

Physics 108 Assignment#4 (due on 4/28/14)

Reading materials:

Pedrotti 3rd Edition: **Chapter 7:** 7-1 through 7-8

Chapter 8: 8-1 through 8-3

Lecture Notes: pp. 34 - 48

Homework: (Pedrotti 3rd Edition)

1. Derive Young's interference fringes
2. Derive the total phase difference between the reflection of a single monochromatic beam (vacuum wavelength λ_0) from two parallel surfaces with n' (semi-infinite, incidence angle θ'), n (thickness d , refraction angle θ), n' (semi-infinite).
3. 7-1
4. 7-4
5. 7-11
6. 7-14
7. 7-19
8. 7-20
9. 8-1
10. 8-2
11. 8-3
12. 8-7
13. 7-23 (optional for extra point)