

## Physics 425, Spring 2012

### Assignment set #5

Due February 8:

10. Griffiths Problem 9.19

Due February 10:

11. Griffiths Problem 9.21

Due February 13:

12. Turn in the last part of Quiz 2: sunlight traveling from air is normally incident upon a conducting surface with conductivity  $\sigma$ . At visible light frequency, it is found that  $\frac{\sigma}{\epsilon\omega} = 10$  for this conductor, and the dielectric constant of the conductor is  $\epsilon_r = 2$ . At the boundary  $z = 0$ , what is the phase shift of the transmitted electric field relative to the incident electric field?