

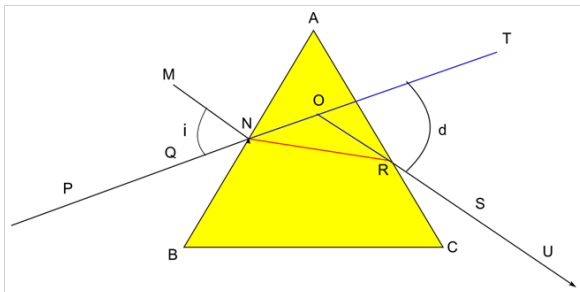
Experiment -2

Deviation by a Prism

AIM: To determine the angle of minimum deviation of the given prism by the method of i-d curve.

APPARATUS: i) Drawing board ii) Prism iii) Drawing pins iv) Needle point steel pins v) Drawing sheet vi) Scale, protractor and a sharp pencil.

PROCEDURE: Fix the drawing sheet on the drawing board using drawing pins, keep the prism on the paper and trace the prism. The trace will give us a triangle ABC.

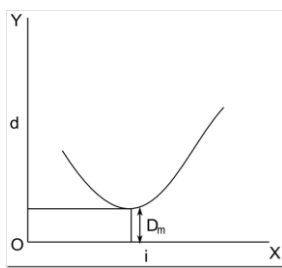


AB reflecting surface, AC refracting surface and BC is the base of the prism. Draw a normal line MN to the reflecting surface at N. Draw an incident line PQ making an angle of 30 degrees with the normal line MN. Now place the prism on its trace along ABC. Fix two pins on the incident ray at two points P and Q. Now observing through the face AC two pins S and U are fixed so that these two pins at S and U will be in the line with P and Q. Remove the prism join the points S and U with a straight line which meets the face AC at R. Extend the incident ray PQ forward and emergent ray SU backwards till they meet at O.

Measure the $\angle TOR = d$.

Repeat the experiment in the above said procedure for various angles of incidences i.e. 40, 50, 60 and measure the respective angles of deviations d_1, d_2, d_3, \dots

i-d curve: Now draw a graph taking the angles of incidences (i) on X-axis and the angles of deviations (d) on the Y-axis. Join these points with a smooth curve which will be a parabola. From the graph the angle of minimum deviation can be calculated



RESULT: Angle of minimum deviation $D_m =$ (from graph)

Observation:

s.no	Angle of incidence (i)	Angle of deviation (d)
1		
2		
3		