



电子科技大学
格拉斯哥学院
Glasgow College, UESTC

Score

Physical Experiment II

Prelab Report 09

Experiment Title: Measurement of the Apex Angle of a Prism and the Wavelengths of Mercury Lights Using a Spectrometer

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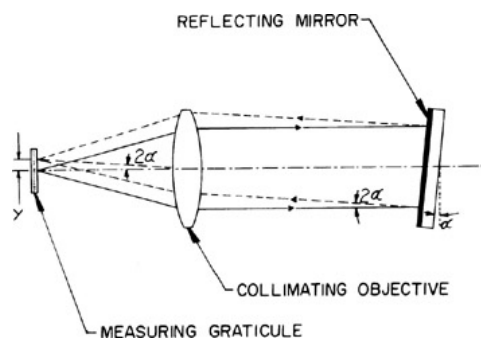
Instructor: Jing Wu

Date: 2018.10.29

Score

Answers to Questions (20 points)

(1) Autocollimation is an optical setup where a collimated beam (of parallel light rays) leaves an optical system and is reflected back into the same system by a plane mirror.



(2)

I.
$$d = \frac{1}{600 \text{ lines/mm}} = 1.67 \times 10^{-6} \text{ m/line}$$

II.

Since $d \sin \theta = m \lambda$

We can get $\sin \theta = \frac{m \lambda}{d} = \frac{1 \times 435.83 \times 10^{-9} \text{ m}}{1.67 \times 10^{-6} \text{ m}} = 0.261$

Thus, $\theta \approx 0.264 \text{ rad}$