

PHYC/ECE 463 Advanced Optics I
Fall 2007
Homework #9, Due Wednesday Nov. 7

1-Problem 5.7 (K&F)

2-With regard to Young's double slit experiment, derive a general expression for the shift in the vertical position of the m the maximum as a result of placing a thin sheet of glass with index n and thickness d directly over one of the slits. Identify your assumptions.

3-Problem 5.22 (K&F)

4- White light falling on two long narrow slits emerges and is observed in a distant screen. If red light ($\lambda_0=780\text{ nm}$) in the first order fringe overlaps violet in the second order fringe, what is the latter's wavelength?