Construct, Conduct & Comprehend Physics Experiments

LEOI-52 Mode Analyzer with Frequency-Stabilized He-Ne Laser

- *Frequency-stabilized He-Ne laser (wavelength, power, and polarization stabilized)*
- *Robustly sealed total internal cavity for long storage and operation lifetime*
- *Power stability better than 1% and frequency stability better than $1x10^{-7}$*
- *Direct observation and measurement on oscilloscope*

Laser is a very important optical tool that has found widespread use in science and industry. The mode characteristics of a laser are important parameters to determine the application scope of the laser. Mode analysis is done through serial experiments so that various parameters can be obtained to determine how the laser performs against desired specifications. This system is designed to quantitatively assess the mode characteristics of a He-Ne laser. Using a frequency-stabilized laser as light source, the longitudinal mode of the laser is controllable. This system comes with detailed theoretical and operational descriptions so that experiments can be conducted with ease. Experimental contents cover observation and understanding of the longitudinal mode and gain curve with observation and analysis of the frequency characteristics of a He-Ne laser.

Parts & Specifications

Optical bench	Length: 0.8 m	1
Stabilized He-Ne laser	Output power: ≥0.8 mW	1
	Output power stability: 1%	
	Frequency stability: 1 x 10^{-7}	
	Beam divergence angle: 1.7 mrad	
	Beam waist: 0.48 mm	
	Dimension of laser tube: Φ32 mm x 200 mm	
	Life time >12000 hours	
4-D adjustable holder		1
λ/4 wave plate		1
1-D translation slider	Range: 10 mm	1
Slider		3
Pin-hole	Φ1 mm, with 2-D adjustable holder	1
F-P scanning interferometer	Free spectral range: 4 GHz; finesse: >100	1

Note: above product information is subject to change without notice.

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