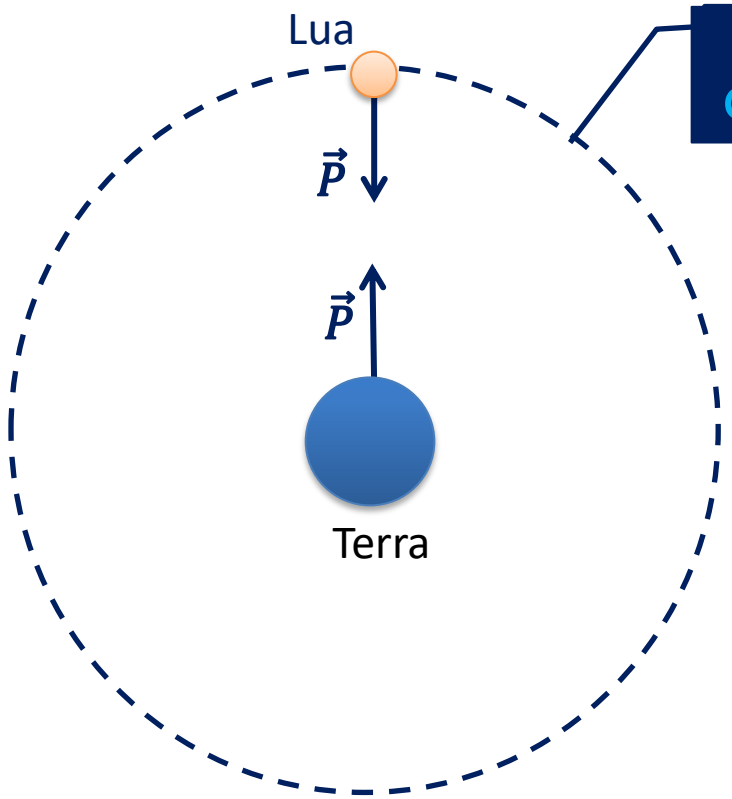
Linhas de força

Prof. Nilo
Física

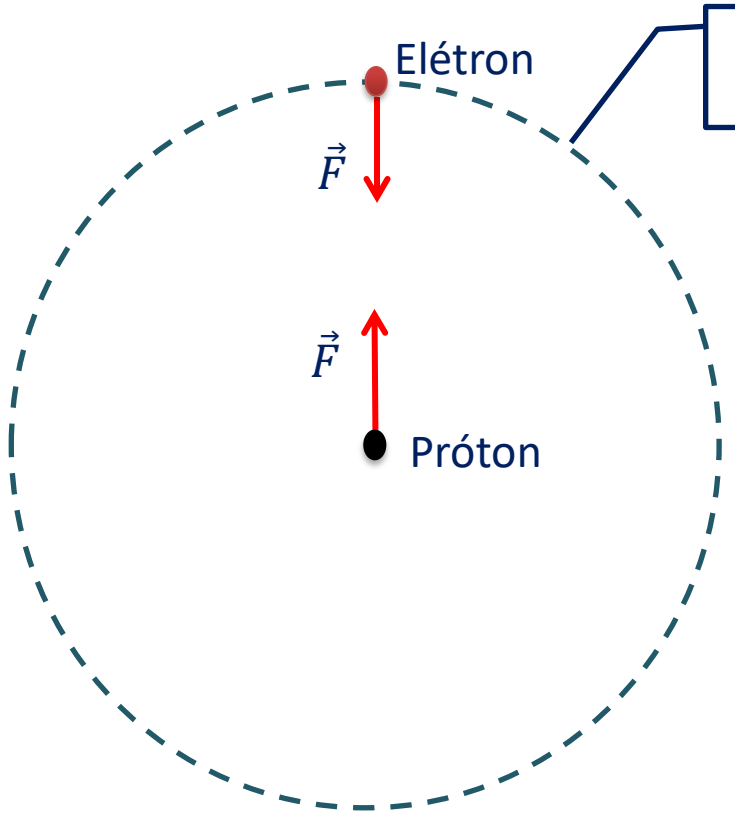
CAMPO GRAVITACIONAL x ELÉTRICO



Campo Gravitacional

$$P = m.g$$

$$g = \frac{P}{m}$$



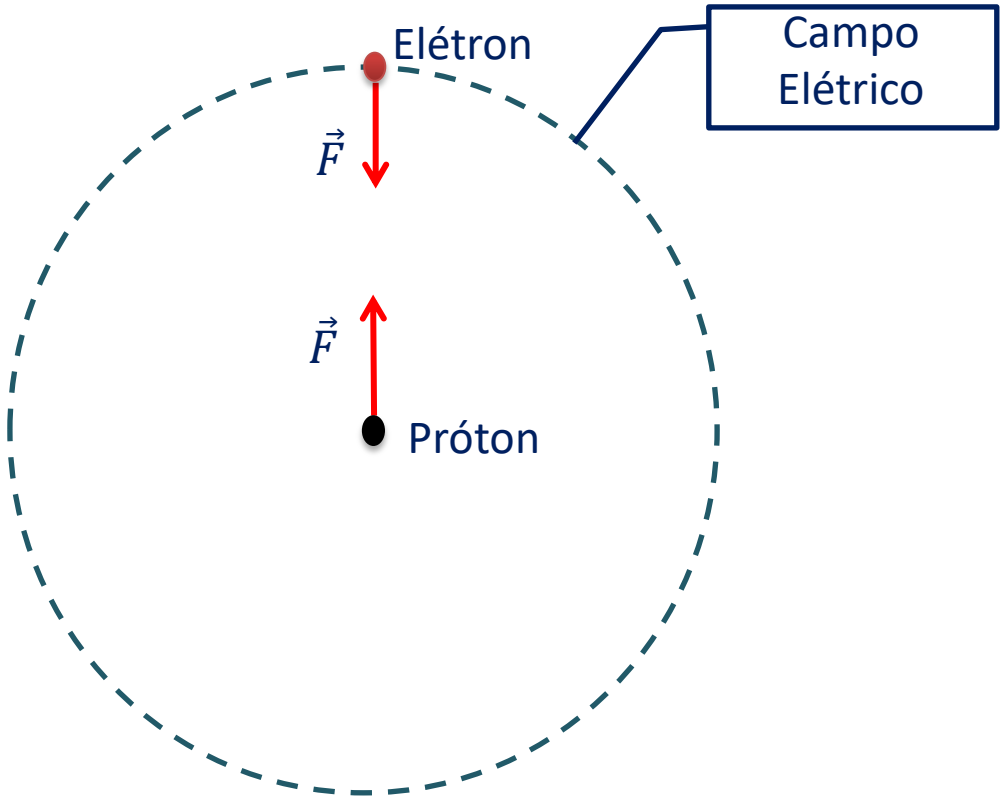
Campo Elétrico

$$F = q.E$$

$$E = \frac{F}{q}$$

O campo elétrico é uma grandeza vetorial.

CAMPO ELÉTRICO



$$E = \frac{F}{q}$$

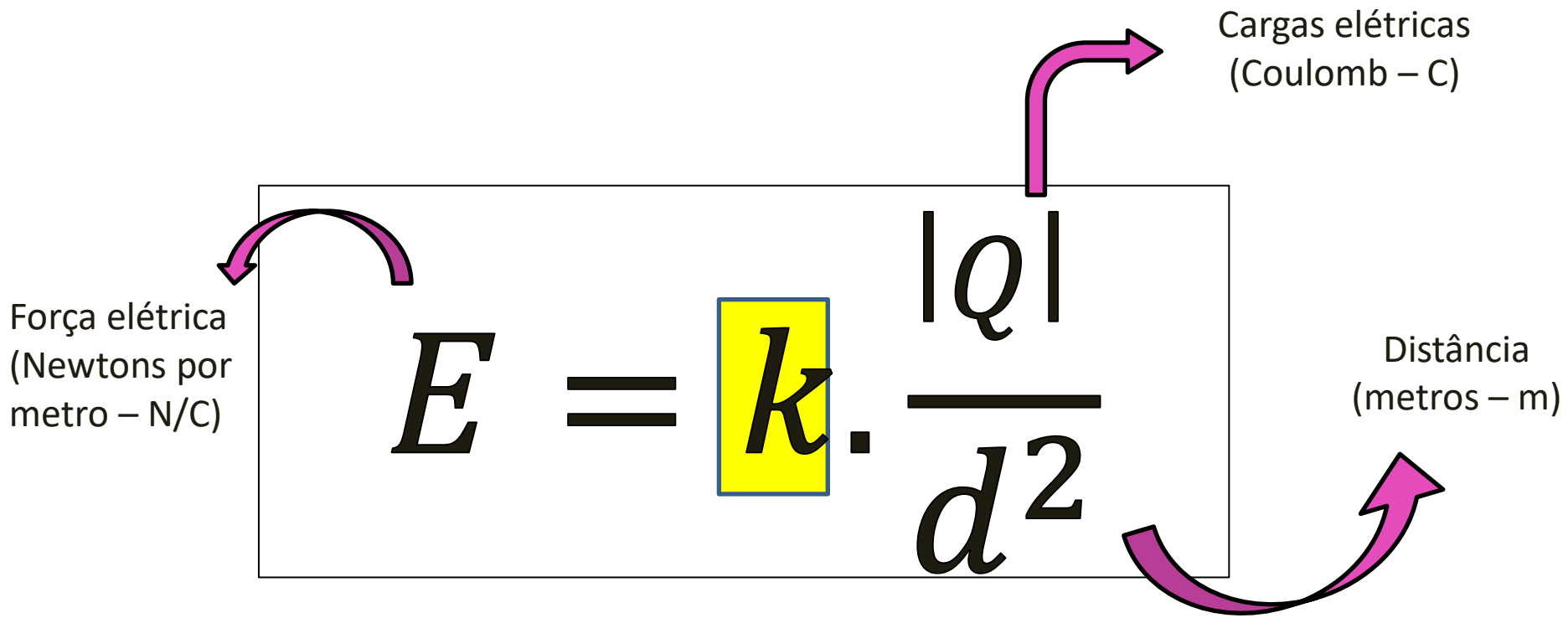
E → campo elétrico
F → força elétrica
q → carga elétrica de prova

$$F = k.\frac{Q.q}{d^2}$$

$$E = \frac{F}{q}$$

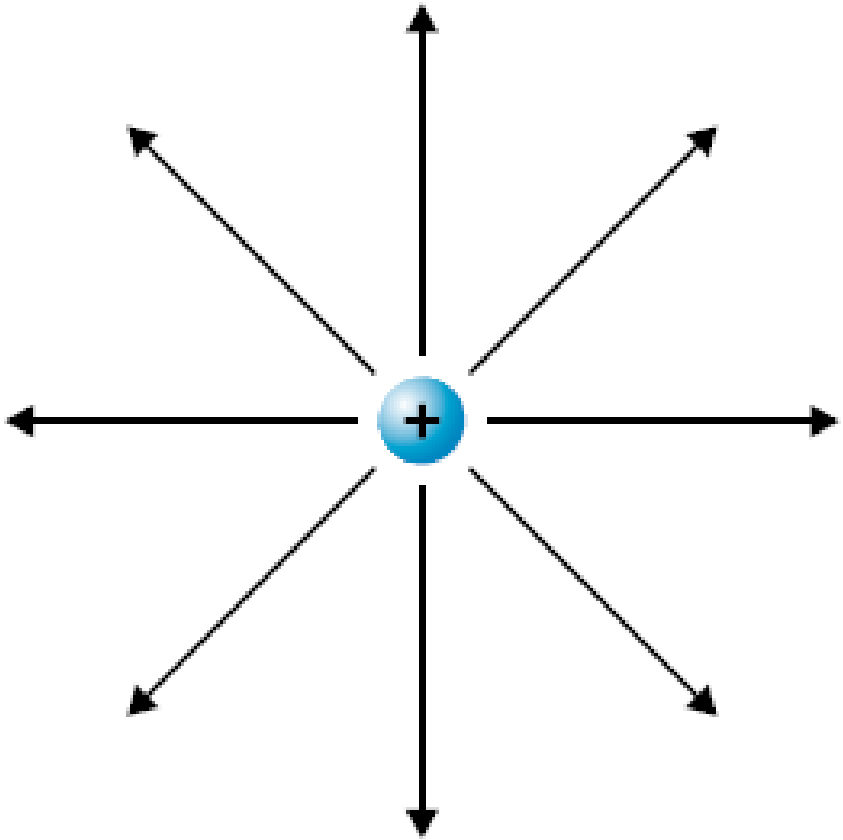
$$E = k.\frac{Q}{d^2}$$

CAMPO ELÉTRICO

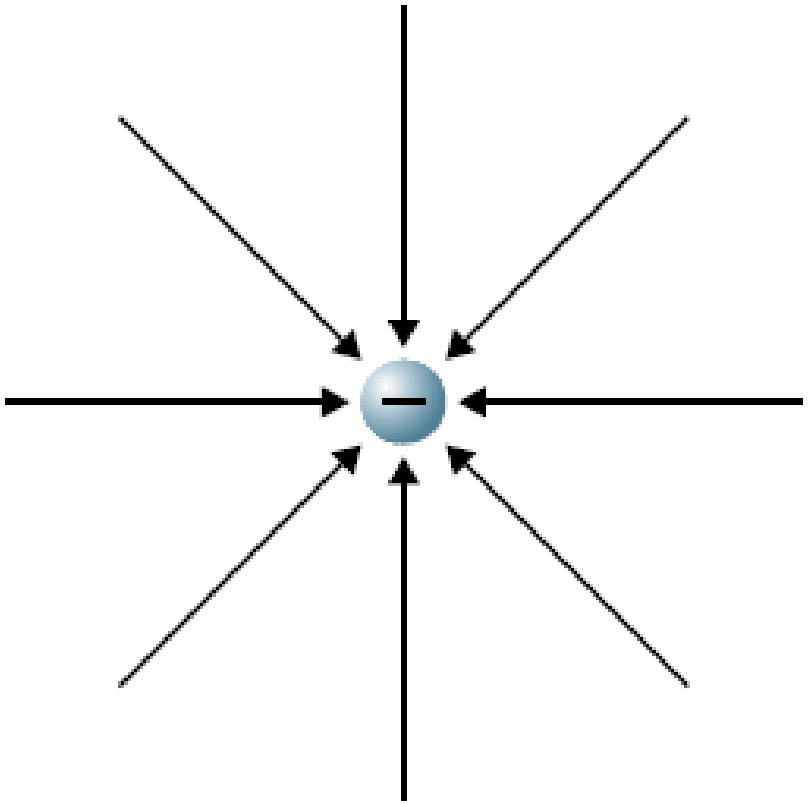


constante eletrostática do meio:
k = 9 x 10^9 $N.m^2/C^2$ para o **vácuo**.

Linhas de força

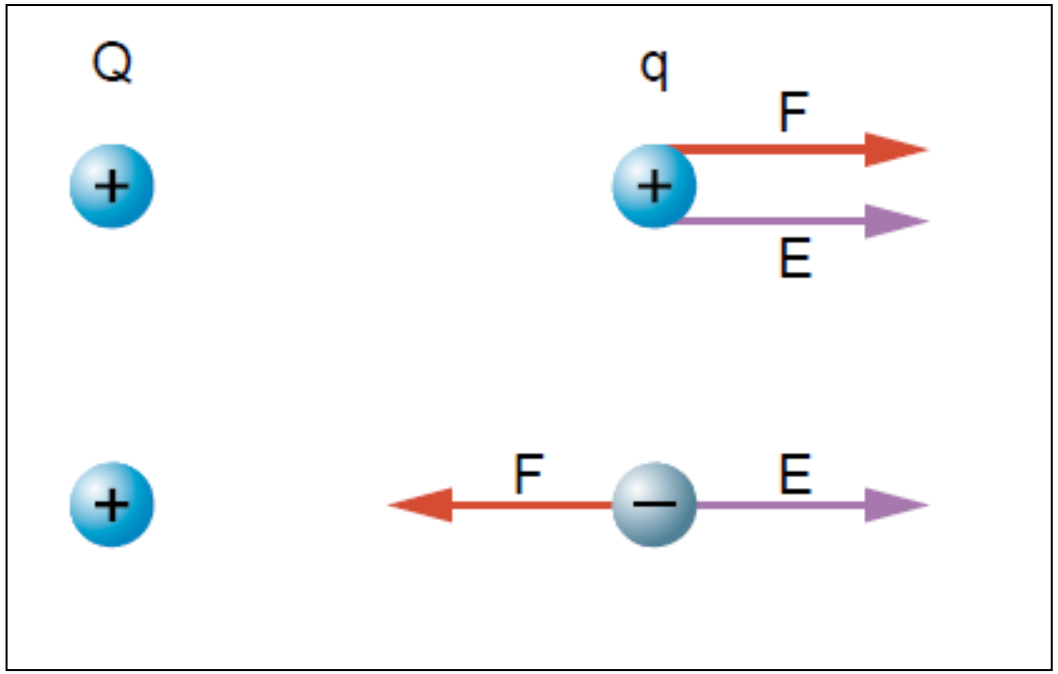


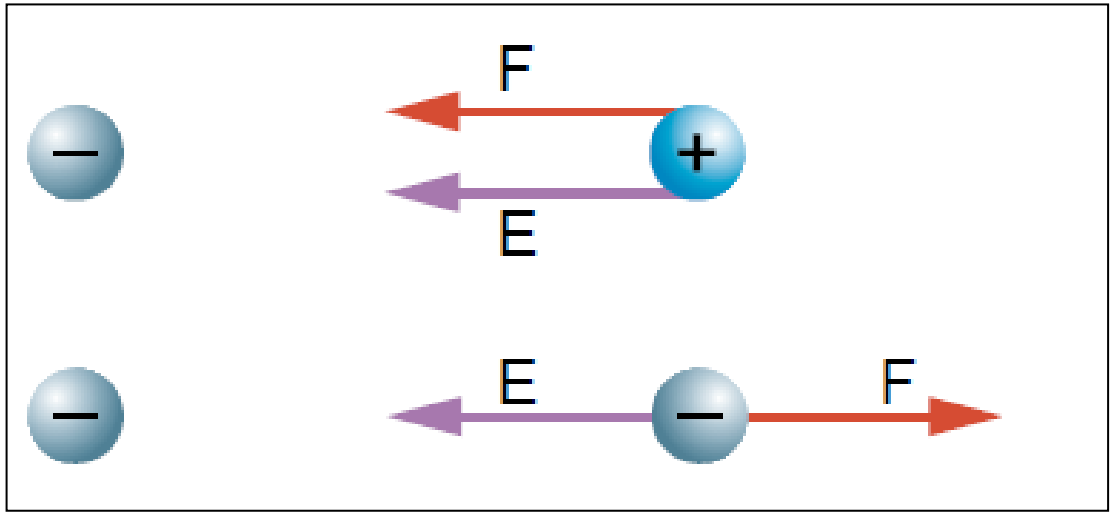
CARGA POSITIVA
Sentido de afastamento.



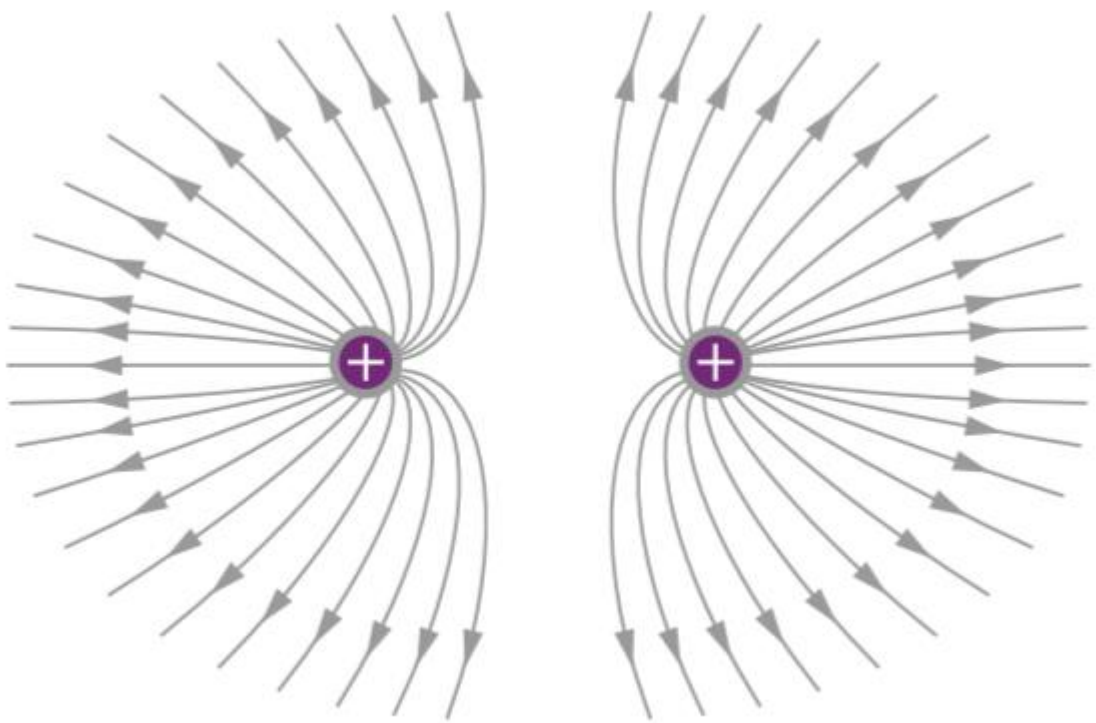
CARGA NEGATIVA
Sentido de aproximação.

CAMPO ELÉTRICO x FORÇA ELÉTRICA

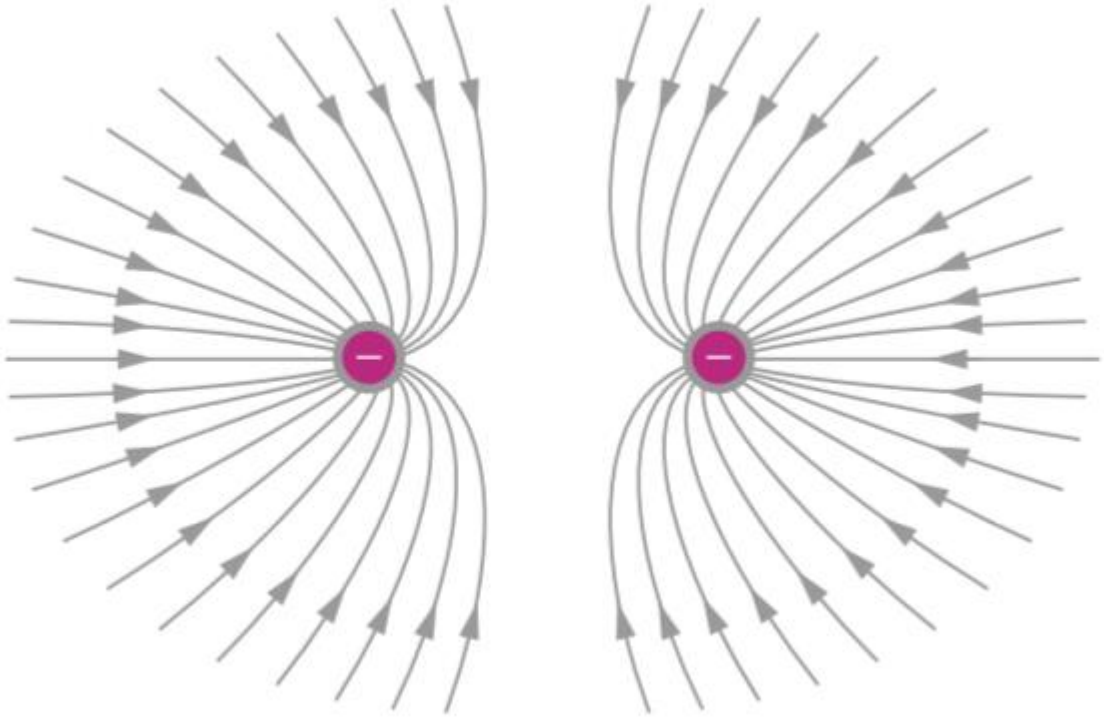




Linhas de força entre duas cargas

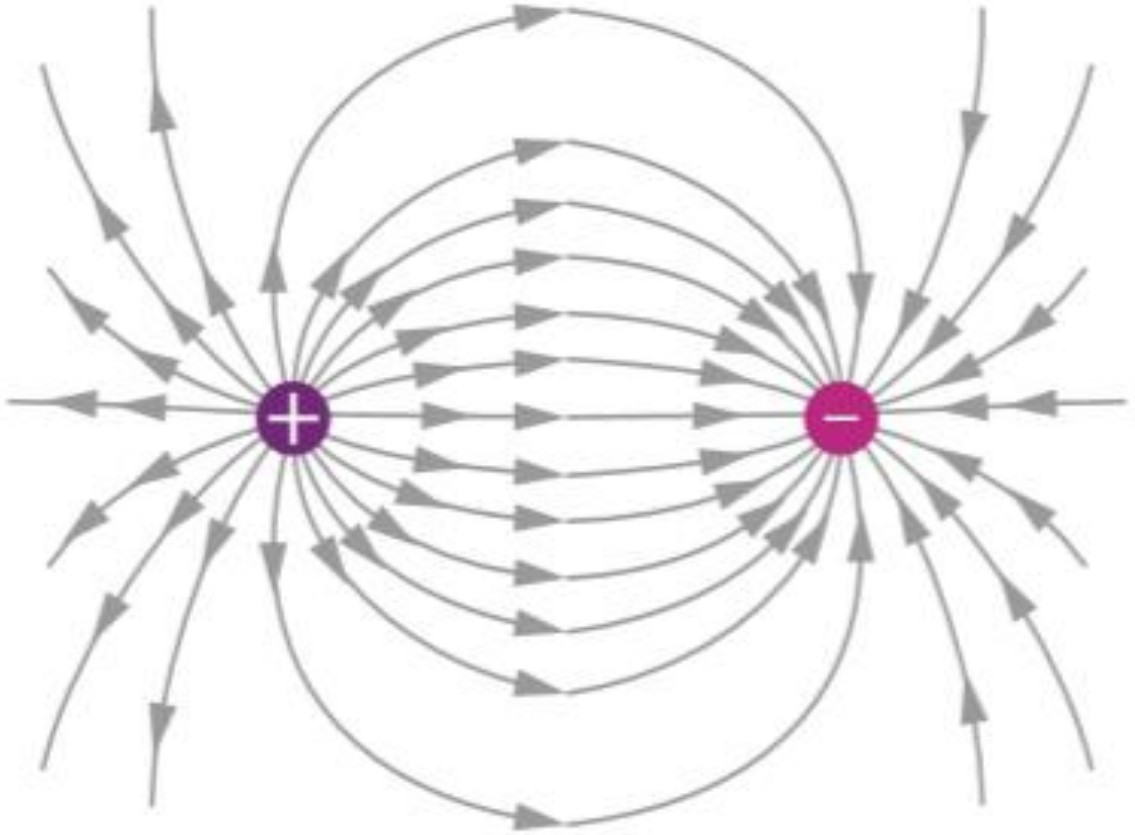


As linhas de campo repelem-se e afastam-se das cargas.



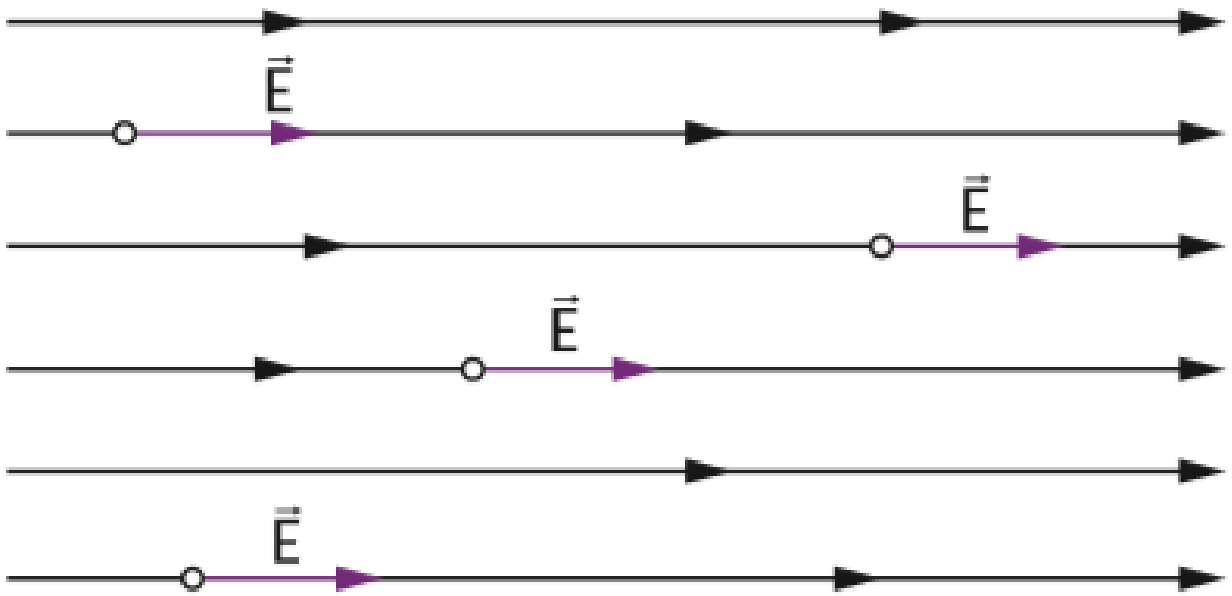
As linhas de campo se repelem e se aproximam das cargas.

Linhas de força entre duas cargas



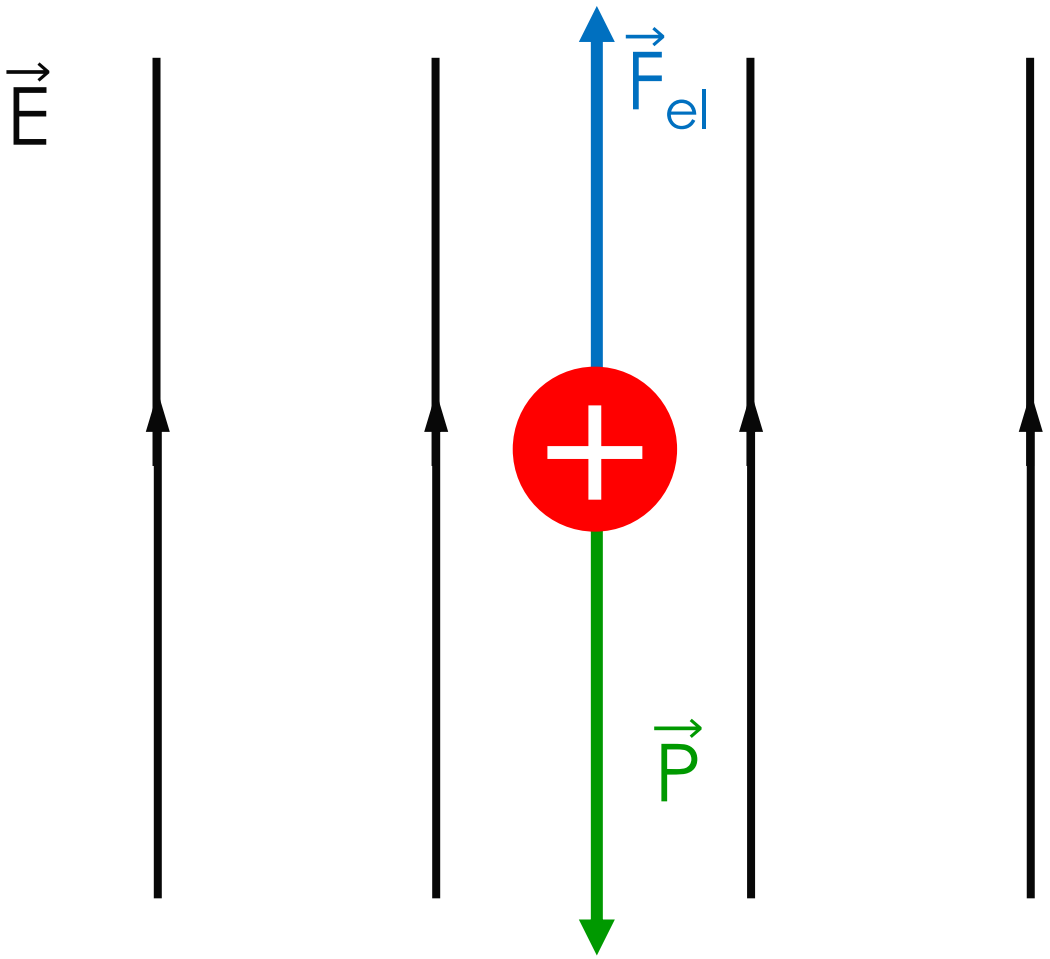
As linhas de campo são orientadas da carga positiva para a carga negativa.

Campo elétrico UNIFORME



As linhas de campo que representam um campo elétrico uniforme são retas paralelas igualmente espaçadas

Equilíbrio de cargas em um C.E.U.

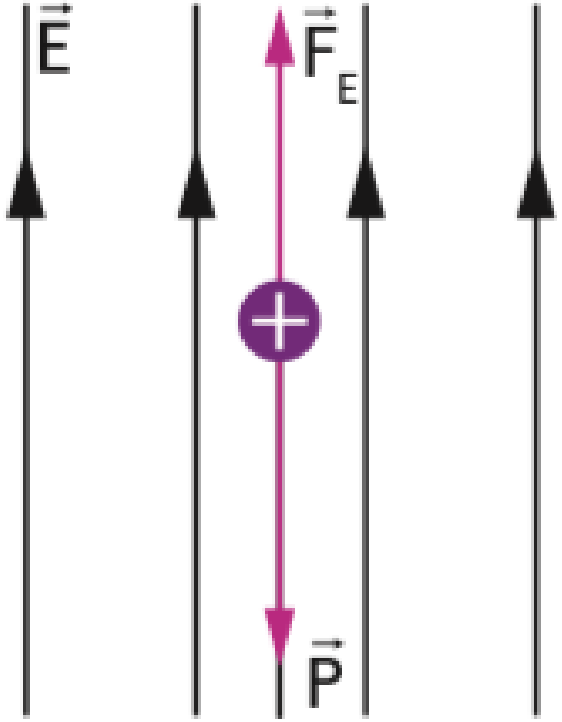


A força elétrica deve-se equilibrar com a força peso:

$$F = P$$

$$|q| \cdot E = m \cdot g$$

Equilíbrio de cargas em um C.E.U.



$$F = P$$