

Michelson Interferometer

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Abstract

1 Introduction

General

A Michelson interferometer is an instrument used in optical interferometry to produce interference fringes. Minimally, it consists of two mirrors M_1 and M_2 and a beam splitter M (although a diffraction grating can be used). The setup is shown in Figure 1. The beam splitter, in our case, is a plate beamsplitter with a partially reflective coating. A source of light, S , a laser in our case, is directed at the beam splitter, and the light is split into two beams at point C . One beam is reflected toward mirror M_1 , and the other one is transmitted toward mirror M_2 . The beams are reflected by the mirrors and recombined at the beam splitter at point C' . The recombined beams are then directed to a screen, where they produce interference fringes.

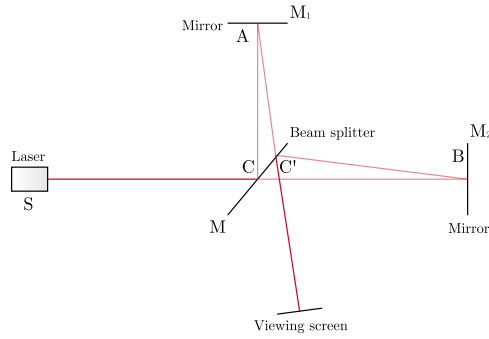


Figure 1: The experimental setup of the experiment.

The Michelson interferometer is named after American physicist Albert Abraham Michelson, who built and used the device in the 1880s.

Procedure

The experiment is comprised of two parts: A and B. The setup consists of ...

Part A

Part B

2 Data & Results

3 Discussion & Conclusion

Errors

Approximations

Discrepancies

Conclusion

4 Extra credit