

Name:

1) CLASS(2)

A thin sheet of glass with $n = 1.5$ and thickness t is covering one of the slits in the double slit experiment. Using a green laser with $\lambda = 550$ nm, we see that the bright spot in the middle became a dark spot. Find the possible values for t . See fig. 1.

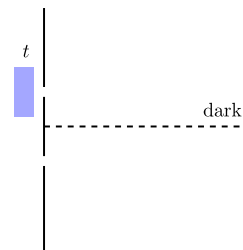


Figure 1: Double slit experiment with a thin sheet of glass.

2) CLASS(2)

A beam of light is sent directly down onto a glass plate, $n_g = 1.5$, and a plastic plate, $n_p = 1.2$, that form a thin wedge of air as shown in fig. 2. An observer looking down through the glass plate sees the fringe pattern shown in the lower part of the drawing, with the dark fringes at the ends A and B . The wavelength of the light is 520 nm. Using the fringe pattern shown in the drawing, determine the thickness of the air wedge at B .

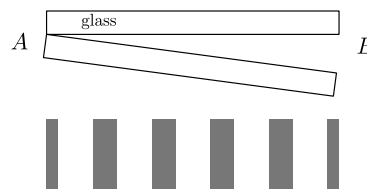


Figure 2: A wedge producing interference pattern.