

# PHOTONICS spectra®

## WHITE PAPERS & APPLICATION NOTES



Application Note

**KEYWORDS**

- Modular spectrometer
- SNR performance
- Spectral acquisition

**TECHNIQUES**

- Absorbance
- Irradiance
- Transmittance

**APPLICATIONS**

- Molecular diagnostics
- Laser characterization
- Plasma monitoring

### Modular Spectrometer Delivers High Performance in Compact Footprint



Since the introduction of the first commercially viable modular spectrometers in the early '90s, successive generations of these versatile instruments have demonstrated significant improvement across key performance indicators including signal to noise ratio (SNR), optical resolution, scan rates, stray light and linearity.

The Ocean SR2 spectrometer is part of the newest generation of modern modular spectrometers. The spectrometer has a proprietary linear CCD-array detector, enhanced electronics that provide high-speed spectral acquisition (integration times to 10  $\mu$ s), and a novel optical bench design that delivers excellent SNR (30:1) performance for absorbance measurements, plasma monitoring and other applications.

#### Absorbance of Optical Filters

Using an Ocean SR2 spectrometer with a balanced deuterium-tungsten halogen light source and an optical filter holder, we measured various combinations of optical color balancing

## Modular Spectrometer Delivers High Performance in Compact Footprint

In this application note, we share spectra that demonstrate performance characteristics of the Ocean SR2, a modular UV-Visible spectrometer. We evaluate the effectiveness of the Ocean SR2 for measuring absorbance of optical filters and demonstrate how its high optical resolution performance and balanced (or "flatter") spectral response help to mitigate typical modular spectrometer performance trade-offs.

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