NAME AND SURNAME ..... UNIVERSITY .....

Selected issues:			

GENERAL PHYSICS COMPETITION FOR ENGINEERING STUDENTS "ION I. AGARBICEANU"

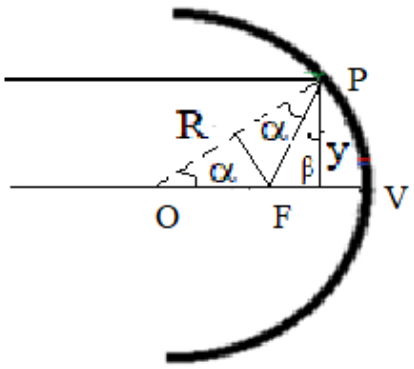
XI Edition 2023 13 May 2023

Experimental test, Physical Section 2,

Determination of the radius of curvature of a cylindrical mirror

Scale:

Schematic presentation of the device 5p



Linearization of the equation 10p

From the figure above it can be seen that $\sqrt{1-\frac{y^2}{R^2}} = \cos\alpha$ again, from the figure above we get . Entering this relationship into the formula:

$$f = \frac{R}{2}\left(2 - \frac{1}{\sqrt{1-\frac{y^2}{R^2}}}\right)$$

Results

$$f = R - y \cdot cos\beta$$

where cosβ is approximately constant

Table *5*

Item No.	y (mm)	f(mm)
1	0	

Graphic representation $f = f(y)$ ***and graphical estimate of R from the intersection with the axis of*** **f** 5p

Determination of spherical mirror radius 5p