

ECE 8675: Antenna Theory I

Fundamental principles of antenna theory and application to analysis and design of various antennas. Topics: antenna fundamentals including radiation from an ideal dipole, pattern, gain, polarization, antenna temperature, radar range equation and link budget calculations; analyses of wire and loop antennas; antenna arrays, analysis and synthesis; impedance concept and mutual coupling; broadband and frequency independent antennas; antenna radiation above ground, modes of propagation and multipath; numerical modeling of wire antennas using method of moments. System application of various antennas in radar, satellite and mobile communications. Prerequisite: Undergraduate Electromagnetic Theory

Credits: 3.0