

Spectrolight's TLS wins the 2024 Laser Focus World Innovators Awards: GOLD HONOREE



The Spectrolight TLS: Unparalleled Precision and Control

Spectrolight's tunable laser system (TLS) is an innovative, continuously tunable one-box laser system that combines a supercontinuum laser and Flexible Wavelength Selector (FWS: tunable bandpass filter) based on TwinFilm™ technology. TLS is the world's first picosecond tunable laser system covering the visible to SWIR range.

The main advantages of TLS are broadband continuous center wavelength and bandwidth (FWHM) tuning, high average power, easy control, low maintenance, and price. TLS has ultra-broadband wavelength tuning capability up to SWIR (410-1700 nm) with a precision of 1 nm and can control the FWHM 2 to 15 nm (nominal). High output power (>5 mW/nm [average]) can be produced with very high throughput compared to methods using nonlinear optics such as OPA. TLS does not require difficult alignments or adjustments, and the center wavelength and bandwidth can be controlled in real time using dedicated software. It can be applied to a variety of purposes at a relatively low price, and various models are available depending on the output power.

For more info - https://www.spectrolightinc.com/board/detail/3/?board_id=334

NEW White Paper : New Innovative Spectrolight's Hyperspectral Camera

Hyperspectral imaging is a non-destructive, non-contact technique for identifying substances by collecting information from images created by the electromagnetic spectrum of a sample. Hyperspectral imaging accounted for 2.5% of the global optical imaging market in 2015, but it has grown rapidly in the last few years due to the development of new light sources.1 Compared to optical coherence tomography (OCT), its faster imaging speed and non-invasiveness have led to increased demand in various fields such as remote sensing, food inspection, recycling, forensics, counterfeit detection, military applications, biomedicine, and many other applications.

The concept of hyperspectral imaging can be easily figured out by comparing images of the color blindness test sheet obtained with 500 nm and 600 nm wavelengths (Figure 1).

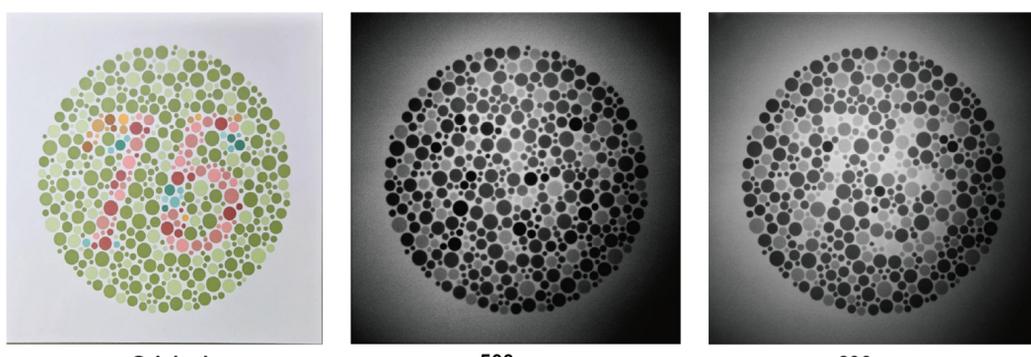


Figure 1. Hyperspectral images of the color-blind test sheet were obtained with two different wavelengths. It is not visible at 500 nm but visible at 600 nm.

(...)

Spectrolight Inc. (SLi) developed a NEW hyperspectral imaging camera system that combines the advantages of a new imaging approach to overcome the limitations of both spectral and spatial resolution. This system consists of a hyperspectral imaging module and a camera and has the following representative features. (Figure 5) 1) In addition to standardized products, it is possible to manufacture customized products according to the user's needs. 2) There are no restrictions on the lens installed in front of the system. It is user-selectable/free-adjustable because far-field and near-field lenses can be freely used depending on the desired field of view. 3) Hyperspectral imaging module can accurately select center wavelength and constant scanning interval. The user can select the scanning interval and bandwidth.

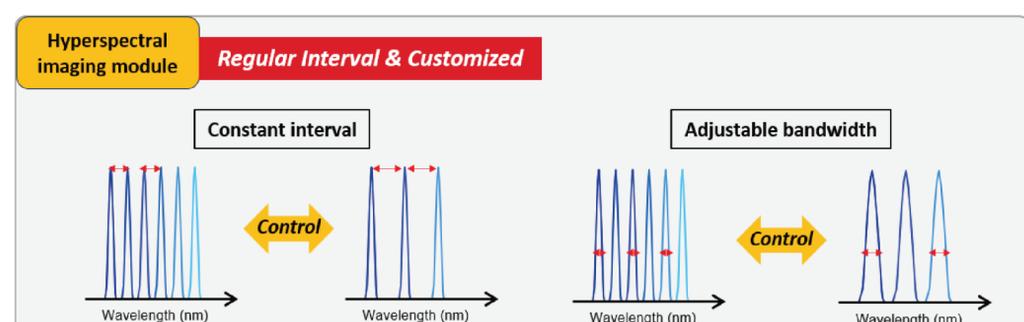


Figure 5. Representative features of Spectrolight's hyperspectral imaging camera system.

For full paper : https://www.spectrolightinc.com/board/detail/1/?board_id=333

Tunable Light Sources

Fully tunable light sources and laser systems with wide tunable wavelength and bandwidth range

[View details](#)



Tunable Bandpass Filters

Applicable with any broadband light sources, CWL tuning range : 255 - 1700 nm

FWHM tuning range : 2 - 15 nm

[View details](#)



Light Sources

A wide variety of powerful broadband light sources including tungsten-halogen/plasma lamps, LEDs and pico-second pulsed supercontinuum lasers

[View details](#)



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