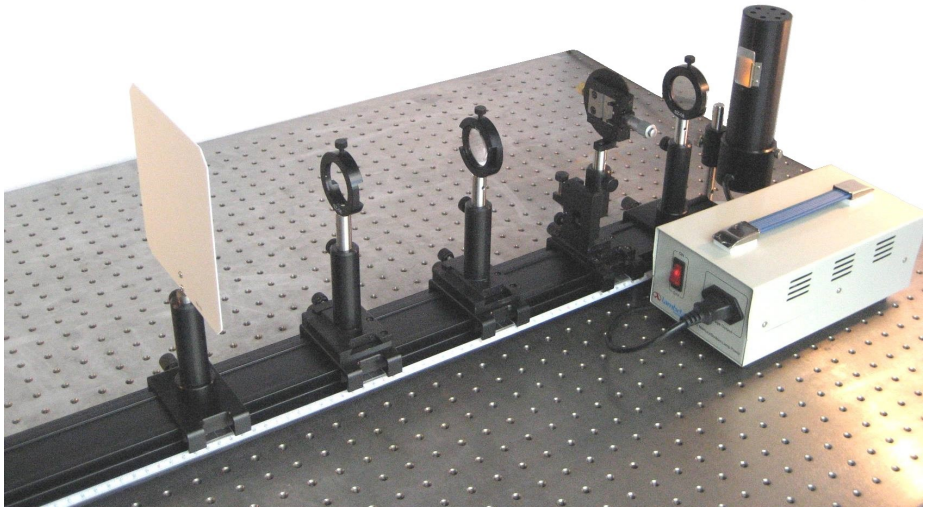
Construct, Conduct & Comprehend Physics Experiments

LEOK-6 Optics Experiment Kit—Extended Model



- *More than ten fundamental experiment examples*
- *Cost effective solution*
- *Detailed instruction manual*
- *Easy alignment*

The LEOK-serial Optics Experiment Kits are developed for general physics education at universities and colleges. LEOK-6 is an extension of LEOK-1 to include more experiments, especially on the topic of optical polarization. It can be used to construct more than one dozen of experiments, covering the basic experiments in geometrical optics, physical optics, and information optics. LEOK-6 offers an affordable solution for covering a wide range of optical properties and principles. All experiments are performed along a rail and hence the system is suitable under normal lab environment. The instruction manual contains comprehensive materials including experiment configurations, principles, procedures and required parts with photos. Through self-selecting individual components and self-constructing complete setups, students can enhance their experimental skills and problem solving ability by conducting the following experiments:

1. Measure the focal length of a thin convex lens using:
   a. lens equation; b. auto-collimation; c. Bessel method
2. Measure the focal length of a concave lens
3. Spherical and chromatic aberrations of a convex lens
4. Determine nodal locations & focal length of a lens-group
5. Determine the magnification of a microscope
6. Determine the magnification of a telescope
7. Young's double-slit interference
8. Interference of a Fresnel's biprism
9. Interference of double mirrors
10. Interference of a Lloyd's mirror
11. Fraunhofer diffraction of a single slit
12. Fraunhofer diffraction of a circular aperture
13. Optical polarization by

a. Brewster angle; b. dichroism; c. elliptical polarization; d.circular polarization

14. Optical activity (polarization rotation)
15*. Abbe imaging and optical spatial filtering
16*. Pseudo-color encoding, theta modulation and color composition

* **Model LEOK-6B only**

Part List

Optical rail	Aluminum	1
Adjustable carrier	two-axis	2
Adjustable carrier	one-axis	1
Universal carrier		2 (LEOK-6A), 3 (LEOK-6B)
Polarizer holder	SZ-51	3
Kinematic lens holder	SZ-07	3 (LEOK-6A), 4 (LEOK-6B)
Lens holder	SZ-08	1
Adapter piece	SZ-09A (extension to both ends)	1
Plate holder A	SZ-12	1
White screen	SZ-13	1
Object screen	SZ-14	1
Single-sided adjustable slit	SZ-27	2
Lens group holder	SZ-28	1
Stand ruler	SZ-33	1
Spatial filter set	low/high/band-pass, directional, zero-order	1 (LEOK-6B only)
Optical stop		1
Fresnel bi-mirror	SZ-31	1
Microscope holder	SZ-36	1
Biprism holder	SZ-41	1
Laser tube holder	SZ-42	2
45° glass holder	SZ-45	1
Optical goniometer	SZ-47	1
Mounted lenses	*f* '= 45, 70, 105, 150, 190, 225, 300, -100 mm	1 each
Beam expander	*f* '= 4.5 mm	1
Mounted optical filter	red and blue	1 each
Mounted double slit	*d*=1.15 or 1.35 mm	1
Mounted biprism	Φ 36 mm	1
Mounted plane mirror	Φ 36 mm	1
Mounted polarizer	Φ 20 mm	2
Mounted λ/4 waveplate	λ= 632.8 nm, quartz	1
Mounted reticle	1/10 mm, film	1
Mounted millimeter ruler	*L* =30 mm, film	1
Eyepiece	*f* '=29 mm, doublet	1
Black glass	used as Lloyd's Mirror	1
Measurement microscope	field 8 mm (dia)	1
Liquid cell w/holder	*L* =250 mm	1
Low-pressure sodium lamp	LLE-2 (20 W)	1
Bromine Tungsten lamp	LLC-3 (12 V/30 W), variable	1
He-Ne laser	LLL-2 (>1.0 mW@632.8 nm)	1
Ground glass screen		1 (LEOK-6B only)
Diffraction pinhole	Φ 0.3 mm	1
Grating	20 L/mm	1 (LEOK-6B only)
Character with grid		1 (LEOK-6B only)
Theta modulation plate		1 (LEOK-6B only)
2-D cross grating		1 (LEOK-6B only)

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