

# LEOI-22 Precision Interferometer

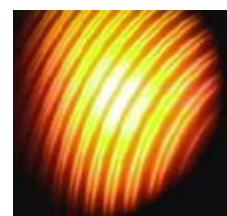
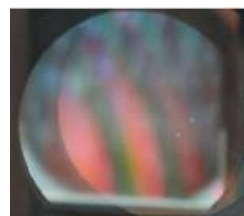


- *Highly stable*
- *Three modes*
- *Easy operation*
- *Precision*
- *Large optics*
- *Innovative design*
- *Complete solution*
- *Competitive price*

This equipment combines the historically important Michelson interferometer, the high resolution Fabry-Perot interferometer and the useful Twyman-Green interferometer.

Measurements are precise in three classical modes of operation. Switching between the three modes of operation and aligning components are very simple, as this complete set of high quality components is carefully mounted on a heavy, stable base.

The following pictures are part of interference fringes produced by this interferometer.



## Experiments

### The Michelson Interferometer

- Interference fringes observation
- Equal thickness interference
- Determination of wavelength
- Refractive index of transparency slice
- Equal inclination interference
- White light interference
- Precise comparing of wavelengths
- Refractive index of air

### The Fabry-Perot Interferometer

- Multiple beam Interference
- Measurement of the Wavelength
- Separation of Sodium D-lines
- Measurement of WL of He-Ne Laser

### Twyman-Green interferometer

- Demonstration of Twyman-Green interferometer

## Specification

Flatness of Beam Splitter & Compensator	Better than $1/10 \lambda$
Min Division Value of Micrometer	0.01mm, corresponds to a movement of 0.00025 mm of movable mirror
Travel of micrometer	25mm for fine adjustment micrometer, 10mm for preset micrometer
Travel of Movable Mirror	0.625 mm
F-P Mirror	30 mm, 95% T
He-Ne Laser Output	632.8 nm, 0.7-1 mW
Air Chamber and Air Pump with Gauge	Range: 0~40KPa, Chamber length: 80mm
Wavelength Measurement Accuracy	Relative error at 2% for 100 fringes
Sodium-Tungsten Lamp	Sodium: 20W, Tungsten: 15W

## Schematic

