

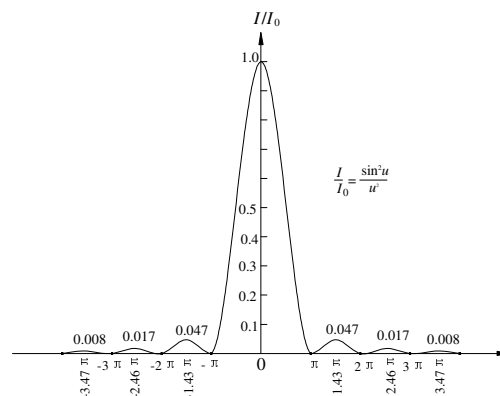
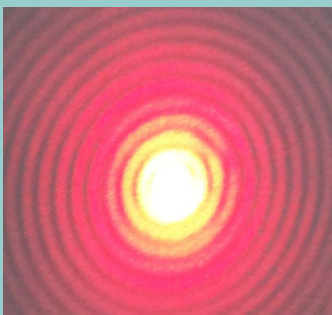
# LEOI-30 Diffraction Intensity System



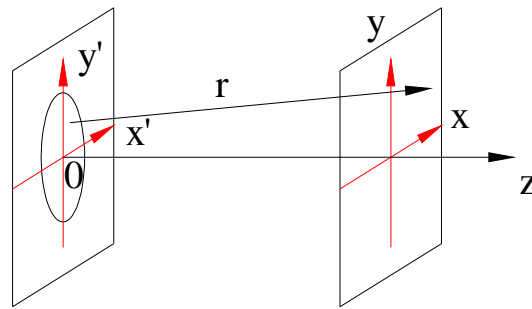
- *Stable performance*
- *Easy operation*
- *LED display*
- *Accurate reading*
- *Conservative price*

This system enables you to quantitatively investigate diffraction effects. To capture and analyze the diffraction patterns, we use a photocell to transform the diffraction pattern into a current which is displayed by a LED.

As it is designed for students to improve and consolidate their understanding on intensity distribution of diffraction, this system allows students to draw curves of the diffraction pattern with numerical data recorded. Student may get a better idea of the wave nature of light and an improvement in the ability to analyze and DIY skills.



The picture on the left is a Diffraction geometry, showing aperture (or diffracting object) plane and image plane, with coordinate system



## Experiment Examples

### Far-field Diffraction—Fraunhofer

- At a single slit
- At a double slit
- At a multi-slit
- At a single circular aperture

### Near-field diffraction—Fresnel

- At a single slit
- At a circular aperture
- At a straight edge

## Parts Included

Description	Specs/Part#	Qty
Optical rail and base	1 m long, black anodized aluminum	1
Carrier	LEOI-30-1, z-adjustable	2
Carrier	LEOI-30-2, x, z-adjustable	1
Carrier	LEOI-30-3, x, y, z-adjustable	2
He-Ne laser	1.5 mW	1
Laser holder with carrier	LEOI-30-4	1
Detector mount with carrier	LEOI-30-5	1
Plate holder	LEOI-30-6	1
Lens holder	LEOI-30-7	2
Lens	f=6.2mm	1
Lens	f=150mm	1
Adjustable slit		1
Multi-slit plate	2, 3, 4, 5 slits	1
Multi-hole plate		1
Transmission grating	20l/mm (with mount)	1
Optical detector and amplifier	LEPO-60	1
Alignment aperture		1
White screen		1