

## Spectrometer Setup



**Nvis 656 Spectrometer Setup** is useful for understanding the behaviour of light and it concerns with the phenomenon of Reflection, Refraction, Diffraction and Interference of light. Optical spectrums are important for the detailed description of light source and wavelength determination for each colour of light. Spectrometer is basically an instrument for observing spectrums and measuring angle of deviation of light in a particular medium, for mathematical calculations. The setup comprises of spectrometer, prisms, grating and light source, which are necessary for all the experiments of spectrometer.

## **Features**

- A complete setup with all necessary items
- Adjustment of entrance slit is provided
- Prism table for accurate component placement
- Crosswire Eyepiece
- Wide aperture optics
- Rack and pinion arrangement focusing
- Durable and precise construction
- Online product tutorial



## **Scope of Learning**

- To determine the Wavelength of main spectral line of mercury light using plane transmission grating and spectrometer
- To determine the Refracting Angle of prism using spectrometer
- To determine the Refractive Index and Dispersive Power of prism using spectrometer
- To determine the Refractive Index of transparent liquid like water using a hollow prism and spectrometer
- To study a graph between the Angle of Minimum Deviation d<sub>m</sub> and wavelength l, for different colours of light using spectrometer
- To study a graph between the Refractive Index  $\mu$  and Wavelength I for different colour of light and to verify Cauchy's formula
- To study of a graph between Angle of Incidence and corresponding Angle of Deviation and to find the refractive index of the material of the prism (using Sodium Lamp which is optional)

## **Technical Specifications**

Base		
Туре	:	Cast Iron
Circle dia	:	150mm
Scale		
Туре	:	Stainless Steel
Main scale	:	0-360°
Vernierscale	:	30 div
Collimator		
Tube length	:	160mm
Focal length of	:	175mm (approximate)
Achromaticlens		
Telescope		
Tube length	:	185mm
Focal length of	:	175mm (approximate)
Achromatic lens		
Prism		
<b>Refractive index</b>	:	1.51
Hollow prism	:	equilateral
Plane transmission grating	:	15,000L/inch or 300L/mm
Light Source	:	Mercury lamp
Optional	:	Sodium Lamp

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