

LEOK-44

Experiment Kit of Optical Image Addition/Subtraction



Description

Image addition/subtraction is an optical operation in coherence optics, and it is a method of image recognition. This experiment kit employs a sine grating as the spatial light filter for the realization of optical image addition and subtraction. Through this kit, students can get a better understanding of the principles of optical image addition/subtraction, Fourier spatial light filtering, and 4f optical systems.

Feature

Understand physical meaning of optical image addition/subtraction using grating

Understand Fourier spatial light filtering

Acknowledge structure and principle of 4f optical system

Detailed instruction manual

Specification

| | |
|-------------------------|----------|
| He-Ne Laser | 632.8 nm |
| One-Dimensional Grating | 100 L/mm |
| Optical Rail | 1 m |

Part list

| Description | Qty |
|--------------------------------------|-----|
| He-Ne laser (LLL-2) | 1 |
| Beam expander (f=4.5 mm) | 1 |
| Optical rail (LEPO-54-1) | 1 |
| Carrier | 7 |
| One-dimensional grating | 1 |
| Plate holder (LEPO-13) | 1 |
| Lens (f=150 mm) | 3 |
| Lens holder (LEPO-9) | 4 |
| White screen (LEPO-14) | 1 |
| Laser carrier | 1 |
| Two-axis adjustable holder (LEPO-22) | 1 |
| Small aperture screen | 2 |