

EE 483/583 Antennas for Wireless Communications (Spring 2022)

Homework 6

Wednesday, February 23, 2022

- 1) 4.3
- 2) 4.7 Also, sketch polar plot of magnitude of electric field for each plane. Note: You do not need to make a comparison w/ problem 4.5.
- 3) 4.10a
- 4) 4.18 (e) $\pi/18$
- 5) 4.25 (e) $\ell = 0.1\lambda$ - As part of your solution, compute radiation R_r and loss R_L resistances using equations from text **and again** using NEC (show input file and relevant part of output). Compare answers. You do not need to use program **Dipole**.
- 6) 4.34
- 7) 4.45 Antenna NOT resonant (i.e., we'll consider reactance). Hence, a) Also find reactance. c) Also find reflection coefficient (phasor format w/ angle in degrees). Note: You may use MathCad, Matlab, ... instead of computer program **Dipole** at end of chapter.
- 8) (EE 483 only) 4.31
- 8) (EE 583 only) 4.29

Due Wednesday, March 2, 2022