

Physics 108 Assignment#4 (due on 4/27/15)

**Reading materials:**

*Pedrotti 3<sup>rd</sup> Edition:*      **Chapter 7:** 7-1 through 7-8

**Chapter 8:** 8-1 through 8-3

*Lecture Notes:*                      pp. 34 - 48

**Homework:** (Pedrotti 3<sup>rd</sup> Edition)

1.      Derive the total phase difference between the reflection of a single monochromatic beam (vacuum wavelength  $\lambda_0$ ) from two parallel surfaces with  $n'$  (semi-infinite, incidence angle  $\theta'$ ),  $n$  (thickness  $d$ , refraction angle  $\theta$ ),  $n'$  (semi-infinite).
2.      7-1
3.      7-4
4.      7-11
5.      7-14
6.      7-19
7.      7-20
8.      8-1
9.      8-2
10.     8-3
11.     8-7
12.     7-23 (optional for extra point)