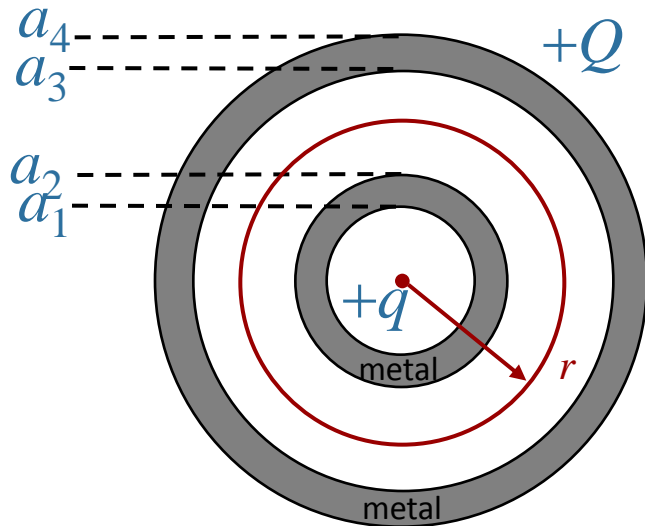


Calculation: Quantitative Analysis



cross-section



Continue on in...

$$a_2 < r < a_3: \quad E = \frac{1}{4\pi\epsilon_0} \frac{q}{r^2}$$

$$a_1 < r < a_2: \quad E = 0$$

$$r < a_1: \quad E = \frac{1}{4\pi\epsilon_0} \frac{q}{r^2}$$

To find V :

- 1) Choose r_0 such that $V(r_0) = 0$ (usual: $r_0 = \text{infinity}$)
- 2) Integrate!

$$r > a_4: \quad V = \frac{1}{4\pi\epsilon_0} \frac{Q+q}{r}$$

$$a_3 < r < a_4: \quad \text{A) } V = 0$$

$$\text{B) } V = \frac{1}{4\pi\epsilon_0} \frac{Q+q}{a_4}$$

$$\text{C) } V = \frac{1}{4\pi\epsilon_0} \frac{Q+q}{a_3}$$

