

SHR- IR - Wavelength Meter in the near IR range

New!!

Real-time measurements without scanning!
Unique precision for IR-range!



- Spectral range 600nm to 1800nm
- Accuracy better than $\pm 20\text{pm}$
- Spectrum & FWHM analysis
- Compact design; no moving components
- Optical fiber input; diffuse attenuator
- Ideal for measuring wavelength of pulse and CW lasers

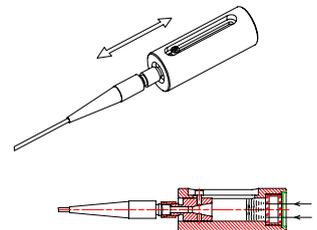
The SHR-NIR spectrometer is an ideal instrument for measuring absolute wavelength value of pulse and CW lasers and diodes in the **spectral range 600-1800nm**. The SHR-NIR allows detecting FWHM of the spectral line with **resolution of 4 000 ($\lambda/\Delta\lambda$, FWHM)** which constitutes 0.15nm for 600nm to 0.5nm for 1800nm. The SHR-NIR also ensures on-line monitoring of the above values in the process of tuning the analyzed wavelength.

The instrument does not contain any moving elements; powering and control are performed from a computer via the Full-Speed USB interface. Analyzed light is steered to the entrance slit either via a multimode optical fiber with a diffuse attenuator (included in the delivery set) or directly, without any fibers.



Diffuse attenuator FA-3

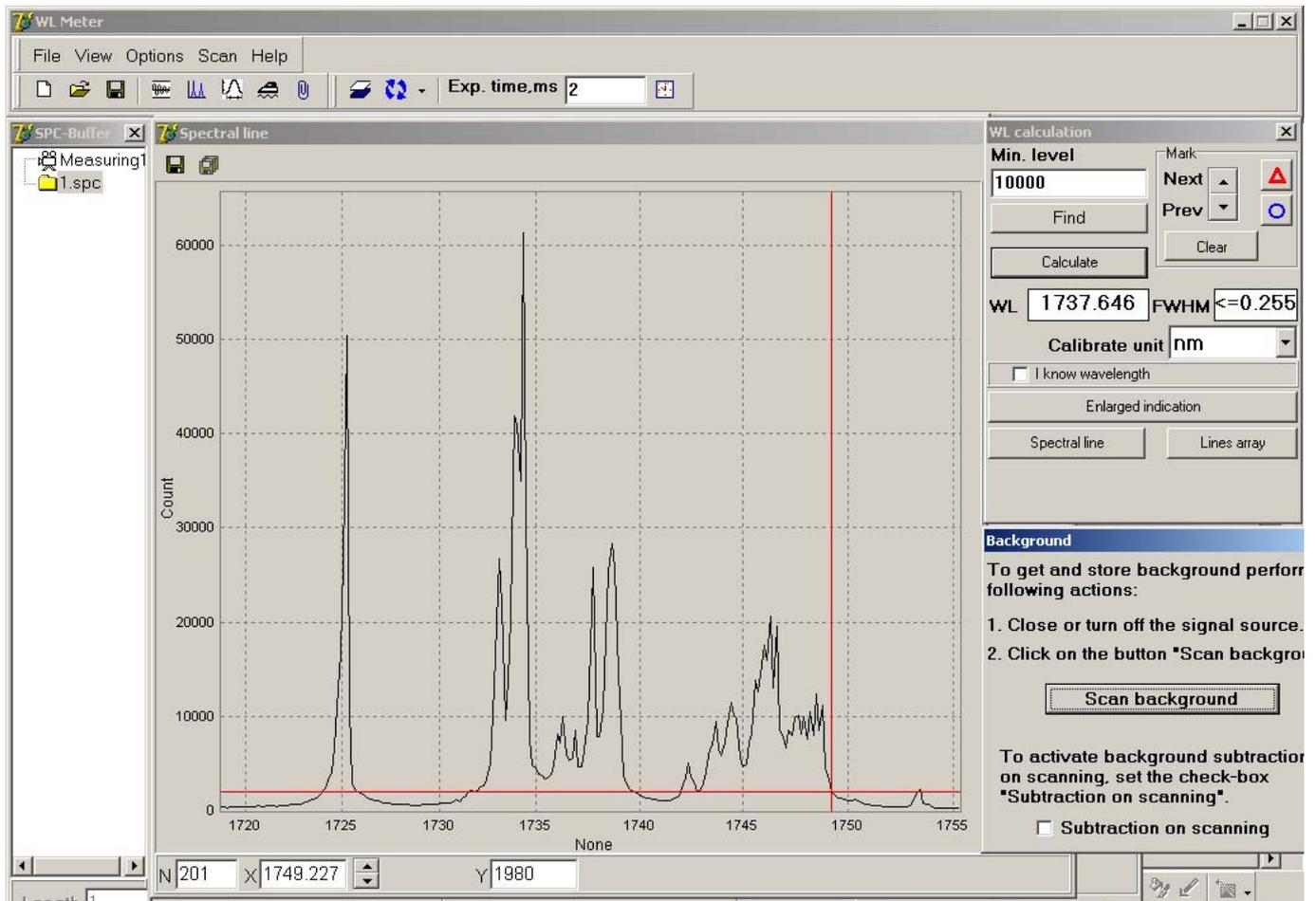
Contains two diffuse quartz glasses and SMA-905 connector. Axial alignment of the fiber end relative to diffusive elements.



In respect of resolution and wavelength measuring precision the SHR-NIR is an alternative to a monochromator-spectrograph with focal length not less than 500mm, equipped with an appropriate IR-detector. But unlike the monochromator, the SHR-NIR has no moving elements and provides real-time measurements without scanning. The SHR-IR is solid, stable and precise, ensures absolute reliability and has more reasonable price.

The SHR-NIR spectrometer is indispensable in the process of adjustment, alignment and testing of laser systems operating in the near IR spectrum range.

Operation mode	CW and pulsed light (externally triggered)
Spectral range	600 - 1800 nm
Accuracy of wavelength detection	$\pm 0.02 \text{ nm}$
Resolution ($\lambda/\Delta\lambda_{FWHM}$)	4 000
Source linewidth requirements, not more than	$(\Delta\lambda_{FWHM} \text{ from } 0.15\text{nm for } 600\text{nm to } 0.48\text{nm for } 1800\text{nm})$ $\leq 125 \text{ cm}^{-1}$ (from 4nm for 600nm to 40nm for 1800nm)
Optical interface	- Quartz optical fiber dia. 400 μm , 1m length, SMA-905 connector - Diffuse attenuator FA-3 with SMA-905 connector
Computer interface	Full Speed USB interface
Software	WLMeter
Dimensions and weight	



Spectra acquired with the SHR-IR

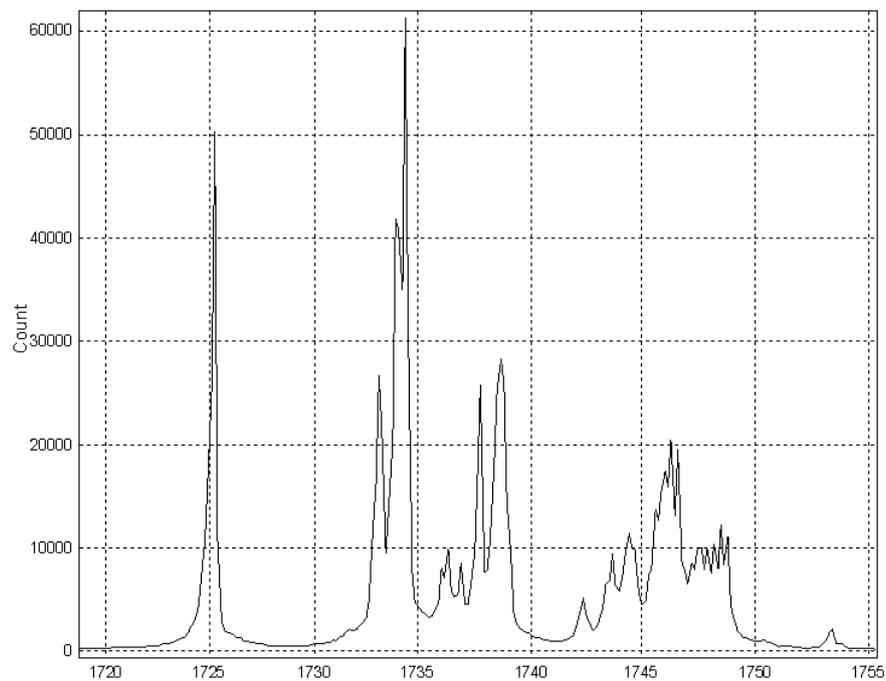


Fig.1. Laser diode spectrum 1725- 1750nm.

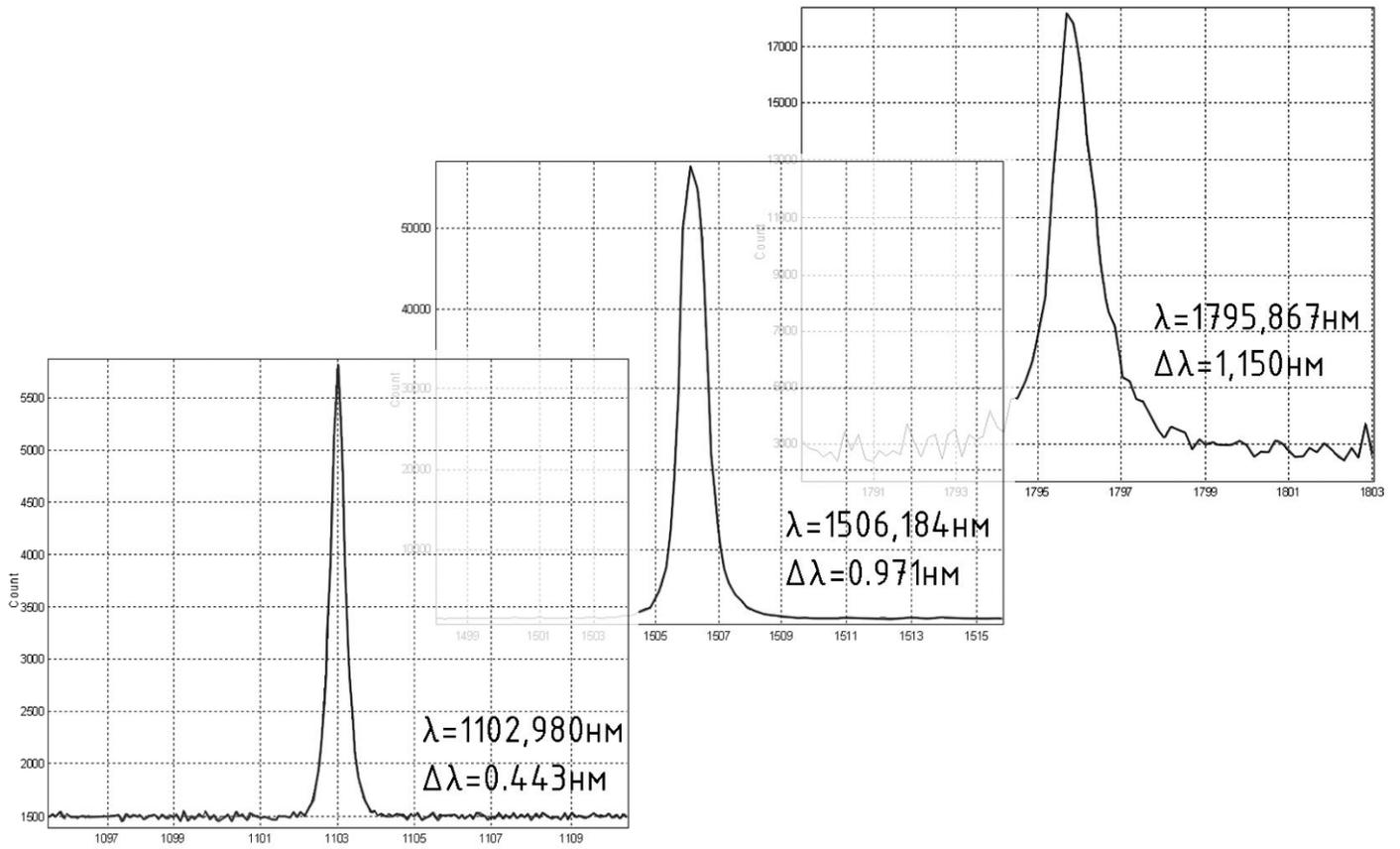


Fig.2. Optical parametric oscillator (OPO). Idle wave. Real-time measurements at tuning laser wavelength.

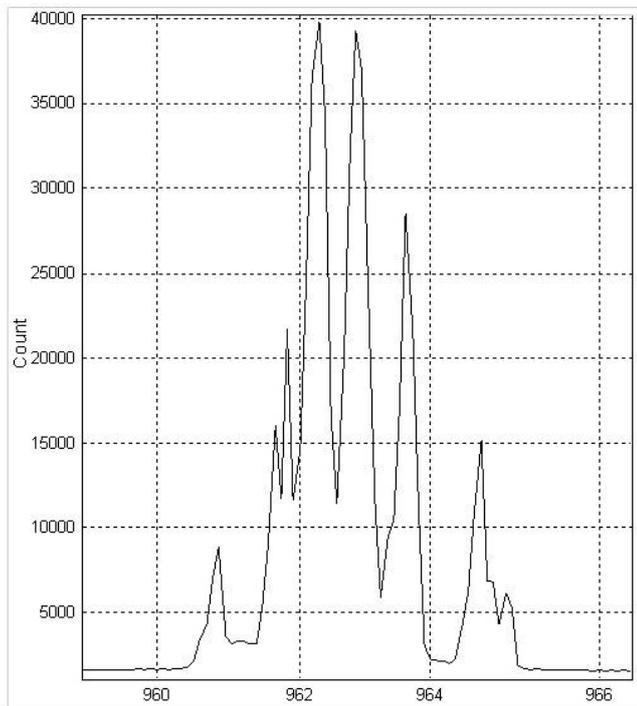


Fig.3. Laser diode spectrum 963 nm.

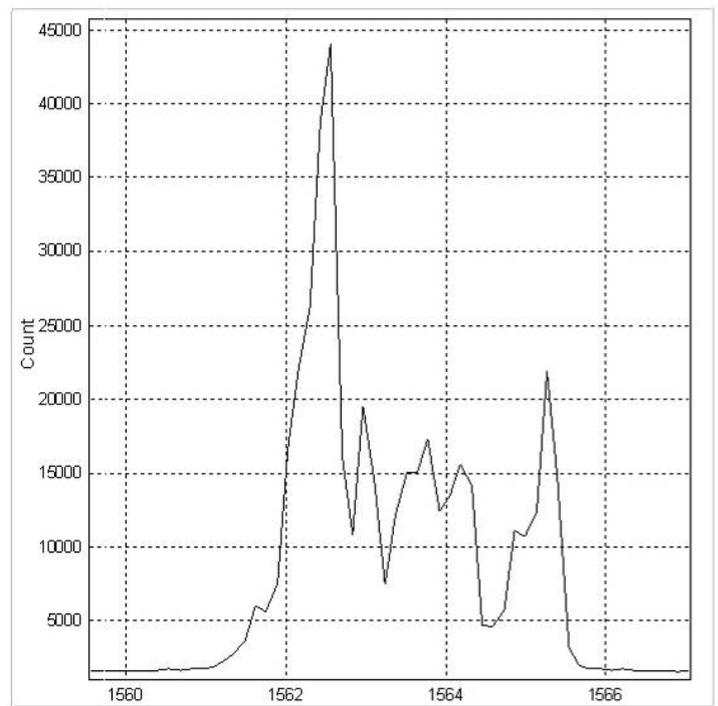


Fig.4. Laser diode spectrum 1564 nm.