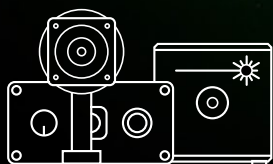




HighFinesse

The Standard of Accuracy



Calibration Sources

Frequency stabilized, narrow
linewidth laser sources down
to ± 0.5 MHz absolute accuracy

Stabilized Laser References (LFR/SLR series)

HighFinesse Stabilized Laser References incorporate absorption spectroscopy systems, which yield extremely accurate frequency stabilizations, ideal for calibration of our wavelength meters in the visible and infrared wavelength regimes.

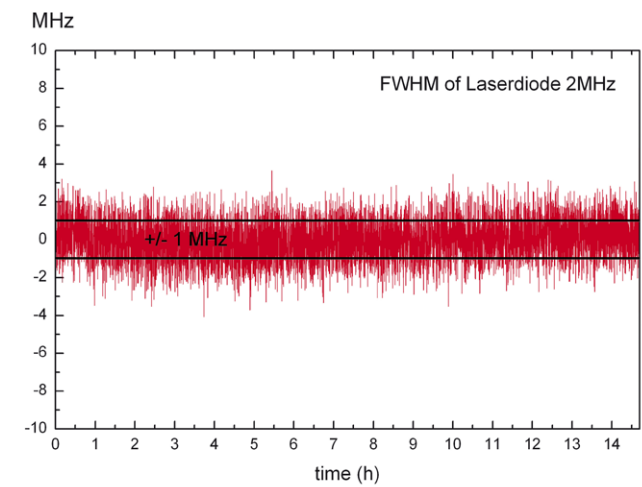
Plug and Play Functionability

The LFR/SLR-series features extremely short warm-up time (< 1 min. – < 2 min.), narrow linewidth and high stability, allowing the calibration of all wavelength meters.

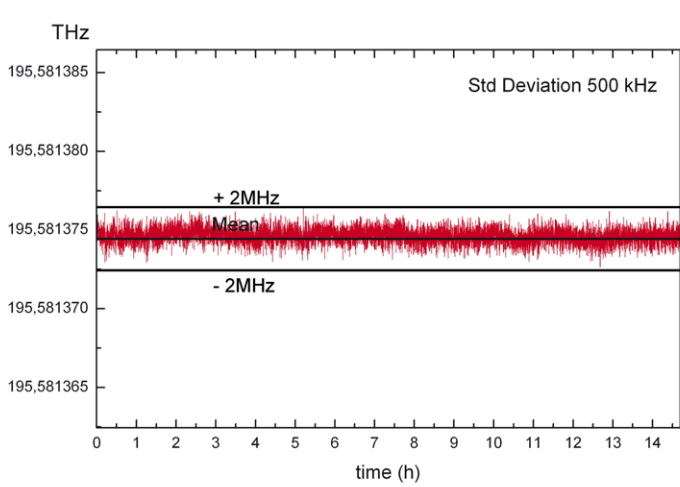
- Fiber coupled laser output
- Wavelengths: 780 and 1532 nm (other wavelengths on request)
- Output power (adjustable): 0 – 3 mW
- Frequency stability and absolute accuracy: down to ± 0.5 MHz at constant temperature
- Self (re-)locking
- Compact design



Calibration Sources



The graph shows an LFR-1532 measurement of the beat signal with a frequency comb over 14 hours.



This picture shows the same LFR-1532 measured with a WS8 IR-I wavelength meter.

Automatic Calibration

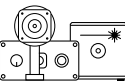
It is possible to automatically re-calibrate the wavelength meter at user defined intervals, ranging from several weeks to the time between single measurements. This automatic procedure requires no user intervention and takes less than one second before returning to the measurement. When used in conjunction with the PID option, no loss of control of the laser is experienced.

External Calibration Sources

HighFinesse offers a variety of frequency stabilized, narrow line-width laser sources for different applications down to ± 0.5 MHz absolute accuracy. They are ideal for quick and accurate calibration of the complete series of our HighFinesse Wavelength Meters.

Integrated Calibration Sources

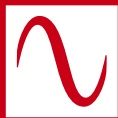
Standard HighFinesse Wavelength Meters up to an absolute accuracy of 60 MHz feature auto-calibration by integrated calibration sources. This way highest accuracy and stability of measurements with our wavelength meters is guaranteed.



Calibration Sources

| Product | Wavelength | Absolute Frequency Accuracy | Output Power |
|--|------------|-----------------------------|---------------------------------------|
| Stabilized Laser Reference (Rubidium) ^{1) 2)} | 780 nm | ± 0.5 MHz | up to 2 mW (adjustable) |
| Laser Frequency Reference (Acetylene) ⁴⁾ | 1532 nm | ± 2 MHz | up to 3 mW (adjustable) ³⁾ |
| Frequency Stabilized HeNe Laser | 633 nm | ± 25 MHz ⁵⁾ | ≥ 1.0 (typ. 1.5) mW |
| Frequency Stabilized HeNe Laser ⁴⁾ | 633 nm | ± 5 MHz ⁵⁾ | ≥ 0.8 (typ. 1.0) mW |

1) Other Rubidium wavelengths on request 2) Available in Tabletop and 19" 3 HU Rack casing 3) Higher power on request
4) Available in Tabletop and 19" 3 HU Rack casing as well as integrated in WR Series wavelength meter 5) After 40 minutes run time



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Wavelength Meter

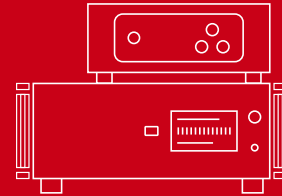
HighFinesse/Ångstrom offers sensitive and compact wavelength meters with a large spectral range for high speed measurement of lasers. The optical unit consists of temperature-controlled Fizeau-based interferometers that are read out by photodiode arrays. The high absolute accuracy is achieved by use of solid state, non-moving optics. The optical unit and associated electronics are housed in a compact, thermal casing. The connection to a computer or notebook is realized via a highspeed USB 2.0 port, which allows a high data read-out rate. The analyzing software displays all the interferometer information.



Spectrometer

The grating based HighFinesse/Ångstrom Laser Spectrum Analyzers offer the capability for a very accurate simultaneous measurement of both the center wavelength and the linewidth of a laser source with a compact and versatile instrument.

The product series covers the ranges from 192 nm to 2250 nm. The grating based technology allows the analysis of laser sources over a large linewidth range. Utilizing the principle of non-moving parts just like the well-known HighFinesse WS-series wavemeters, the LSA offers the time-tested robustness and ability to measure both pulsed and cw lasers.



Linewidth Analyzer

HighFinesse Linewidth Analyzers (LWA) are specialized high-end instruments for measuring and analyzing the spectral shape of various laser sources. Through the use of two measurement modes, the LWA instruments can analyze both very narrow laser lines down to 350 Hz as well as broader spectra up to 100 MHz. They feature an extremely high resolution and accuracy in determining the linewidth of the respective laser source and its spectral lineshape. The LWAs are ideal for optimizing the stability of laser setups.



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