

Interference of microwaves 4.5.04-00



What you can learn about ...

- Wavelength
- Standing wave
- Reflection
- Transmission
- Michelson interferometer

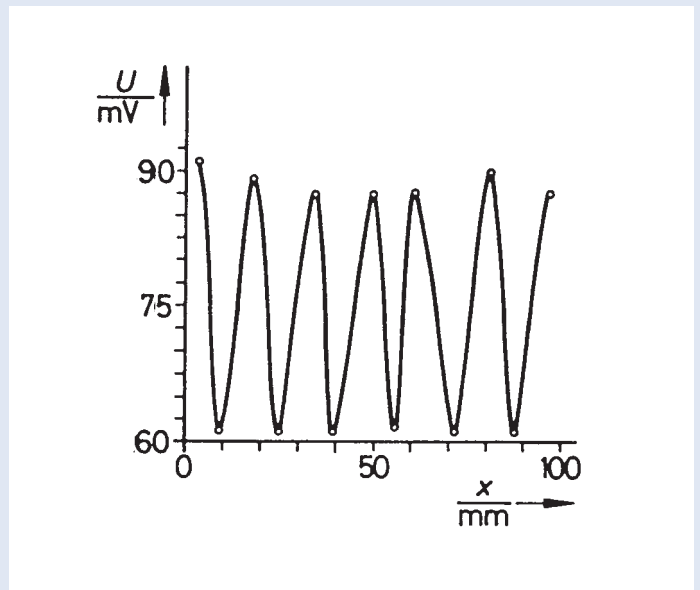
Principle:

A microwave beam, after reflection from a metal screen or glass plate, interferes with the primary waves. The wavelength is determined from the resultant standing waves.

What you need:

Microwave transmitter with clystron	11740.01	1
Microwave receiver	11740.02	1
Microwave receiving dipole	11740.03	1
Microwave power supply, 220 VAC	11740.93	1
Protractor scale with pointer	08218.00	1
Glass plate, clear glass, 200 x 300 x 4 mm	08204.00	2
Screen, metal, 300 mm x 300 mm	08062.00	2
Plate holder, opening width 0...10 mm	02062.00	3
G-clamp	02014.00	2
Meter Scale, $l = 1000 \times 27$ mm	03001.00	2
Tripod base -PASS-	02002.55	1
Barrel base -PASS-	02006.55	4
Support rod -PASS-, square, $l = 250$ mm	02025.55	1
Right angle clamp -PASS-	02040.55	1
Multi-range meter with amplifier	07034.00	1
Adapter, BNC plug/4 mm socket	07542.26	1
Connecting cable, 4 mm plug, 32 A, red, $l = 75$ cm	07362.01	1
Connecting cable, 4 mm plug, 32 A, blue, $l = 75$ cm	07362.04	1

Complete Equipment Set, Manual on CD-ROM included
Interference of microwaves P2450400



Intensity distribution during interference of microwaves in the Michelson arrangement, as a function of the position of the reflection screens.

Tasks:

Measurement of the wavelength of microwaves through the production of standing waves with

1. reflection at the metal screen,
2. plane-parallel plate,
3. the Michelson interferometer.