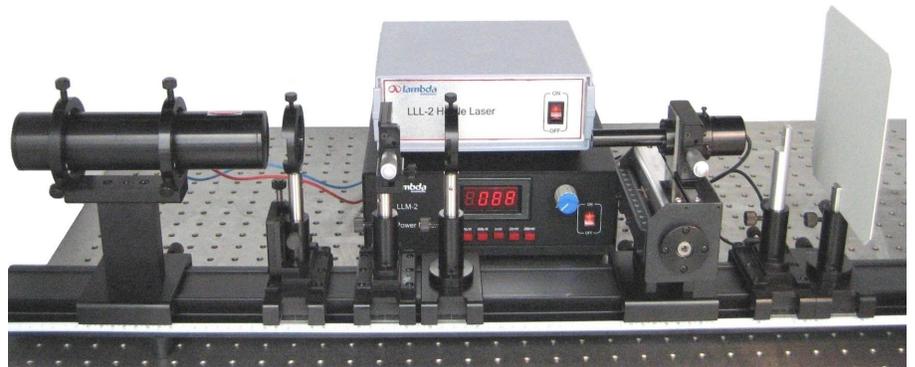


LEOI-30 Diffraction Intensity Measurement System - Complete Model

- *Stable performance with easy operation*
- *LED display with accurate reading*
- *Including He-Ne laser and photo-detector with amplifier*
- *Complete system*



This system can be used to quantitatively investigate diffraction effects. To capture and analyze diffraction patterns, a photocell is used to transform diffraction pattern into current which is displayed by a LED. The intensity distribution of diffraction can be plotted with the numerical data recorded. This experiment can help students understand the wave nature of light and improve their experimental skills.

Using this unit, the following experiments can be conducted:

Fraunhofer Diffraction (Far-field)

1. Fraunhofer diffraction through a single-slit
2. Fraunhofer diffraction through a multi-slit plate
3. Fraunhofer diffraction through a single circular aperture
4. Fraunhofer diffraction through a transmission grating

Fresnel Diffraction (Near-field)

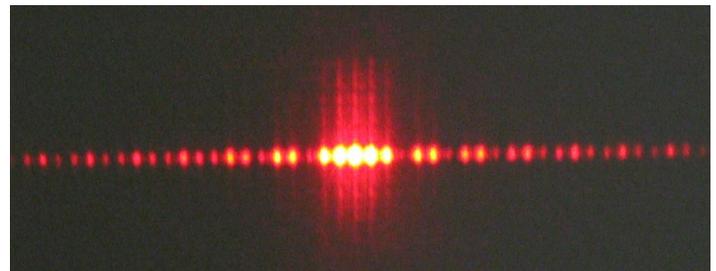
1. Fresnel diffraction through a single-slit
2. Fresnel diffraction through a multi-slit plate
3. Fresnel diffraction through a circular aperture
4. Fresnel diffraction past a straight edge

Specifications and Part List

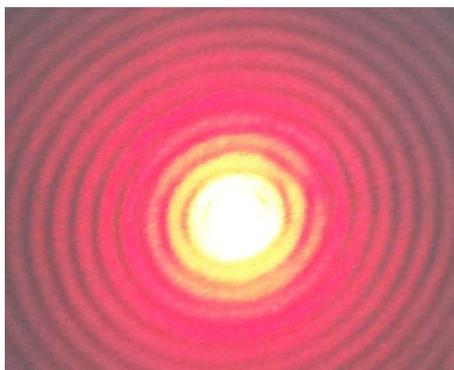
Optical rail	1 meter long and black anodized	1
Carrier		2
Carrier (x-translation)		2
Carrier (x-z translation)		1
Transversal Measurement Stage	Travel: 80 mm, Accuracy: 0.1 mm	1
He-Ne laser	2.5 mW@632.8nm	1
Laser holder	SZ-42	1
Lens holder	SZ-08	2
Plate holder	SZ-12	1
White screen	SZ-13	1
Lens	f = 6.2, 150 mm	1 each
Adjustable slit	0~2 mm adjustable	1
Multi-slit plate	2, 3, 4 and 5 slits	1
Multi-hole plate		1
Transmission grating	20 //mm, mounted	1
Photocurrent amplifier	Light meter	1 set



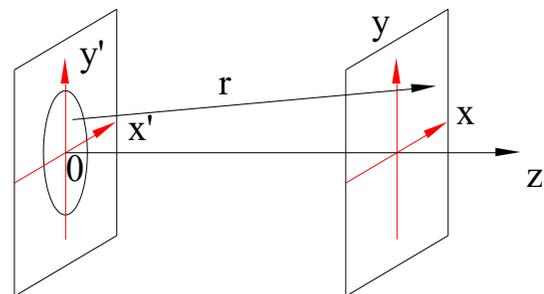
Fraunhofer diffraction of single slit



Fraunhofer diffraction of multiple slits



Diffraction pattern of circular aperture



Diffraction geometry