LEOI-38 Experimental System for PZT Characterization

Description

Based on a Michelson interferometer, LEOI-38 is designed to study the piezoelectric characteristics of a piezoelectric transducer (PZT) so that the intensity distribution of interference can be obtained. Through this system, students can further understand the principle of the Michelson interferometer, acknowledge the characteristics of the PZT, and familiarize with the measurement technique of micro displacement.

Feathure

Familiarize with principle of Michelson interferometer
Observe interference phenomenon of Michelson interferometer
Measure relationship between expansion and driving voltage of PZT
Calculate related characteristics of PZT
Include He-Ne laser with power supply

Application

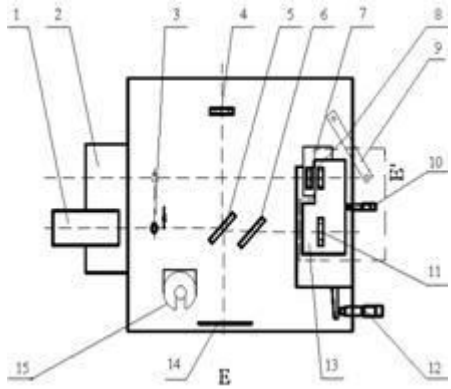
1. Construct a Michelson interferometer
2. Characterize a PZT
3. Calculate the piezoelectric coefficient of a PZT

Specification

He-Ne Laser	632.8 nm
Min Movement Reading of Movable Mirror	0.0005 mm
Flatness of Splitter and Compensator	≤λ/20
Driving Voltage Range of PZT	10 V ~ 220 V

Part list

Description	Qty
Michelson Interferometer System	1
PZT Component	1
PZT Driver	1



1. He-Ne laser 2. Side plate
3. Beam expander 4. Fixed mirror w/ PZT
5. Beam splitter 6. Compensator
7. FP fixed mirror 8. FP movable mirror
9. Rotation arm 10. Preset micrometer
11. Movable mirror 12. Fine micrometer
13. Stage for movable mirror 14. White screen
15. Gauge holder