HighFinesse Wavelength Meters

- Unmatched absolute accuracy down to 2 MHz
- Measurement ranges from UV to IR (192 nm .. 11 µm)
- For pulsed and cw lasers
- Sensitivity down to nW light power
- Up to 600 Hz acquisition speed

The wavelength meters of the WS series accomplish wavelength measurements with highest accuracy. Both cw and pulsed lasers with narrow-band emission can be examined, monitored and even actively controlled. Various models of the WS series are available, covering UV to IR wavelength ranges (192 nm - 11 µm). Based on a rugged Fizeau interferometer setup without any moving components, the wavelength meters provide quasi unlimited lifetime.
The spectrum analyzers LSA and HDSA allow for multi-line or broadband spectrum of light sources like cw and pulsed lasers, gas discharge lamps, super luminescence diodes, semiconductor laser diodes and LEDs.

Technical Information

WSU-2
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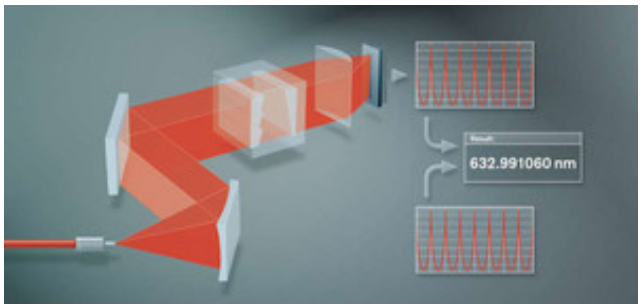
0>1

	2[2] External

1) ± 200 nm around calibration wavelength
2) ± 2 nm around calibration wavelength
3) depending on device type
4) except IR-III

Operation principle



HighFinesse Fizeau interferometer setup of WS series

Contrary to Michelson interferometer based instruments, our wavelength meter uses fixed Fizeau interferometers to detect the wavelength of a laser beam.

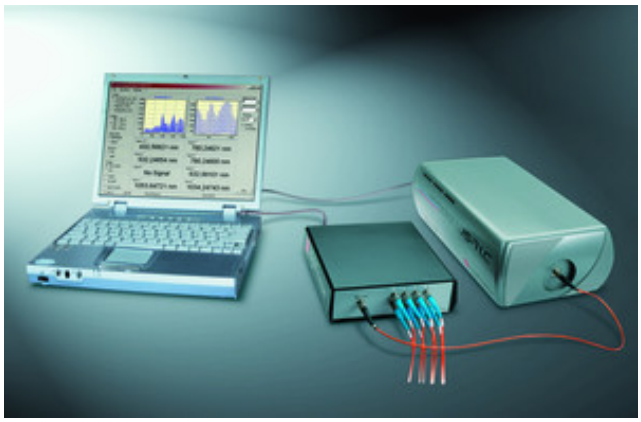
The beam enters the optical unit via a fiber, is collimated by a lens and then split into several beams. Each beam passes a Fizeau interferometer of specific length to generate distinct interferometric patterns. All these patterns are recorded by a CCD array and digitally transferred via USB interface to the operator's PC. The firmware finally analyses the data and calculates the laser wavelength, taking into account the ambient temperature.

Due to the Fizeau interferometer setup, pulsed lasers can be measured at high measurement rate. The rugged setup also enables usage under extreme conditions (e.g. in airplanes with significant vibration). For more detailed technical information click here.

Options & Related Products

MultiChannel - Simultaneous measurement of 2, 4, or 8 lasers
PID control - Locks your laser to any wavelength or tunes it along arbitrary functions. Can be combined with MultiChannel option
Linewidth option - Calculates the laser linewidth using the interferogram data
Diffraction grating - For spectral analysis of broad linewidth lasers
TTL - For synchronization of experiment and measurement

Please follow the link to learn more about the large variety of options!



MultiChannel option for simultaneous measurement of several lasers.

Technical Drawings

Dimensions can be found in the datasheets.

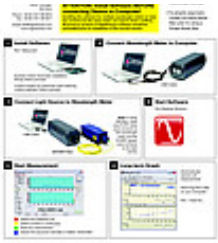
Applications

- Laser Measurement
- Laser Control
- LIDAR

Download

Diode Laser Locking and Linewidth Narrowing
toptica_AP_1012_laser_locking_2012.pdf

Wavelength Meters



WS-Series Quick Start Guide (0.4 MB)
HighFinesse_WS-Series_quickStartGuide.pdf

Solid state etalons improve wavelength measurement
Article-Wavelength-Meter.pdf

Brochure: HighFinesse High Precision Wavelength Meters (3.2 MB)
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