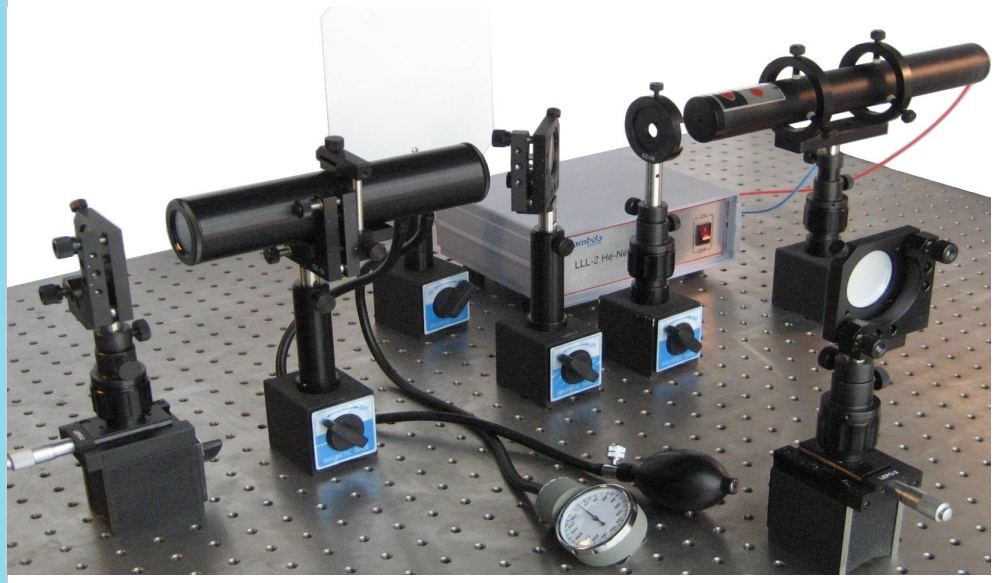
Construct, Conduct & Comprehend Physics Experiments

LEOK-3A Optics Experiment Kit - Advanced

- *Best seller*
- *32 optics experiments*
- *Cost effective solution*
- *Detailed instructional manual*
- *Easy alignment*



The LEOK-3A Optics Experiment Kit is developed for general physics education at universities and colleges. This kit provides a complete set of optical and mechanical components as well as light sources, which can be conveniently assembled to construct experiment setups. Almost all optics experiments required in general physics education (e.g. geometrical, physical, and modern optics) can be constructed in sequence using these components. Through selecting and assembling the corresponding components into experiment setups, students can enhance their experimental skills and problem solving ability.

LEOK-3A can be used to construct a total of 32 different experiments that can be grouped in seven categories:

Lens Measurements: Understanding and verifying lens equation and optical ray transfer.

Optical Instruments and Photometry: Understanding the working principle and operation method of common lab optical instruments.

Interference Phenomena: Understanding interference theory, observing various interference patterns generated by different sources, and learning precise measurement methods based on optical interference.

Diffraction Phenomena: Understanding diffraction effects, observing diffraction patterns generated by various different apertures.

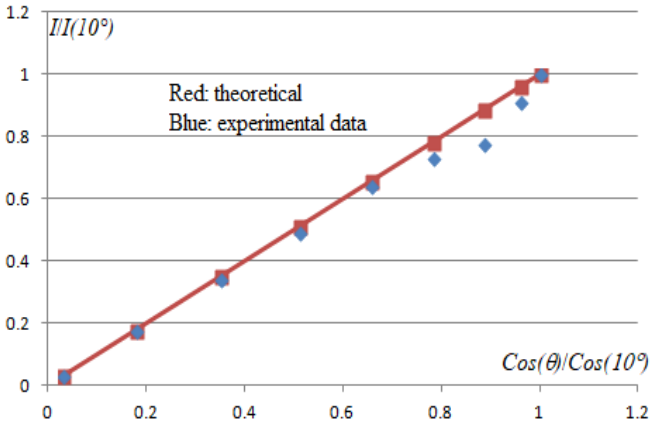
Analysis of Polarization: Understanding polarization and verifying polarization of light.

Fourier Optics and Holography: Understanding principles of advanced optics and their applications.

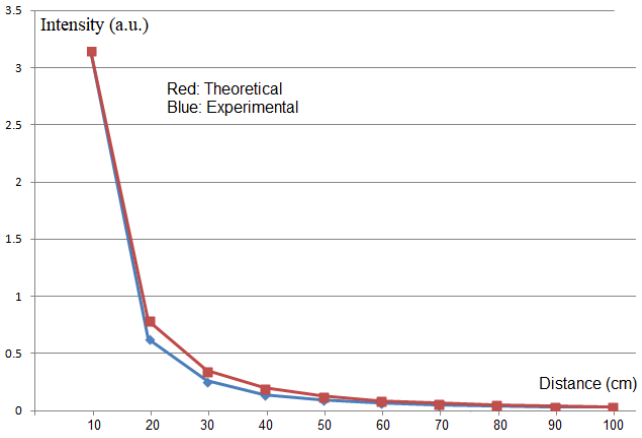
Quantum Physics: Analogizing quantum erasing.

Experimental Contents

1. Measuring the focal length of a positive thin lens using auto-collimation
2. Measuring the focal length of a positive thin lens using displacement method
3. Measuring the focal length of an eyepiece
4. Measuring the focal length of a negative lens
5. Determining the nodal locations and focal length of a lens-group
6. Building a slide projector
7. Building a Kepler telescope and determining magnification power
8. Building an erect imaging telescope
9. Building a microscope and determining magnification power
10. Verifying Lambert's law of radiation
11. Verifying inverse square law of light
12. Studying on Young's double-slit interference
13. Studying on interference of Fresnel's biprism
14. Studying on interference of double mirrors
15. Studying on interference of Lloyd's mirror
16. Studying on interference of Newton's ring
17. Assembling a Michelson interferometer and measuring the refractive index of air
18. Assembling a Mach-Zehnder interferometer and measuring the refractive index of air
19. Assembling a Mach-Zehnder interferometer and analogizing quantum erasing
20. Studying on Fraunhofer diffraction of a single slit
21. Studying on Fraunhofer diffraction of a single circular aperture
22. Studying on Fresnel diffractions of a single slit and a single circular aperture
23. Studying on Fresnel diffraction of a sharp edge
24. Studying on a Fresnel zone plate
25. Studying on dispersion of a grating/prism
26. Assembling a Littrow-type grating monochromator
27. Analyzing polarization status of light beams and verifying Malus' law
28. Studying on optical activity of glucose solution
29. Recording and reconstructing holograms
30. Fabricating a holographic grating
31. Studying on Abbe imaging principle and optical spatial filtering
32. Studying on pseudo-color encoding and theta modulation



Experiment of verifying Lambert's law of radiation



Experiment of verifying inverse square law of light

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Part List

Three-Axis Stage	SZ-01	1
Two-Axis Stage	SZ-02	2
Z-Adjustable Post Holder	SZ-03	2
Magnetic Base with Post Holder	SZ-04	5
Rotary Lens Holder	SZ-06A	2
Kinematic Mount	SZ-07	2
Lens Holder	SZ-08	2
Adapter Piece	SZ-09	1
Grating/Prism Stage	SZ-10	1
Plate Holder A	SZ-12	2
White Screen	SZ-13	1
Object Screen	SZ-14	1
Loading Table	SZ-20	1
Single-Side Adjustable Slit	SZ-27B	2
Lens Group Holder	SZ-28	1
Erecting Prism	SZ-30	1
Ruler Portion of Stand Ruler	SZ-33	1
DMM Holder	SZ-36	1
Biprism Holder	SZ-41	1
Laser Holder	SZ-42	1
Optical Goniometer	SZ-47	1
Iceland Crystal	SZ-48	1
Ground Glass Screen	SZ-49	1
Paper Clip	SZ-50	1
Air Chamber & Pump with Gauge		1
Manual Counter		1
Polarimeter Tube		1
Magnetic Flexible Measure Ruler		1
Holographic Plates		1 box
Optical Components		1 box
Mercury Lamp, Housing, and Power Supply	LLE-1	1 set
Sodium Lamp with Housing	LLE-2	1 set
He-Ne Laser with Power Supply	LLL-2	1 set
White Light Source with Power Supply	LLC-3	1 set
Light Meter		1
Tripod		1
Direct Reading Microscope (DMM)		1
Power Cord		3

Optical Components

2-D Grating	1
Transmission Grating	1
Blade	1
Reticle,1/10 mm	1
Millimetre Ruler	1
Transmission Character	1
(θ) Modulation Plate	1
Double-Slit	1
Flat Mirror	2
Double-Wedge Prism	1
Multiple-Hole Plate	1
Waveplate, 1/4 wave	1
Polarizer	3
Transmission Cross	1
Lens, f = 4.5 mm	1
Lens, f = 6.2 mm	1
Lens, f = 45 mm	1
Lens, f = 50 mm	1
Lens, f = 70 mm	1
Cemented Lens, f = 34 mm	1
Cemented Lens, f = 105 mm	1
Lens, f=150 mm	1
Lens, f = 190 mm	1
Lens, f = 225 mm	1
Lens, f = 300 mm	1
Lens, f = -100 mm	1
Beam Splitter, 5:5	2
Beam Splitter,7:3	1
Projector Slide	1
Zero Order Filter	1
Equilateral Prism (60°)	1
Small Object	1
Spherical Mirror	1
Flaring Grating	1
White Screen 70×50 mm	1
Fresnel Bimirror	1
Newton Ring	1
45° Glass Holder	1
Fresnel zone plate	1
Lloyd Mirror	1

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