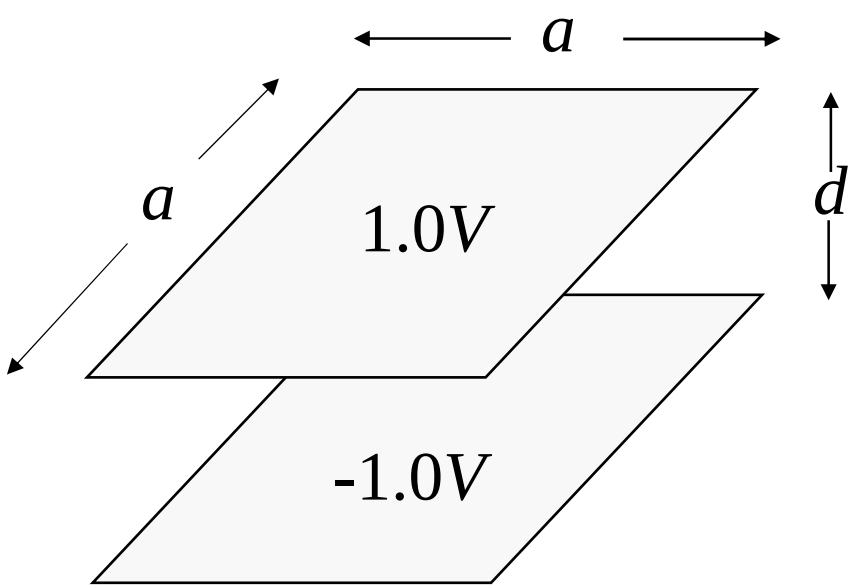
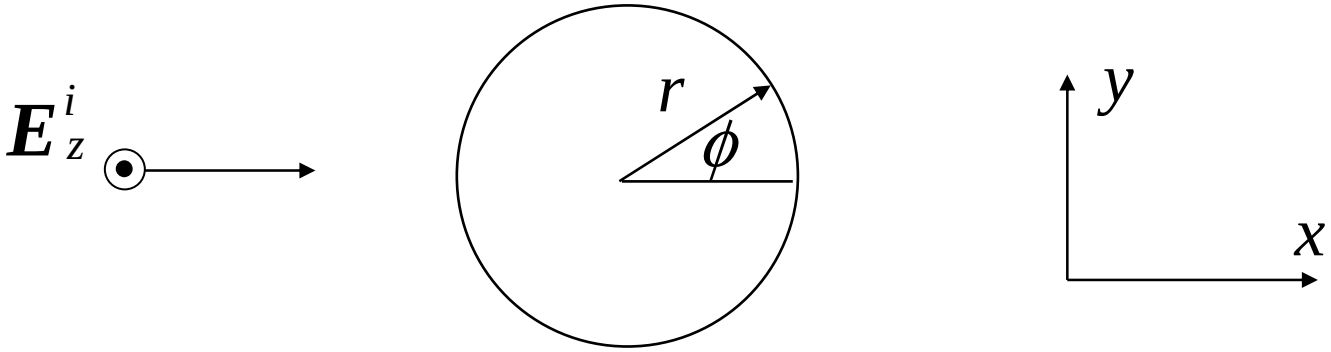
EE750
Advanced Engineering Electromagnetics
Project 3

Problem 1



- Utilize the method of moments to estimate the capacitance of the shown air-filled parallel plate capacitor. Compare your results with the analytical formula for different values of *d* ranging from 0.025 *a* up to 10 *a*.

Problem 2



- Determine the surface currents over the surface of the shown circular cylinder ($0<=\phi<=2\pi$) for an incident TM wave $E_z^i = \exp(-jkx)$. Repeat your results for values of the radius r ranging from $r=0.1\lambda$ up to $r=3.0\lambda$.

Problem 3

- Determine the input impedance and current Distribution for the shown antenna. Utilize a delta-gap model of your source.

Bonus +1: plot the radiation pattern of this antenna.