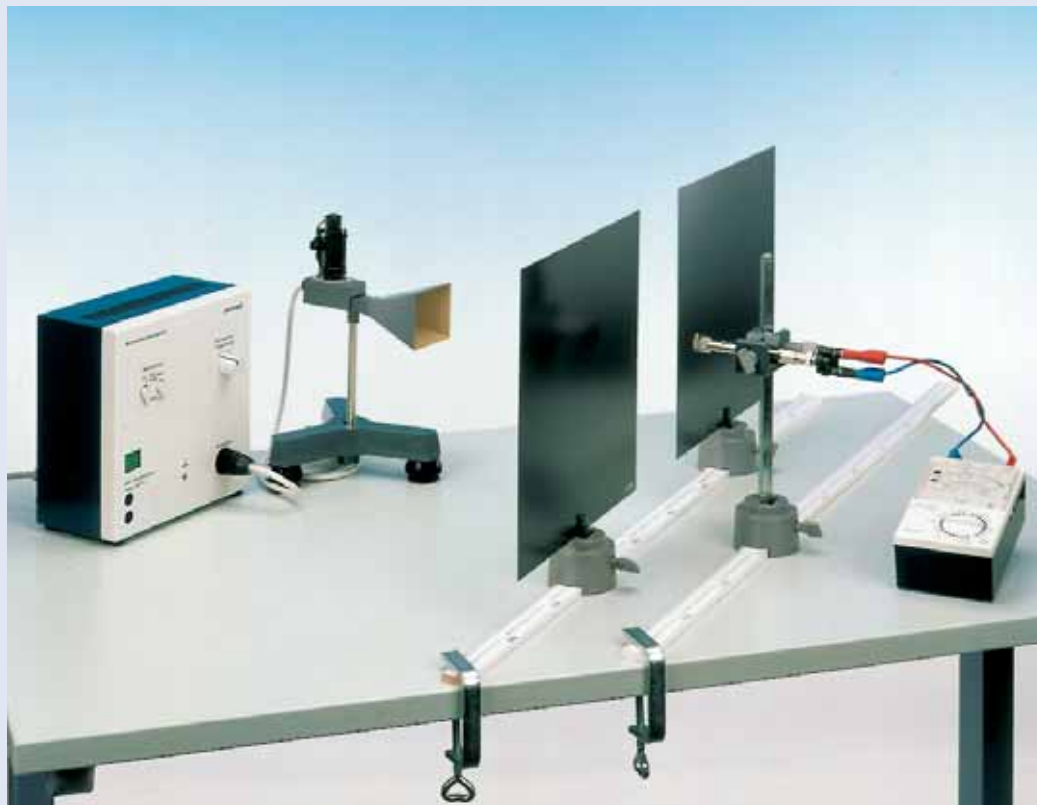


4.5.05-00 Diffraction of microwaves



What you can learn about ...

- Fresnel zones
- Huygens' principle
- Fraunhofer diffraction
- Diffraction at the slit

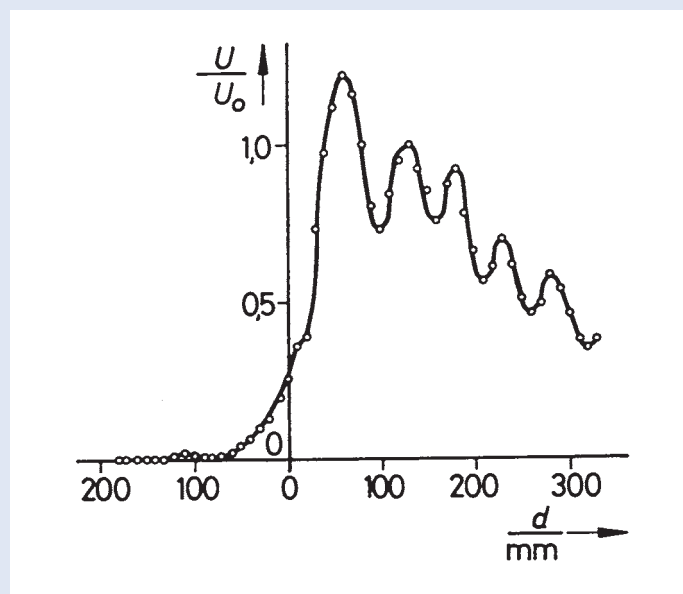
Principle:

Microwaves impinge on a slit and the edge of a screen. The diffraction pattern is determined on the basis of diffraction at these obstacles.

What you need:

Microwave transmitter with clystron	11740.01	1
Microwave receiving dipole	11740.03	1
Microwave power supply, 220 VAC	11740.93	1
Screen, metal, 300 mm x 300 mm	08062.00	2
Multi-range meter with amplifier	07034.00	1
Measuring tape, $l = 2$ m	09936.00	1
Meter Scale, $l = 1000 \times 27$ mm	03001.00	2
Tripod base -PASS-	02002.55	1
Barrel base -PASS-	02006.55	3
Right angle clamp -PASS-	02040.55	1
Support rod -PASS-, square, $l = 250$ mm	02025.55	1
G-clamp	02014.00	2
Adapter, BNC plug/4 mm socket	07542.26	1
Connecting cable, 4 mm plug, 32 A, red, $l = 50$ cm	07361.01	1
Connecting cable, 4 mm plug, 32 A, blue, $l = 50$ cm	07361.04	1

Complete Equipment Set, Manual on CD-ROM included
Diffraction of microwaves P2450500



Intensity distribution in the diffraction of the microwaves at the edge of a screen, parallel to the plane of the screen.

Tasks:

Determination of the diffraction pattern of the microwave intensity

1. behind the edge of a screen,
2. after passing through a slit,
3. behind a slit of variable width, with a fixed receiving point.