



电子科技大学  
格拉斯哥学院  
Glasgow College, UESTC

# Physical Experiments I

## Pre-lab Assignment

Experiment Title Measuring laser wavelength and Index of  
Refraction of air by Michelson Interferometer

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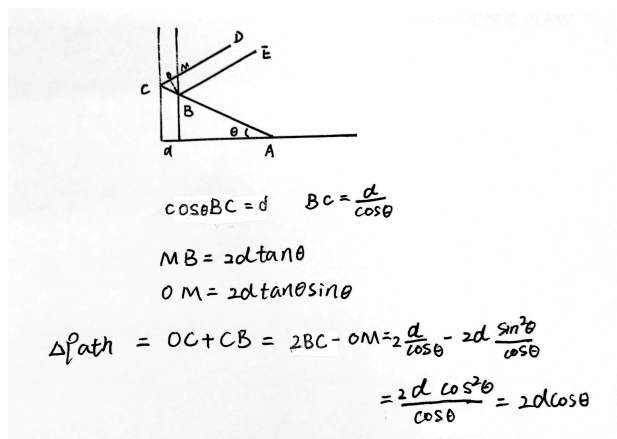
Instructor: jing Wu  
Teaching Assistant: Yajing Cheng

Date Performed: 2017 September 18th

Score

## Answers to Questions (20 points)

### 1. Show the pass length difference.



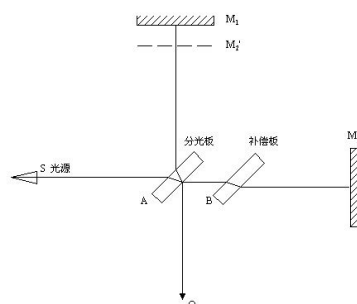
### 2. In this figure 3.8-2,

- How many times does the reflection beam pass through the beam splitter?

From the fig3.8-2 we can see that it passes through the beam splitter for 3 times.

- What is the purpose of the compensator plate G?

To make the pass difference be easier to calculate as one of the beam passes through the beam splitter for two times. If we add this compensate plate, the other beam would also pass through it for two times. So we can directly use the distance between the M1 and M2' to calculate the path difference.



- What is the characteristic of G2(B) in thickness?

It should equal to the G1(A) and they should have the same angle and the thickness in order to help as to compensate the path difference generated in one path when the beam passing through the broad (G1/A).