Ocean News

GMP


# Innovations in Photonics

Autumn 2009

## Introduction

Welcome to Ocean News, the platform where you can read about the latest topics and innovations in the field of photonics.

In this newsletter we will give you an overview of the exciting new products we have launched lately. Take for example NeoFox. This optical phase measurement system is especially suited for applications where sensitivity to drift and system stability are important – with formulations available for a variety of oxygen sensing needs.

We will also introduce the new market standard for NIR spectroscopy.

NIRQuest delivers more flexibility than ever before with its additional grating options and advanced electronics.

You'll also meet ColorBUG, an ingenious handheld device for testing colour and illuminance. Because it communicates wirelessly with your iPhone colorBUG eliminates the need for tethering to a PC.

And you will find inside the latest news about Jaz, some nice tips and tricks and other interesting information.

Enjoy your reading!
**The GMP SA Team**

# A special gift from Ocean Optics

## Get a netbook, USB-stick or SpectraSuite software

From now through December 31st 2009 you get a free gift with your purchase of an Ocean Optics spectrometer. Choose between our SpectraSuite software or a special Ocean Optics USB stick containing our video tutorials. And, for orders of CHF 16'000.- (without VAT) or more, you receive an Acer Aspire One Netbook.

Contact GMP now to learn more about this special offer.

*Special gift with your next spectrometer order*

*Reader reply* 01

Check out how to get a free Netbook, USB stick or SpectraSuite software

# Jaz-Mount

## Secure Jaz with the new Jaz-Mount

As a lot of Jaz customers like to use Jaz looking upwards measuring sunlight, LED lighting etc, it became obvious our Jaz needs to be placed securely on a fixed (and defined) spot. That's why we have developed the Jaz-Mount which allows you to place Jaz on a tripod or other fixture. The Jaz-Mount has 3 standard 1/4"-20 threads, to orientate Jaz in all possible directions.

*Jaz-Mount*

*Reader reply* 02


# Jaz light meter

## The preconfigured spectrophotometer

Ocean Optics now introduces the Jaz light meter. This pre-configured spectrophotometer is the ideal tool for field and laboratory measurements of any type of lighting.

With the Jaz light meter you can measure the spectral characteristics and calculate key parameters like Lux, Lumen and PAR values. The Jaz battery module enables you to measure up to 8 hours without recharging and its SD card slot gives you a convenient way to store spectral data.

*The Jaz light meter*

*Reader reply* 03



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# Introducing the Brontes colorimeter

### Ideal tool for a production environment

The Brontes is a high-speed, high-resolution colorimeter that is designed especially for in-line usage where colour reproduction and cycle time are very important. Brontes is small and compact making it very well suited for production environments.

### Colour measurements

Colours are measured according to the human eye (CIE1931) and numerous colour spaces (Yxy, CEILab, Yuv, LCH) are supported. With 5,500 colour and 18,000 luminance measurements per second in burst mode, Brontes is one of the fastest Ocean Optics measurement systems.

*The Brontes Colorimeter*
*Reader reply* 04

colorBUG

# The new colorBUG

### Measure your lighting easily and conveniently

The ColorBug is an ingenious handheld device for testing colour and luminosity in studio, architectural and theatre applications. Perfect for lighting designers, photographers and producers, ColorBug allows you to determine CIE colour values with greater precision than ever before.

### Share data with your iPhone or iPod Touch

The ColorBug makes storing and analyzing data a snap. With its wireless capabilities, ColorBug communicates directly to your iPhone or iPod touch -- without the need for a PC or cables. There's simply nothing more convenient or clever for creating the perfect colour and lighting environment.


*ColorBUG handheld device for light measurements*
*Reader reply* 05

## Tips & Tricks

# Strip chart in SpectraSuite

### Monitoring changes in your spectrum

When you want to monitor changes in your spectrum as a function of time, SpectraSuite has several options to do so. You can automatically have it save spectra at a regular rate (i.e. ms, seconds, minutes, hours) using the 'save spectra' function.

### Real high speed acquisitions

SpectraSuite also has a 'high speed acquisition' mode allowing up to 1000 scans per second. If you want to monitor some particular wavelengths in your spectrum, the strip chart function comes in handy.

### Selecting the strip chart

Choose 'strip chart' in the list of wizards and select one of multiple wavelengths. You will now see a graph with data as a function of time. Besides just the spectral data you can also have SpectraSuite calculate an average of integral to be monitored. Very handy with dynamic processes like titration of plasma monitoring. All this data can be saved in a convenient format for analysis.

*Strip chart in SpectraSuite*
*Reader reply* 06

# Tips & Tricks

## Increased sensitivity

### Using a detector collection lens

There are very easy ways to increase the sensitivity of your spectrometer. One of the easiest is to make sure you have included our detector collection lens in your custom configured spectrometer (product code L2 or L4). This will focus light that enters the spectrometer more effectively onto the detector pixel array.

### SAG mirrors for the visible range

If you are mostly interested in the visible area, do not forget to configure the SAG mirrors to boost your sensitivity (SAG+UPG).

### Sensitivity in the UV range

For the UV range we have many ways to increase sensitivity. Choose one of our spectrometers with backthinned detectors (QE65000 or Maya2000Pro) or choose special gratings and mirrors for the UV range. We offer the solution for measuring down to 155 nm.

*Increasing system sensitivity*
*Reader reply* 07

## The new $O_2$ sensing system

### A new system for all your oxygen sensing needs

Reduce costs, improve stability and make calibration easier with the new NeoFox Phase Measurement system. NeoFox is a fluorescence-based optical sensor system that can be used to monitor oxygen in biological samples, headspace gases, slurries, cosmetics, foods, gases and liquids in natural environments.

### Great stability and self-calibration feature

NeoFox is a bench top device for measurement of fluorescence lifetime, phase and intensity, and is especially useful for applications where sensitivity to drift and system stability are important. What's more, NeoFox is about half of the cost of our previous phase measurement system and includes a self-calibration feature for improved electronic stability.


*NeoFox oxygen sensors*
*Reader reply* 08

## The new Optical Transmittance Spectrophotometer (OTS)

### Real-time precision in a compact system

We've combined our expertise in miniature spectrometers and precision optics to create a compact system for real-time, accurate and repeatable transmittance measurement of ophthalmic lenses and other optical components.

### Measure optical filters, glass and ophthalmic lenses

The Ocean Optics Optical Transmittance Spectrophotometer (OTS) is ideal for in-lab applications where transmittance accuracy (to +/- 1.0%) and precision (+/- 0.1%) are critical. Common applications include measurement of plastic and glass lenses, as well as optical coatings, windows and filters, and glass and plastic components.

### Measure thickness in a range from 10 - 150 nm

The OTS covers the entire visible wavelength range and accepts samples from 10 mm - 150 mm diameter and up to 10 mm thickness. What's more, manufacturers of neutral density filters and filter glasses, and anti-reflective and other precision coatings, will appreciate the ability to use the OTS as a real time, in-line process monitor.

*Optical Transmittance Spectroscopy (OTS)*
*Reader reply* 09

# New standard in NIR spectroscopy

NIRQUEST

## Ranging from 850-2500 nm

This new generation of small footprint, near-infrared spectrometers is available in three models that cover various ranges between 850 nm and 2500 nm.

## More grating options

In addition to improved optical bench performance, NIRQuest Spectrometers are available with more grating options than our previous NIR Spectrometers. That allows users to take advantage of the different grating characteristics to maximize experiment setups.

## Less expensive, less complex

NIRQuest is the less expensive, less complex alternative to FT-IR and comparable technologies. It delivers the power of NIR analysis in a small-footprint instrument that is modular, versatile and perfect for a vast range of applications.

## Wide application range

NIRQuest's modular design delivers more customisation for a wider variety of applications such as medical, pharmaceutical, environmental and commercial process. Use the NIRQuest to analyse moisture content in food and beverage products or to analyse trace metals in wastewater.


*NIRQuest spectrometer for range*

*Reader reply*

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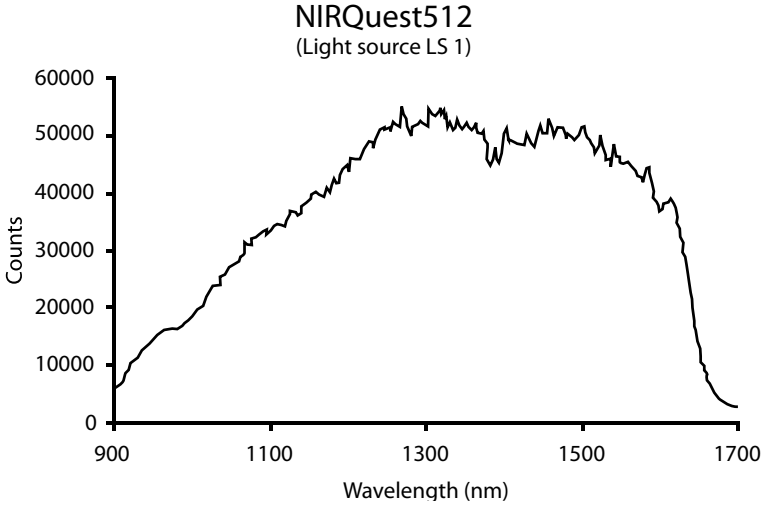


## Deep UV Spectroscopy

# UV Maya

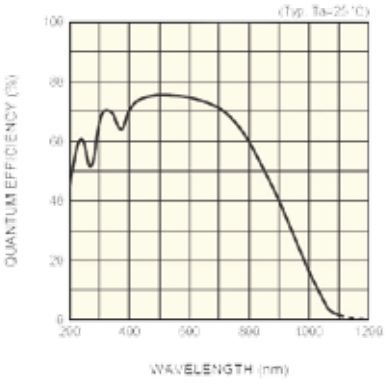
### New line of spectrometers
Maya is a new series of high sensitivity back-thinned 2D FFT-CCD spectrometers, that already proved itself for several UV sensitive applications.

### Great performance
Particularly suited to low light level and UV-sensitive applications, the Maya2000 and the Maya2000 Pro offer 90% quantum efficiency, high dynamic range, great signal-to-noise characteristics and excellent UV response.

### Measure down to 155 nm
Ocean Optics has proven the ability to measure down to 155 nm. Optionally Maya can be equipped with nitrogen purge ports.


### Application range
Maya spectrometers can be used for light analysis, environmental monitoring, chemical research, physical characterisation and other applications that require great response in the UV range.

### The Maya features
Maya spectrometers have an easy to use USB interface, fully programmable strobe signals (single or continuous), optional propriety order-sorting filters and 10 onboard digital user-programmable GPIOs.




Spectral response of the Maya2000 Pro

*UV sensitive Maya series*
*Reader reply*

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## OEM Solutions - Connecting Business

### The extensive know-how
Ocean Optics' optical sensing technology is used in a vast array of OEM products. Ocean Optics is known for providing specialized solutions and offers a complete range of miniature spectrometers, probes, fibres and optical components to suit virtually any manufacturing application.

### Special OEM program
The volumes you require, the delivery you need and the quality you demand are all assured under the Ocean Optics OEM developer program. Joining our OEM program also provides access to our technical knowledgebase and engineering and production support.

### Contact us now!
Contact GMP now via **info@gmp.ch** to find out how we can support you and your project.

*OEM solutions*
*Reader reply*

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# Multimode laser subsystem

### High power, multimode spectrum stabilized laser subsystem

The spectrum stabilized laser features high output power with narrow spectral bandwidth. This unit's stabilized peak wavelength remains locked regardless of case temperature (-10 to +55 °C).

### Ideal for Raman spectroscopy and pump laser applications

Devices can be spectrally tailored to suit application needs and offer side mode suppression ratios (SMSRs) better than 40 dB. This provides an extremely high signal-to-noise performance and makes this source ideal for Raman spectroscopy and pump laser applications.

### System features

The laser is integrated with high performance laser drive and temperature control electronics in a compact, small-footprint package that weighs less than 114 grams.

*Multi laser subsystem*
*Reader reply* 13

Tutorials, Instruction and Tips for Users of Ocean Optics' Spectrometers

SPECTROSCOPY TV

## New Videos Available

### Support using Ocean Optics spectrometers

"Spectroscopy TV" contains a collection of tutorials designed to help and support you with the set-up and use of your spectrometers.

### Radiometric calibration videos

We now offer several new tutorials on radiometric calibration including videos about working with a cosine corrector, your own calibrated system or with an integrating sphere.

### OmniDriver and LabView programming support

You can also find our new videos on how to install OmniDriver on your PC and a tutorial with all the basics for programming in OmniDriver and LabView.

Take a look at our wide offering of videos at www.gmp.ch/tv

*Tutorial Videos / Spectroscopy TV*
*Reader reply* 14

## Requesting More Information

I would like to receive more information about:

01 ☐ Special gift with your next spectrometer order
02 ☐ Jaz-Mount
03 ☐ The Jaz light meter
04 ☐ The Brontes colorimeter
05 ☐ ColorBUG handheld device for light measurements
06 ☐ Strip chart in SpectraSuite
07 ☐ Increasing system sensitivity
08 ☐ NeoFox oxygen sensors
09 ☐ Optical Transmittance Spectroscopy (OTS)
10 ☐ NIRQuest spectrometer for NIR range
11 ☐ UV sensitive Maya series
12 ☐ OEM solutions
13 ☐ Multimode laser subsystem
14 ☐ Tutorial videos / Spectroscopy TV
15 ☐ Other: _____

## My Details

**Company Name** _____

**Contact Person** _____

**Address** _____

**Zip Code/Town** _____

**Country** _____

**Tel** _____

**Email** _____

**Other interests:** ☐ **lasers** ☐ **micropositioning systems**

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## GMP SA

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» application laboratory
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» vibration isolation
» optics and electro-optics
» positioning & motion controller systems
» analytical instruments
» electronic instruments
» assembly and engineering

Since 1977, GMP is active in the fields of laser, spectroscopy, electro-optics and micropositioning.

Thanks to an efficient sales and service organisation, GMP has become, not only a top distributor of high technology products, but is also able to propose turnkey solutions for equipment integration, developed by GMP's engineering department.

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