing. It has the ability to support high-end applications like optical clocks or low noise microwave generation and can be combined with any of TOPTICA's diode lasers and locking electronics.

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Alluxa Ultra Series Filters and Coatings

Alluxa
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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MIDORI ULB-35rvi/ndt UV LED Light Source

Ushio America Inc.
The compact MIDORI™ ULB-35rvi (single UV output unit) and ULB-35ndt (dual channel unit with UV and VIS output) LED light sources for your fluorescent Penetrant Inspection demanding application requirements.

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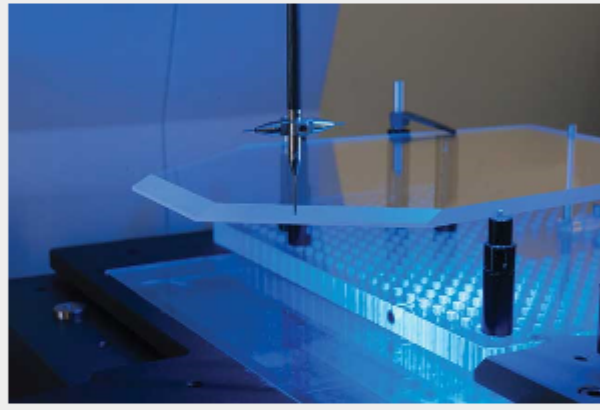
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More News

Optics in America: State of the Union

The U.S. optics industry embodies innovation, reliability, and a commitment to quality — some of the best and most historically productive elements of American manufacturing. The result: a surprisingly unified industry, ready to navigate challenges on an international level and on a personal scale. A community of...



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Manufacturing High-Performance Mirrors

When it comes to long-range, multispectral optical systems, large mirrors play an integral role; there are tens of thousands of optical units containing large mirrors around the globe. With minimum diameters starting at 200 mm, the largest mirrors range from 8.2 m in diameter (single mirrors) to over 10 m (segmented). They take many shapes — spherical, aspheric, parabolic, or freeform — and are used for a wide spectrum of light, including visible, UV, and IR.



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New Photodetector Enables NASA's Thermal Imager

A compact thermal camera named the Compact Thermal Imager, or CTI, has been developed by NASA using photodetector technology known as strained-layer superlattice, or SLS. NASA's advanced detector technology, a strained-layer superlattice (SLS) detector, will be demonstrated on an upcoming robotic servicing demonstration...



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G&H Acquires Gould Fiber Optics

Gooch & Housego (G&H) has announced that it has acquired US fiber optic components and subsystems specialist Gould Fiber Optics (GFO). Gooch & Housego is a photonics technology business headquartered in Ilminster, Somerset, UK with operations in the USA and Europe. The company researches, designs, engineers and...

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EMCORE to Supply Fiber Optic Gyroscopes for Optical Targeting Systems

EMCORE Corporation, a provider of advanced mixed-signal optics products, announced that it has been awarded a long-term contract valued at over \$18 million over a 4-year period to supply high-performance fiber optic gyroscope (FOG) modules to Raytheon for use in airborne optical targeting systems. EMCORE has previously...

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Samara National Research University Granted Patent for UAV

The Russian Federal Service for Intellectual Property, Patents, and Trademarks has issued a patent to Samara National Research University for its unmanned aerial vehicle (UAV), the Photon 601. The drone is independent of navigation systems such as GPS and GLONASS. Full autonomy of the UAV system is provided by the built-in...

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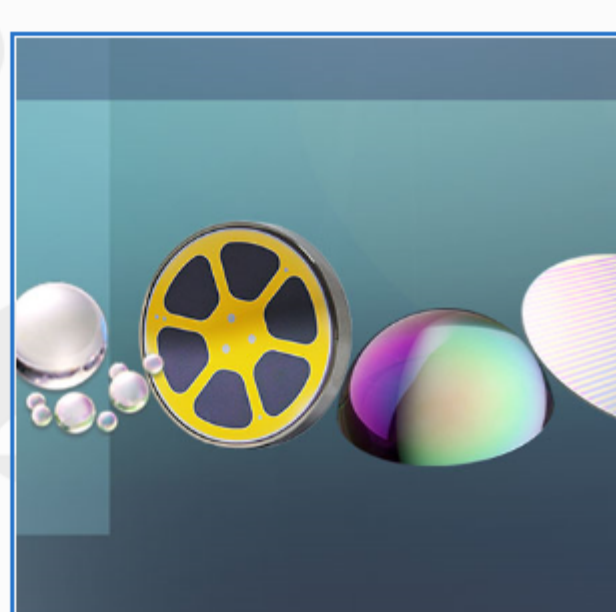
Webinars

Protective Coatings Extend Optics Lifetimes

Wed, Oct 10, 2018 1:00 PM - 2:00 PM EDT

From military airborne applications to harsh industrial uses, optics can be subjected to considerable environmental abuse over their expected lifetime. That lifetime can be extended by the use of protective coatings. In this one-half hour webinar, you will learn about the challenges to the integrity of optics due to abrasion, corrosion, oxidation, and other phenomena. The speaker will also provide an overview of the types of protective coatings that are used and their deposition technologies, and he will tie the various coating types to the environmental challenges they are intended to address. The webinar will cover environmental testing and durability, and touch on other coatings that have functional properties besides protection.

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