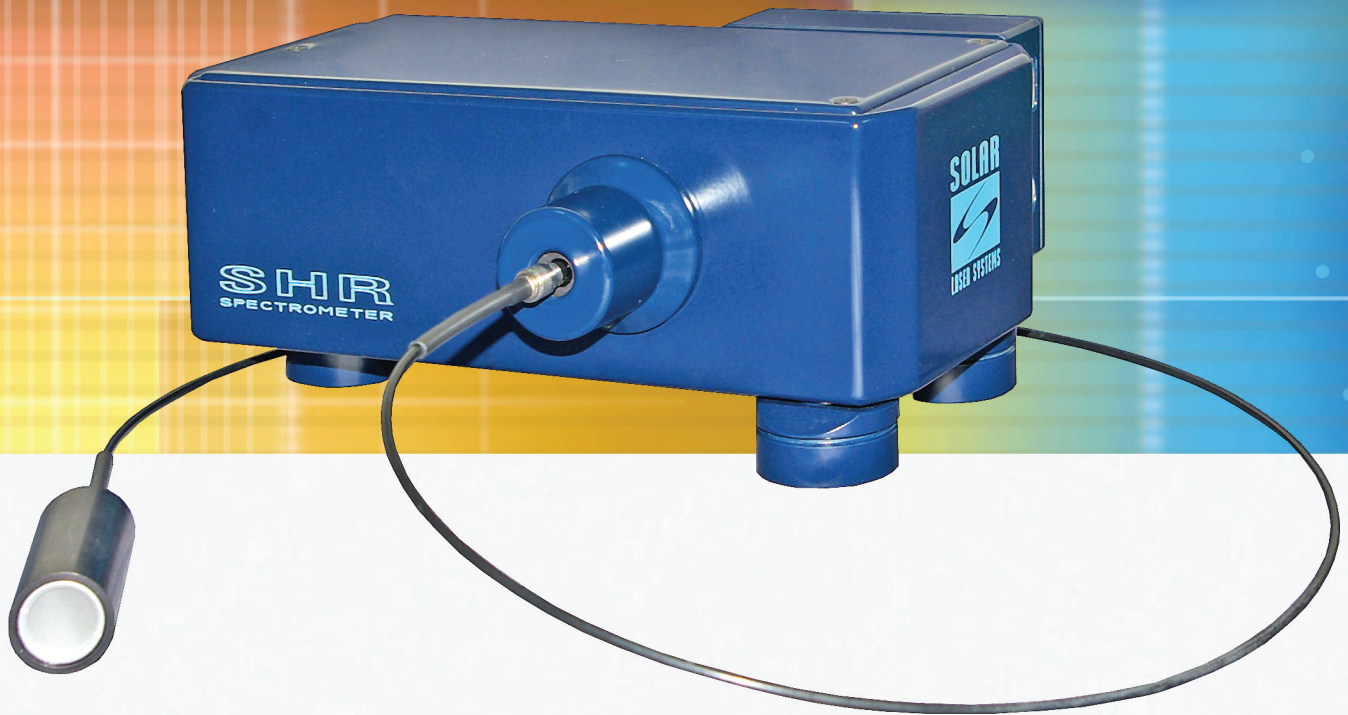


SHR

High-Precision Wavelength Meter

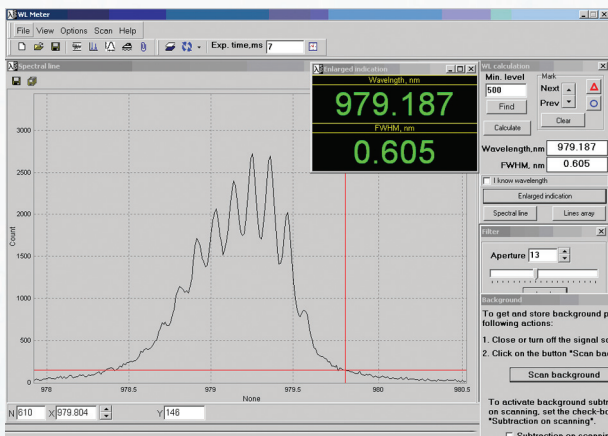


- High accuracy and wide spectral range
- Capabilities of spectrum analysis
- Compact design; no movable components
- Optical fiber input coupled with an attenuator
- Sophisticated user-friendly software
- For pulsed and CW lasers

The SHR is an ideal high-precision instrument for measuring laser wavelength in a large field of laser applications, as well as in the process of adjustment and testing of solid-state lasers, diode lasers, dye lasers and OPOs.

The SHR allows quick and easy measuring of absolute wavelength value of both CW and pulsed lasers with outstanding precision of ± 3 pm within a widest spectral range of 190-1100 nm, as well as detecting FWHM of the analysed line with resolution of 30 000 ($\lambda/\Delta\lambda < \text{FWHM}$) which constitutes from 6 pm for the UV spectrum range to 40 pm for the IR. The SHR also ensures on-line monitoring of the above values in the process of tuning the analysed wavelength.

The SHR optical scheme is based on an Echelle diffraction grating operating in high spectrum orders and a linear image sensor used as a detector. The instrument does not contain any movable elements; powering and control are performed from a computer via Full-Speed USB interface. Analysed light hits the SHR input slit through an optical fiber fitted with an attenuator. The SHR can also operate within the whole spectral range without a fiber, the input slit being directly exposed to the analysed radiation.





Product Specifications *

Operation modes	CW and pulsed (externally triggered)
Spectral range	190 - 1100 nm
Absolute accuracy	$\pm 3 \text{ pm}$
Spectral resolution (instrument function, $\lambda/\Delta\lambda_{FWHM}$)	30 000 (from 6pm at 193nm to 40pm at 1200nm, refer to Fig.1)
Source linewidth requirement	$\leq 125 \text{ cm}^{-1}$ (from 0.5nm at 193nm to 18nm at 1200nm, refer to Fig.2)
Sensitivity	less than $0.5 \mu\text{W}$ at 632.8nm for min exposure time of 7msec
Optical interface	<ul style="list-style-type: none"> optical fiber 400 μm dia., 1000mm length, connector SMA-905 diffuse attenuator FA-3 equipped with SMA-905 direct input without a fiber
Computer interface	Full Speed USB
Software	WLMeter
Dimensions and weight	165 x 215 x 90 mm
Weight	2.6 kg

* Specifications are subject to change without notice

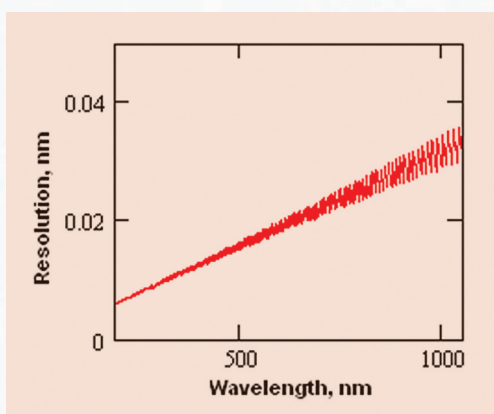


Fig.1 SHR spectral resolution versus wavelength.

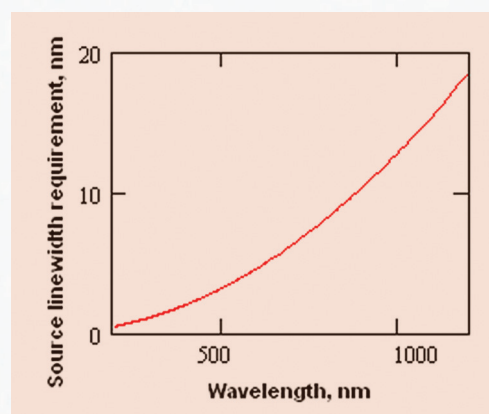


Fig.2 Max width of analysed spectrum versus wavelength.

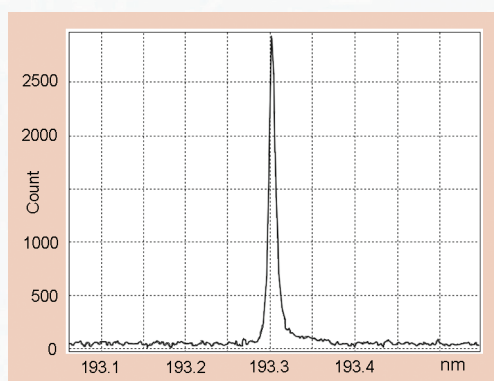


Fig.3 ArF laser wavelength of 193.3nm can be measured either with MM optical fiber or without a fiber.

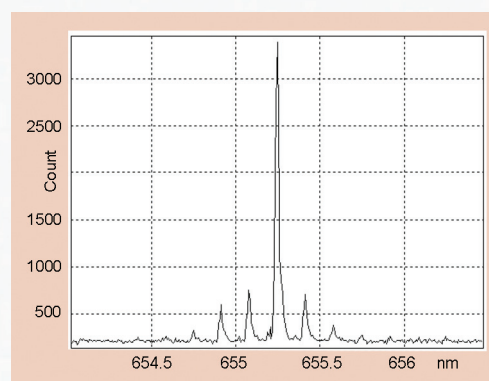


Fig.4 Diode laser $\lambda_{\text{center}} = 655.25\text{nm}$, $\text{FWHM} < 0.022\text{nm}$.
Distance between single modes is 170pm.

