ePulse: Laser Measurement News

September 2009

Welcome to **ePulse: Laser Measurement News**, a review of new developments in laser analysis, 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.

Tutorials

Terahertz Beam Measurement: A Practical Primer
Terahertz sources are now well understood and can be measured with pyroelectric cameras. Imaging of targets can be done by bolometers, providing care is taken when using them. In this presentation, Larry Green discusses measuring terahertz lasers, including the tools available for imaging, and related optics and cameras. Find out more in THz Beam Measurement.

Industrial Laser Certification

Ophir-Spiricon Gets to Work in Industrial Laser Courses at University of Wisconsin-Madison
The laser material processing courses from the University of Wisconsin–Madison cover a wide range of topics, including laser welding, weld inspection, weld defects, laser cutting, laser drilling, beam analysis, beam diagnostics, and process validation. Ophir-Spiricon is working with instructor Simon Engel to ensure students have access to the latest beam measurement equipment, including the BA-500 Integrated Beam Analyzer, Beam Cube, and the PR-Series of energy detectors.

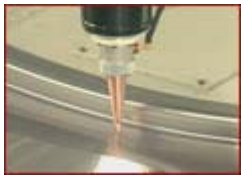
Find out more about how these laser measurement tools are being put to work in Simon Engel's article on Competitiveness, Optimization, and Compliance in Industrial Laser Applications.

Applications

Beam Shaping Helps to Develop Efficient Laser Source for Space Applications
The EarthCARE (Earth Clouds, Aerosols and Radiation Explorer) mission is a joint European-Japanese mission addressing the need for a better understanding of the interactions between cloud, radiative, and aerosol processes that play a role in climate regulation. The group developed an end-pumped Nd:YAG MOPA laser system with frequency tripling to operate at 355 nm. The laser had to operate in pulsed Q-switched mode, with a narrow

Video of the Month

Death of the Mode Burn for High Power CO2 Lasers
ModeCheck™ is a portable industrial beam profiling system that enables the quantitative measurement and viewing of high power CO2 beams. With this development, toxic mode burns are now a poor substitute for understanding how your laser is operating. Find out why the mode burn is history. Video and presentation.



Laser Survey Winner Announced

Leonard Pomeranz, BAE Systems, Nashua, NH, is the winner of the iPod Touch from last issue's survey respondents. Congrats, Leonard!

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 our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. For power/energy meters, e-mail Burt.Mooney@Ophir-Spiricon.com and for beam profilers, e-mail Kevin.Kirkham@Ophir-Spiricon.com. In a few nanoseconds, you'll be telling the laser world about your application using our equipment

bandwidth and tight frequency control. Find out more in the article by Larry Green and Etienne Friedrich, Space Applications.

Medical Device Yield Improvement by Online Measurement and Analysis of Laser Energy
The Quasar wireless laser power and energy measurement interface allows quick and trouble free installation of complex measurement systems in an existing manufacturing environment, with a minimum of cable laying and disturbance to the facility's operations. This was demonstrated in a project undertaken by a manufacturer of medical implants who uses eight pulsed lasers to perform cutouts on the medical implant. Find out more in Yoram Shalev's article, Wireless Laser Measurement.

FAQs

Power/Energy Meters
Is the ±3% accuracy of power and energy sensors with respect to full scale? Read the FAQ.

Beam Profiling
Why am I seeing "ghost images" on the 2D and 3D displays from my beam profiling software? Read the FAQ.

I just downloaded BeamGage Standard, but I can't get it to install. Why not? Read the FAQ.

I just downloaded BeamGage Standard from your web site, but I can't get my camera to run with it. What's up? Read the FAQ.

What's New

Ophir-Spiricon Supports LaserFest
Ophir-Spiricon has joined with the American Physical Society, the Optical Society, and SPIE to celebrate the 50th anniversary of the laser. Find out about activities and events.

New Sensor Measures Very Low Power/Energy and Divergent Beams
The **3A-P-FS Very Low Power/Energy Sensor** measures very low power and energy light sources and divergent beams, such as LEDs and diode lasers. It features a wide, 12mm numerical aperture and a fused silica window in front of the detector. The window, only 7mm from the sensor surface, keeps out air currents and long wavelength background heat, allowing more accurate measurements of lower powers. The sensor can measure divergent beams up to ± 40 degrees. Find out more.

Integrated Industrial Laser Beam Analyzer Measures Nd:YAG and Diode Lasers to 150W
Beam Cube is an integrated, industrial laser beam analyzer designed for high precision welding and cutting applications. The system measures beam profile, temporal pulse shape, focal spot position, and power up to 150W. A compact, portable unit, it incorporates a focal spot analyzer for measuring at or near the focal spot; a power meter to measure beam power; and a fast photodiode detector to measure the temporal pulse shape of the beam. Find out more.

and in a femptosecond or two later you'll be logging your data on our equipment like the Nova II, Vega, Quasar or BeamGage.

2009 Power Meter & Beam Profiling Catalogs

Download the 2009 Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and new products in Power Meters and Beam Profiling.

Fast Ship Program

Ophir-Spiricon's new Fast Ship program provides one-day shipment of the most popular power/energy, beam profiling, and M2 laser measurement equipment.

Laser Q&A

How do you calculate the power and energy density of a laser beam?
Find out at Laser Q&A.

On-Site Seminars

Ophir-Spiricon has begun conducting a limited number of on-site beam diagnostic seminars for major laboratory facilities and academic institutions focusing on photonic developments. These educational seminars will include such topics as "Power vs energy: Which do you measure and why," "Focused spot analysis: When it makes sense," and "M2 beam propagation analysis." For more information or to schedule a seminar, contact Kevin Kirkham at Kevin.Kirkham@ophir-spiricon.com or call 435-753-3729.

Trade Shows

Opto-Paris
October 6-8, 2009
Paris-Nord Villepinte Exhibition Center
France

ICALEO 2009
November 2-5, 2009
Hilton, Walt Disney World Resort
Orlando, Florida

About Ophir-Spiricon Inc.

Ophir-Spiricon is part of the Ophir Optronics Laser Measurement Group. The Laser Measurement Group provides a complete line of instrumentation including power and energy sensors, beam profilers, and spectrum analyzers. Wholly focused on laser measurement, the group's modular, customizable solutions serve manufacturing, medical, military, and research industries throughout the world. Since 1978, an unwavering commitment to forward thinking has kept us "the partner of choice" in optoelectronics.

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