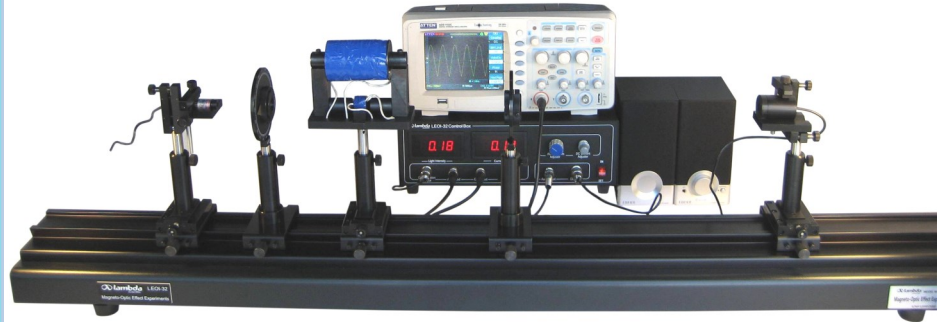


LEOI-32 Experimental System for Crystal Magneto-Optic Effect



Note: oscilloscope not included

- *Easy operation*
- *Precise measurement*
- *Stable base*
- *Complete solution*

The magneto-optic rotation effect of a crystal, also called the Faraday effect, describes the effect of polarization rotation of an optical beam going through a layer of magneto-optic material. It plays an important role in optical experiments.

Using this apparatus, the following experiments can be conducted:

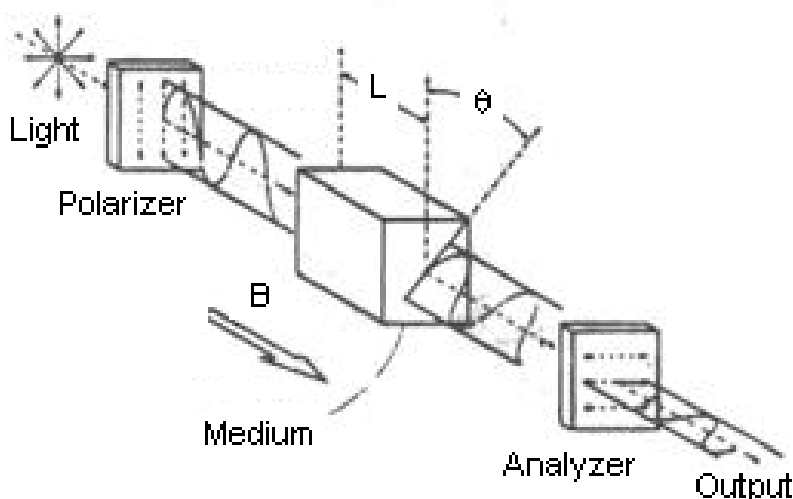
1. Observe the magneto-optic rotation effect of a material under test.
2. Understand the flow direction of a magnetic current vs the polarization rotation direction of a Faraday rotator.
3. Calculate the Verdet constant.
4. Demonstrate optical communication using magneto-optic modulation technique.

Experimental Objectives

1. Observe magneto-optic modulation effect
2. Measure modulation depth and range of modulated Faraday rotation angle
3. Measure range of modulated Faraday rotation angle vs magnetic induction
4. Measure Faraday rotation angle vs DC exciting current
5. Demonstrate optical communication using magneto-optic modulation

Parts & Specifications

Semiconductor laser	5 mW@ 650 nm	1
Laser/detector holder		2
Polarizer with rotary holder		2
Main control unit	With multiple interface ports	1
Optical rail	1.2 m	1
Carrier		5
Sample	$\Phi 5$ mm; length: 14.5 mm	1
Electromagnet	One magnetization coil (large) and one modulation coil (small)	1
Teslameter	With AC adaptor	1
Speaker	With AC adaptor	1
Photo detector		1
Cable	BNC (3), Audio (1), Demodulation (1)	5



Schematic of Faraday effect

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