

ECE 4990/6990

Antennas

Quiz #3

I. Loop Antennas

- A. Magnetic vector potential
- B. Far fields
- C. Dual and equivalent sources
- D. Loop performance parameters
 - 1. Radiation intensity function
 - 2. Radiation resistance
 - 3. Directivity
- E. Impedance and efficiency

II. Arrays

- A. Pattern multiplication theorem
- B. Array factor
- C. Uniform array types
 - 1. Broadside array
 - 2. Endfire array
- D. Hansen-Woodyard endfire array
- E. Non-uniformly excited arrays
 - 1. Binomial array
 - 2. Dolph-Chebyshev array

III. Other Antennas

- A. Folded dipole
- B. Traveling wave antennas
 - 1. Magnetic vector potential
 - 2. Far fields
 - 3. Radiation resistance
 - 4. Terminations
- C. Yagi-Uda array
- D. Log-periodic antenna

(1) 8.5x11" formula sheet allowed

Integral tables provided

Differential operators provided