


4.1: Background Material

Text References

- [double-slit interference](#)

Play with this Simulator!

Go ahead and run [this PhET simulator](#) in another window. This software simulates wave interference of various types. In the lab, we will be focusing on interference of EM waves passing through a double slit. To prepare for this, you should therefore configure the simulator as follows:

- **select the window "Slits"**
- **click the light source button** 
- **select the "Screen" check box, and the "Intensity" sub check box**
- **select "Two Slits" in the drop-down menu**
- **leave the "Amplitude" slider at its "max" setting**
- **use the "Frequency" slider to adjust the frequency (wavelength) of the light**
- **use the "Slit Separation" slider to change the double slit**

The green button on the Light Generator starts a plane wave, represented by alternating bright and dark regions that represent the crests and troughs of the waves, respectively. *[Note that these do not represent bright and dark regions! That is, if you were in the simulator, and you looked at the Light Generator, you would see constant, uniformly-bright red light coming from it. If you run the simulator, this is in fact what you see on the screen.]*

In particular, you want to explore the effect of changing the wavelength of the light and changing the slit separation for a fixed wavelength, as these are things we will be doing in the lab.

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