ePulse: Laser Measurement News

September 2017

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 or have them subscribe.

Features

Beam Profiling in the SWIR Range: What You Need to Know
By Dick Rieley, Sales Manager, Mid-Atlantic Region, Ophir (U.S.)
When applications call for beam diagnostics in the SWIR spectral range, specifically the 1.5µm region, there are two practical options available: a phosphor coated CCD camera or an InGaAs array camera. Here is where it may seem that the decision is easily reached, but it is the wrong solution. Beam Profiling.

Does Ambient Temperature Affect Laser Distance Measurement?
By Moshe Danziger, Application Engineer, Optimet Ltd.
Laser distance sensors use a laser diode to accurately measure the distance from the sensor to an object. This emits only a discreet and specific wavelength constantly, though consistency of the wavelength depends on the voltage and current the diode receives. If these parameters are changed, the wavelength changes, even if it's less than a few nanometers. If the wavelength varies, it slightly impacts the behavior of all the optics and lenses and might cause a little decrease in the sensor's performance resulting in a decrease in accuracy. Laser Distance.

In Dermatology, Lasers Offer Options for Medical, Cosmetic Procedures
The changes in medical technology over the past 20 years have been nothing less than astounding. New uses for lasers have seen the greatest variation of applications of a single technology. For instance, intense pulsed-light lasers work best for the removal of potentially cancerous lesions. CO^2 lasers, effective in treating skin cancers, have also been used to treat deep wrinkles and scars. Find out more in this *Photonics Spectra* interview with Ophir's Kenneth Ferree. Lasers in Medicine.

Webinar

The Challenges of Laser Additive Manufacturing: Power Density, Focus Shift, and Spot Size
To create consistent, strong structures using laser-based additive manufacturing processes that meet flyable DoD standards or FDA requirements, the metallurgy must be consistent. In addition, a laser beam of known dimension, power density, and focal spot location is required. In this webinar, Ophir's Dick Rieley discusses additive laser processing and the challenges that arise with high-power laser material processing. **On-Demand Webinar:** Additive Manufacturing.

Videos of the Month

About Ophir
What kind of company is Ophir? Here's what we have to say about it. This short video explains just exactly who we think we are. Video: About Ophir.

LP2 Coating
The new LP2 laser sensors coating delivers very high damage threshold and very low reflection. Find out more. Video: LP2 Coating.

Laser Puzzle

Try your hand at this month's Laser Puzzle. All submissions will receive an 8GB USB pen drive. The grand prize winner will receive a 16GB iPad. E-mail answers to sales@us.ophiropt.com. Need a hint? E-mail john.mceldowney@us.ophiropt.com

Here's the answer to last issue's puzzle. The winner of last issue's puzzle was **Stephanie Cadorette, Project Engineer, Electrical, Medical Devices, Intertek**. "My company does 3rd party testing and certification. We use Ophir laser measuring equipment to test any products that have lasers in them." - Stephanie Cadorette.

Here's the answer to May's puzzle. The winner of the May puzzle was **Greg Keaton, Researcher, Cutera**. "I've been using Ophir equipment like the M^2 meters and profilers for years at different companies, they're reliable products. At Mobius, we really had to be careful about the beam quality and used Ophir equipment to monitor it. I've been using the Pyrocam to measure beam widths at different wavelengths, it's been

What's New

Quasar: Wireless Connectivity for Laser Measurement
If you need to measure your laser beam's power or energy, but the usual cable connection between the sensor and the meter is not practical, the Ophir Quasar may be the right solution for you. Quasar is a wireless PC interface that connects a sensor to a PC by Bluetooth. Find Out More.

FGC100 NIST Traceable LED Calibration Standard
The Ophir® FGC100 is a NIST-traceable LED calibration standard designed to calibrate the Ophir FluxGage™ system. FluxGage is a compact, all-in-one LED luminaire measurement system that measures flux, color, and flicker, important quantities for evaluating the performance of LED-based products. FGC100 LED Standard.

FAQs

Power Meters
How do I use the analog output of a meter to get a reading of power? And how accurate is it? Read the FAQ.

How can I clean the 10K-W, 15K-W, or 30K-W sensor? Read the FAQ.

Is the RM9 radiometer series compatible with all Ophir power meters and PC interfaces? Read the FAQ.

Beam Profiling
How do I know what's causing the BeamGage® Ultracal™ Suspension Indicator Message to change colors? Read the FAQ.

I've installed BeamGage and connected the camera, but the system won't recognize the camera or show it as an available Local Detector in the Source panel control. How do I get the camera to be recognized by BeamGage? Read the FAQ.

How do I clean dust specs off of the windowless CCD camera sensor? Read the FAQ.

handy to use." - Greg Keaton.

Social Media

Blog: The Trick to Measure Your Pulsed Laser Peak Power
If you're involved with pulsed lasers for research, system design, process control, final test, or field service, you need to accurately measure your laser's power. Here are the calculations you need to know. Peak Power.

Catalogs: Power Meters & Beam Profiling

Download the new 2017 Ophir Laser Measurement Catalogs today. Tutorials and product specifications for Power Meters and Beam Profiling. Beam Profiling Magalog includes application notes, technology articles, and reference algorithms.

Trade Shows

LED Symposium + Expo
September 26-28, 2017
Bregenz, Austria

TCT Show
September 26-28, 2017
Birmingham, UK

IEEE Photonics Conference
October 1-5, 2017
Orlando, FL

InterOpto 2017
October 4-6, 2017
Tokyo, Japan

Lighting and Technology
October 10-12, 2017
Essen, Germany

IMTES
October 10-13, 2017
Moscow, Russia

ILOPE
October 11-13, 2017
Beijing, China

Photonex
October 11-12, 2017
Coventry, UK

iMiD 2017
October 17-19, 2017
Seoul, Korea

Laser Expo Taiwan
October 18-20, 2017
Taipei, Taiwan

MD&M
November 8-9, 2017
Minneapolis, MN

FABTECH
November 6-9, 2017
Chicago, IL

Fast Ship Program

Ophir's Fast Ship program provides one-day shipment of the most

popular power/energy, beam profiling, and M^2 laser measurement equipment across the U.S.

How to Get a 15% Discount

If you're an end user of our laser equipment, we'd like to know more about how you use it. Provide us with 500 words and a few images. In exchange, we will give you a 15% discount on your Ophir laser measurement equipment. Here's a sample application article to get you started. We'll showcase your application in our ePulse newsletter and you'll get recognition by the industry for your commitment to providing high quality laser services. And you'll get the discount! E-mail kevin.kirkham@us.ophiropt.com

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About Ophir

MKS Instruments, Inc. is a global provider of instruments, subsystems and process control solutions that measure, control, power, monitor, and analyze critical parameters of advanced manufacturing processes to improve process performance and productivity. With over 40 years of experience, the Ophir brand comprises a complete line of instrumentation, including power and energy meters and beam profilers. Dedicated to continuous innovation in laser measurement, the company holds a number of patents, including the **R&D 100** award-winning **BeamTrack** power/position/size meters and Spiricon's **Ultracal™**, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. The Photon family of products includes **NanoScan** scanning-slit technology, which is capable of measuring beam size and position to sub-micron resolution. The company is **ISO/IEC 17025:2005** accredited for calibration of laser measurement instruments. The company's modular, customizable solutions serve manufacturing, medical, military, and research industries throughout the world. An ISO 9001:2008 Registered Company.

3050 North 300 West, North Logan, UT 84341
Tel: +1 435-753-3729
www.ophiropt.com/photonics