Wednesday, September 19, 2018

LASERS Tech Pulse

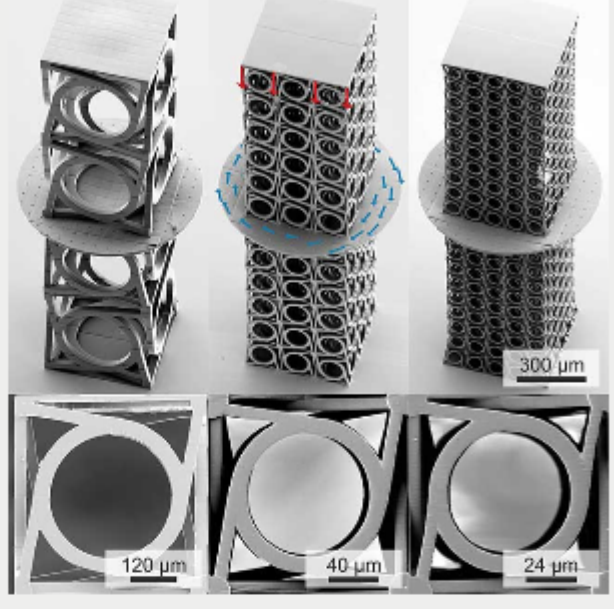
PHOTONICS MEDIA

September 2018

Lasers Tech Pulse is a special edition newsletter from Photonics Media and Bristol Instruments covering key developments in laser technology. Manage your Photonics Media membership at Photonics.com/subscribe.

With Lasers, 3D Printing on a Miniature Scale

3D nanoprinting may soon merge into mainstream manufacturing thanks to increased throughput and refined lasers, optics, and materials. Compared to mask lithography and large-scale manufacturing methods, 3D nanoprinted components offer solutions that can be less expensive, better performing, quicker to create, and more compact.



Read Article

PROMOTED CONTENT

Bristol Instruments Inc.

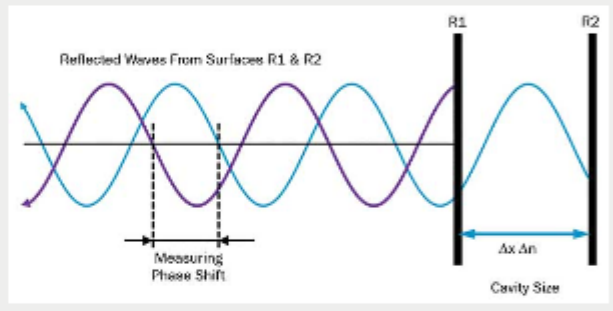
High Speed Laser Wavelength Meter

Bristol Instruments' 871 Laser Wavelength Meter measures laser wavelength at a sustained rate of 1 kHz, enabling the wavelength characterization of every single pulse for most lasers. The combination of proven Fizeau etalon technology and automatic calibration with a built-in wavelength standard ensures the uncompromised accuracy needed for the most meaningful experimental results. Operation is available from 375 nm to 2.5 µm.

Request Info | Visit Website

Europe Drives Fiber Sensor Development for Industrial Apps

Currently, fiber-centric technology is mature enough to impact applications other than telecommunications, such as in sensing. New technologies in fiber optics will help the industrial sector to improve problem-solving and obtain rapid information.



Read Article

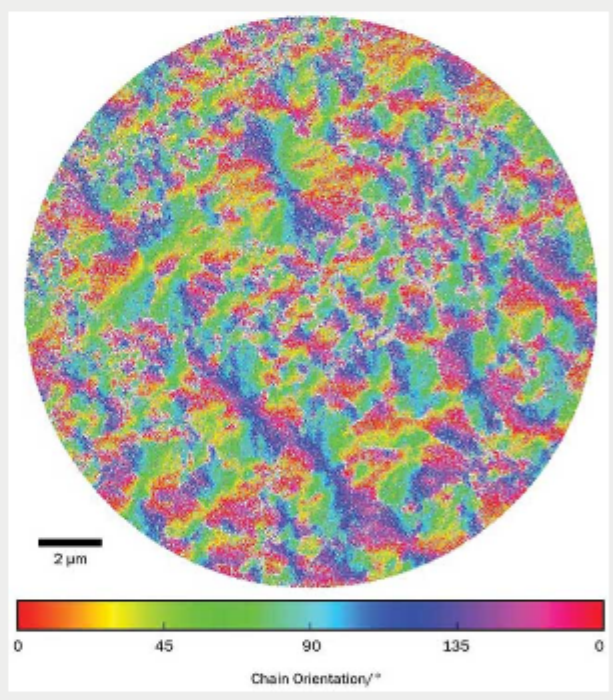
Terahertz Spectroscopy on the Cutting Edge of Material Testing

Just a few years ago, the application of terahertz radiation seemed obscure at best. In 2018, however, terahertz measuring instruments are showing significant market potential. Applications in the field of civil safety, nondestructive testing, and industrial quality control all profit from a new generation of terahertz systems.

Read Article

Scientific Lasers Deliver Ease of Use, Greater Reliability

Ultrafast lasers are the dominant laser source for scientific applications. Two key technical trends are emerging. The first development is the emergence of ytterbium fiber as a reliable alternative gain medium to the traditionally employed Ti:sapphire. An equally important trend is greater reliability and ease of use.



Read Article

Navigating Best Laser Choices Crucial for Microwelding

Four distinct laser types are suitable for microwelding: pulsed neodymium-doped yttrium aluminum garnet (Nd:YAG); continuous-wave (CW) ytterbium-doped fiber; quasi-continuous-wave (QCW) fiber; and nanosecond pulsed fiber. Each laser offers unique features that work best for specific applications.

Read Article

Light Mixer Generates 11 Colors Simultaneously

An optical frequency mixer has been developed that uses a novel nanostructured metamaterial that mixes two lasers to concurrently produce 11 colors ranging from the NIR to UV. The metamaterial is made from an array of gallium arsenide (GaAs) nanocylinders.

Read Article

NIR Promises New Brain Disorder Treatment

For a long time, photobiomodulation (PBM) was used mainly to help with pain, inflammation, and wound healing. Laser therapists used fairly low-power red lasers (e.g., HeNe or 660 nm) and treated areas of the body using focused points of light from a laser. Much is now understood about the effects of wavelength, power density, and total energy on the outcomes of treatment for different disorders.

Read Article