ePulse: Laser Measurement News

September 2011

Welcome to **ePulse: Laser Measurement News**, a review of new developments in laser beam measurements, beam diagnostics, and beam profiling. Each issue contains industry news, product information, and technical tips to help you solve challenging laser measurement and spectral analysis requirements. Please forward to interested colleagues.

Business News

Status of Newport Acquisition of Ophir Optronics
Newport Corporation and Ophir Optronics Ltd. have provided an update on the status of the acquisition of Ophir by Newport. The two companies reported that the shareholders of Ophir have approved the transaction and that all required regulatory approvals have been received. The acquisition is expected to close in early October 2011, subject to satisfaction of the remaining closing conditions, as set forth in the Merger Agreement. Robert J. Phillippy, Newport's President and Chief Executive Officer, said, "We are pleased that we are making excellent progress toward closing this transaction, and we are very excited to have Ophir join the Newport team." Read the latest.

Tutorials

Profiling Gets You the Right Beam, Every Time
Whether the application is industrial, medical, military, or scientific, diagnosing a problem in your optical system can be confusing, time-consuming, and costly. Measuring the beam quality could reveal that the beam power is not spatially distributed as expected or that the beam size isn't as expected. Read insights from Gary Wagner, President of Ophir-Spiricon, and other industry experts on how beam profiling can help.

Caution: Lasers Can Seriously Damage Instruments
A common thread running through many FAQs relates to damage of power meter sensors. Many applications involve considerable power and/or energies. As laser measurement has us deliberately putting an instrument in harm's way, let's take a look at the various effects a laser beam can have on an instrument in its path. Read the article.

Driving Blind: Why the Need for Industrial Laser Beam Profiling?
Many laser operators are blissfully ignorant about the performance of their laser. They tend to rely on simple and subjective diagnostics that don't comply with industry standards or on difficult techniques that are time-consuming to transfer the knowledge to others. Worse, some employ a "don't fix what isn't broken" approach that can result in poor processes, failed parts, even product recalls. The best approach is planned maintenance and beam profiling. Find out how in this *LIA-Today* article by

Video of the Month

BeamGage®, From Delivery to Measurements
A users' out-of-the-box experience with BeamGage. Includes tips on handling CCD cameras, software installation, intro to the BeamGage user interface, the context-sensitive help system and user manual, customizing the reporting environment, and configuring the software to display specific laser measurements. Recommended for all new BeamGage customers. Learn more by watching the video.

NEW! From the Blog

An Inside Look at BeamTrack
The Development Laboratory has been working on a new, fast thermal sensor. To measure it's dependence on power density, we have to measure the beam waist of the Gaussian beam at various beam sizes and powers. Measurements are taken at 5-100W on a CO2 laser with a diverging lens. Get an inside look at how it works.

2011 Power Meter & Beam Profiling Catalogs

Download the 2011 Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and products in Power Meters and Beam Profiling.

Laser Puzzle

Try your hand at this issue's Laser Puzzle. All entries will receive a 2GB pen drive. The

Ophir-Spiricon's John McCauley.

NEW WEBINAR: BeamTrack Laser Power/Position/Size Sensors
Learn about the features and benefits of an exciting new series of laser sensor products – BeamTrack, the industry's first thermal detectors that combine multiple measurement functions in one device: power, energy, beam position, and beam size. This 45-minute webinar by Ophir's Yaakov Pechman will be held twice to accommodate different time zones.

- October 5, 2011 – 10:00-10:45 Munich, Germany, 17:00-17:45 Tokyo, Japan. Register online.
- October 5, 2011 – 12:00-12:45 pm New York, USA. Register online.

Applications

Multiple Beam Analysis with NanoScan
Aligning the output of laser diode or fiber optic arrays can be quite challenging. One of the "hidden gem" features of Photon's NanoScan slit profilers is the multibeam analysis capability that allows characterization of up to 16 simultaneous beams. Find out more.

Beam Profiling of 4 kW Fiber Laser with Camera-Based Profiling System
BeamGage Pro, and SP620U camera, and an LBS-300-NIR sensor with beam splitter were used to analyze the output of a 4 kW 1070nm fiber laser. The beam profiling system uncovered focus problems that went unseen until the new laser measurement system was installed. Find out more.

Technical Tips

BeamGage® and Adobe Reader X
Users of BeamGage have reported various issues regarding the display of the "What's This" help feature since the release of Adobe Reader X. There are two possible solutions.

Power/Energy Meters
Can Ophir pyroelectric sensors measure single shot energy or energy at very low repetition rates? Yes, here's how.

FAQs

Beam Profiling
Why is the silicon NanoScan not recommended for 1064nm beam measurements? Read the FAQ.

I'm using Windows 7 and my Pyrocam III will not show up in BeamGage. What should I do? Read the FAQ.

Power/Energy Meters
Can I use a PE-C pyroelectric sensor for higher powers for a short time without the optional heat sink? Read the FAQ.

When I hook my PD300 photodiode sensor to a Vega I see five drop-down wavelengths. Is that all I can use or is there a way to select the wavelength I need to use? Read the FAQ. See the video on how to change the sensor wavelength, now live on YouTube.

I just received my new Ophir power/energy equipment. What are some tips I can use to keep this equipment at peak performance levels? Read the FAQ.

grand prize winner will receive an iPad 16GB WiFi. E-mail answers to sales@us.ophiropt.com. Need a hint? E-mail kevin.kirkham@us.ophiropt.com

Here are the answers to the last issue's puzzle. The winner was **Mirko Mirkov, Scientist, Cynosure, Inc.**

Trade Shows

Lasers for Manufacturing Exhibition (LME)
September 27-28, 2011
Schaumburg, IL

NASA Tech Briefs Sensors Tech Forum
October 10-12, 2011
Boston, MA

Free Laser Measurement Equipment

That's right. If you're an end user of our laser equipment, let's hear about it and how you use it in your application. You can write the whole article or you can collaborate with our talented writers. In exchange, we can negotiate you receiving one of our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. E-mail kevin.kirkham@us.ophiropt.com In a few nanoseconds, you'll be telling the laser world about your application using our equipment and a femtosecond or two later you'll be logging your data on our equipment like the Nova II, Vega, Quasar or BeamGage.

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What's New

Goniometric Radiometer Measures Holographic Materials

The patented LD8900 Goniometric Radiometer is being used to measure holographic materials. The device's unique design can make X-Y and 3D measurements without moving either the detector or the source. This allows it to characterize and confirm the divergence of light passing through holographic materials, such as those used for computer display screens, smartphones, and instrument panels. Find out more about LD8900.

Many products available next business day in US

StarLab Adds Support for BeamTrack Power/Position/Size Sensors

StarLab 2.20 is laser measurement software that converts a PC into a multi-channel laser power/energy station. The newest version includes support for **BeamTrack**, unique thermal sensors that combine multiple measurement functions in a single device: power, energy, beam position, and beam size. Find out more about StarLab 2.20. Find out more about StarLab 2.20.

Online Beam Profile Wizard

The Beam Profile Wizard allows you to easily find the beam profiler that best suits your application. Enter laser wavelength range, beam size, and CW or pulsed and the applicable profilers are quickly displayed. Put the Wizard to work.

About Ophir-Spiricon, LLC

Ophir-Spiricon is part of the Ophir Photonics Group. With over 30 years of experience, the Photonics Group provides a complete line of instrumentation including power and energy meters, beam profilers, spectrum analyzers, and goniometric radiometers. Dedicated to continuous innovation in laser measurement, the company holds a number of patents, including Ultracal™, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. The recently acquired Photon family of products includes NanoScan scanning-slit technology, which is capable of measuring beam size and position to sub-micron resolution. The company's modular, customizable solutions serve manufacturing, medical, military, and research industries throughout the world.

An ISO 9001:2008 Registered Company.

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