



LEOI-63 Blackbody Experimental System



Description

LEOI-63 is specifically designed to measure blackbody radiation energy or the radiation energy of an emission light source. This system can automatically record the radiation spectrum of an emission light source. By varying the color temperature of the light source, the phenomenon as described by Wien's displacement law can be observed through the recorded radiation spectrum of the light source. This system can be used to precisely verify the Planck's law and Stefan-Boltzmann's law. Based on the Planck's formula, system software can calculate the theoretical radiation spectrum of an absolute blackbody at any given temperature. It can also correct the emissivity coefficient (ϵ) of a Tungsten-Bromine lamp at various temperatures.

Feathure

Auto-record blackbody radiation spectrum

Auto-deduct transfer function of optical components and photoreceivers Auto-control and auto-measurement

Including Tungsten-Bromine lamp with power supply

Application

- 1. Verify the Planck's law of radiation
- 2. Verify the Stefan-Boltzmann law
- 3. Verify the Wien's Displacement law





4. Study the relationship of radiation intensity between a blackbody and a non-blackbody emitter

5. Learn how to measure the radiation energy curve of a non-blackbody emitter

Specification

Wavelength Range	800 nm ~ 2500 nm
Relative Aperture	D/F=1/7
Focal Length of Collimation Lens	302 mm
Grating	300 L/mm
Wavelength Accuracy	± 4 nm
Wavelength Repeatability	≤2 nm

Part list

Description	Qty
Main Machine Unit	1
Power and Control Unit	1
РМТ	1
Software CD	1
Power Cord	2
Signal Cable	3
USB Cable	1
Tungsten-Bromine Lamp (LLC-1)	1
Color Filter (White and Yellow)	1 each

Examplies:



1. Exit slit	2. Observation window
3. Monochromator	4. Light source
5. Input slit	6. Receiver





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