

DIFFRACTION IN CORRESPONDENCE OF A SLIT AND PRINCIPLE OF UNCERTAINTY OF HEISENBERG

Mod. F-HP/EV



DESCRIPTION

The classic diffraction experiment from a slit is used to emphasize how this phenomenon can be considered from a wave point of view through comparison with the Kirchhoff diffraction formula or from a quantum point of view to confirm the Heisenberg uncertainty principle.

TRAINING PROGRAM

- Measurement of Fraunhofer diffraction intensity bands; determining the positions and intensities of the maxima and minima and compared with those calculated according to the diffraction formula of Kirchhoff
- Calculation of uncertainty of the moment by the diffraction gratings of single slits of different sizes
- Demonstration of the Heisenberg uncertainty principle

TECHNICAL SPECIFICATIONS

- He-Ne Laser: wavelength 632.8 nm; power > 2 mW; dimensions 40 mm x 250 mm (diameter x length); external dimensions: 300 x 62 x 82 mm
- Set of 5 single slits
- 3 single and 1 double slit diaphragm
- 4 double slit diaphragm at different distances
- 4 multiple slits diaphragm and gratings
- Diaphragm-holder
- Optical bench in aluminium; longitudinal length: 120 cm, transverse length: 40 cm
- Acquisition system powered by the datalogger
- Laboratory elevator

REQUIRED (NOT INCLUDED)

- EVLAB DATALOGGER mod. EV2010/EV including SOFTWARE EVLAB WORKSPACE mod. SW-F-HP/EV for a total control of interactive experiments
- PERSONAL COMPUTER



SUPPLIED WITH THEORETICAL - EXPERIMENTAL HANDBOOK

