

NEWTON'S RINGS

Mod. F-ANEW-1/EV

DESCRIPTION

The device creates Newton's rings using a convex lens that is brought into contact with a glass sheet having a negligible curvature. So doing, an air wedge bounded by a spherical surface is formed. Due to an interference phenomenon, concentric rings can be noticed when the air wedge is illuminated by a parallel light beam that strikes perpendicular on the flat surface of the lens near the point of contact of the two surfaces. It can be observed that the Newton's rings are created because of the interference between reflected and transmitted light. The distance between the various rings depends on the curvature of the surface limiting the "air wedge." It is possible to measure the diameter of the interference fringes and thus perform quantitative analysis using a Vernier microscope.



TRAINING PROGRAM

- Determining the wavelength of laser
- Determining the index of refraction of a liquid by using Newton's ring apparatus
- Determining the radius of curvature of plano-convex lenses with the test of Newton's rings
- Determining the thickness of a thin paper sheet

TECHNICAL SPECIFICATIONS

- Support base
- 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
- 10x microscope objective
- Device for Newton rings including a plane convex lens and a circular plane glass plate joined together by means of a holder
- Vernier microscope
- Plane glass plate, semitransparent 10 x 10 cm with holder
- Projection screen 30 x 30 cm
- Spherometer

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