

Chapter 2a - Electrostatics

- (1) Find the electric field a distance d above the center of a circular loop of radius r that carries a uniform line charge, λ .
- (2) An infinite plane carries a uniform surface charge σ . Find the electric field.
- (3) If a charge density is given by:

$$\rho = \begin{cases} r & r \leq R \\ 0 & r > R \end{cases}$$

Find the electric field everywhere.

- (4) What is the electric field inside a coax cable with negative charge on the inside wire (a cylinder with a radius r_1 and charge density ρ) and on the outside wire (surface of a cylinder with a radius r_2 and a charge density σ)?

