

## Polarization of Light

- We should make some better containers for the sugar solutions (10 cm path length is standard.)
- Students should use small Post-it's to mark the direction of polarization of the polarizers. There is no way to determine if they got this right from the lab report, so you will have to check that they got this right during the lab period.
- Students should fill up at least four of the trays stolen from the Brig and put them on the window sill.
- The Brewster angle can be measured with a protractor or two rulers (one horizontal and one vertical).
- The sugar needs to be changed from year to year.

- Here are some possible sugars:

name	other name	specific rotation
dextrose	glucose	52
levulose	fructose	-88
table sugar	sucrose	66.5

Specific rotation has units of degrees per decimeter path per grams/ml concentration.

- For the sucrose in the jam jars, I used 300 g sugar in 200 ml water. For a 5 cm long path, this gives about  $30^\circ$  of rotation.
- Some of the lasers are polarized and some are not.
- Students must describe the rotation of the polarization of the light as it passes through the Dextrose. They need to do this in a manner that is unambiguous. Simply saying “left” or “right” is insufficient.
- At the end of the week, some students should return the Brig trays.
- The polarizers go in the box in the “Optics” drawer.

## Decay of Radioactive Nuclei

The experimental apparatus is broken.