Mach-Zehnder Interferometer

EP-313

An Experiment to test your patience

Getting the fringes…

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$$m = \frac{d(n-1)}{\lambda}\frac{\Delta P}{P_{atm}}$$

Performing the main part of the experiment a.k.a. studying the change in refractive index of air with changing pressure

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Few necessary questions related to the experiment

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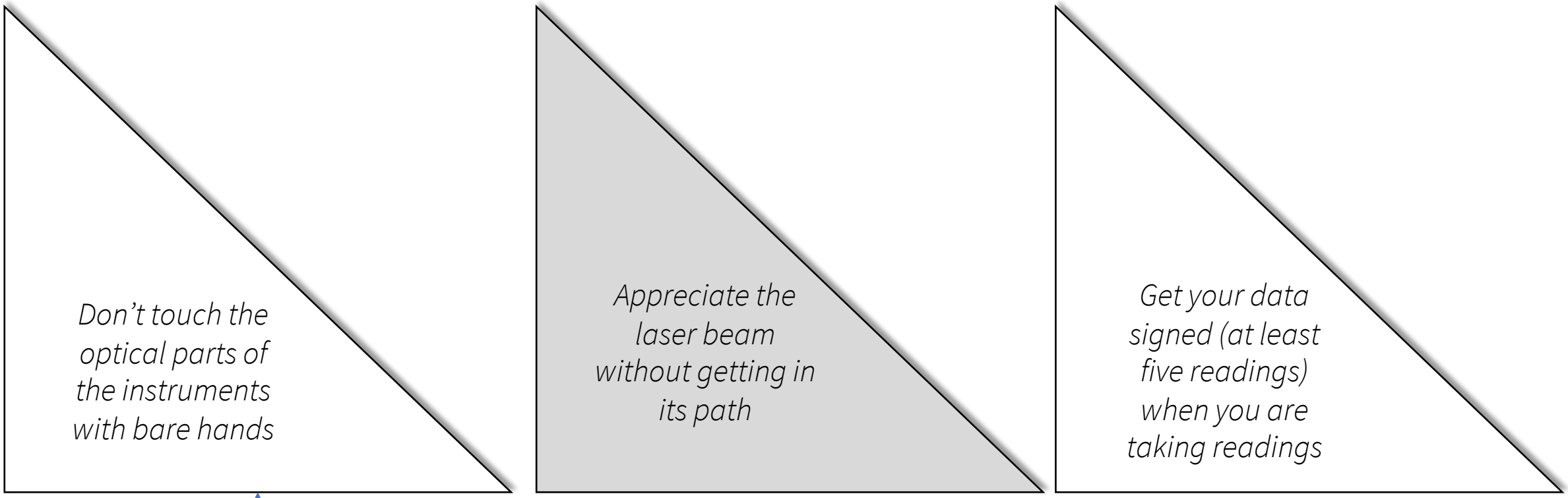
Precautions



Negative marking if you are found guilty

Hacks to doing this experiment quickly

- Use the bread board to it’s full potential.
- Remove the beam *expander* while aligning.
- Align the components properly to ensure that the beam is travelling straight after hitting it. Something in and around 45 degrees is good enough.
- You can use an A4 size paper and place the components at it’s edges to ensure that they form a rectangle.
- You can use a graph sheet of some sort to ensure the position of laser beam spot.
- Make sure the two laser beam spots are close enough before adding in the expander.

Moral

~~Start where you are. Use what you have. Do whatever you can.~~

The experiment is simple it just needs a lot of hard work and patience