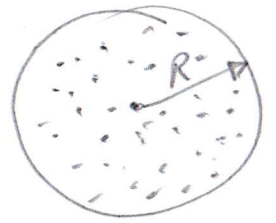


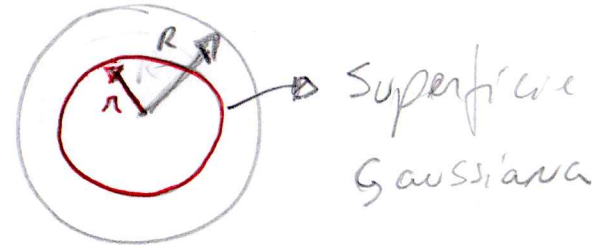
Campo elétrico  $\vec{E}$  dentro de um material condutor (metal) é zero.

Esfera não condutora  
Uniformemente carregada



$$E(r) = k \frac{q}{r^2}, \quad r > R \quad (\text{carga pontual})$$

Se  $r < R$



Carga envolvida pela S.G. com  $r, q'$

$$\frac{q'}{\text{Volume}} = \frac{q}{\text{Volume total}} \Rightarrow \frac{q'}{\frac{4}{3}\pi r^3} = \frac{q}{\frac{4}{3}\pi R^3} \Rightarrow$$

$$q' = q \cdot \frac{r^3}{R^3}$$

$$\text{Assim, } E = k \frac{q'}{r^2} = k \cdot \frac{q \cdot \frac{r^3}{R^3}}{r^2} = \frac{k q r}{R^3}$$

$$E = \frac{k q r}{R^3}, \quad r < R$$