Designing and building your own physics experiment from scratch

TERMITE

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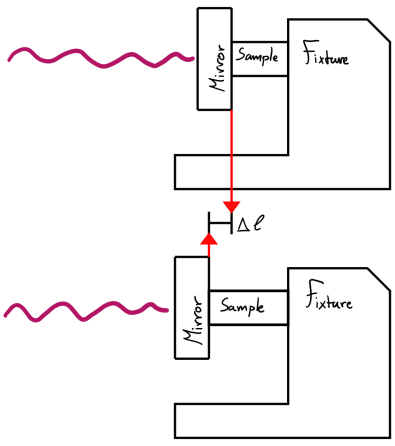
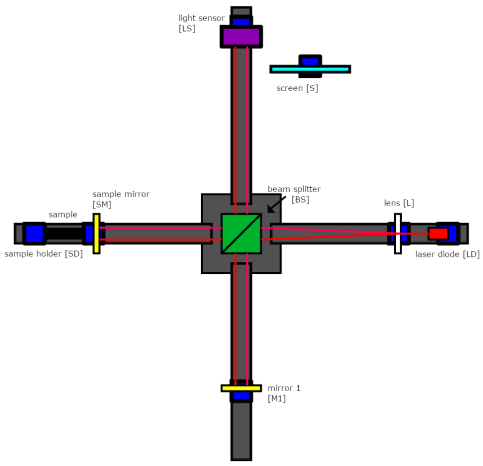
1 Goals

- a
- b
- c
- d

2 Design

- Create Michelson inteferometer using 3d printed parts and readilly available optics
- Attach one of the mirrors to a sample holder, as it expands or contracts the interference pattern will phase shift.
- read out the temperature and shift as a function of time using a photosensor and Arduino.





3 Results

- 3D printed interferometer works great!
- sample needs to be perfectly perpendicular to the laser beam, or the interference patter will shift down or up as its temperature changes.
- Measuring expansion proved difficult due to these alignment issues and time constraints. Project should still work, with more time and a different sensor!

How It's Made

./images/design.png

./images/print.png

./images/build.png

Check out our GitHub!

Want to 3d-print your own experiment? ??ask Blab?? -> what do with this pic

Special thanks to: Dr. G.A. Blab, Dr. D.F. Bouchet, R.H.S. Borkus, Drs. D. Killian, P. Koopman