

Electric Field on Line Connecting Point Charges (1)



Consider the x -component of the electric field.

- Electric field at point P_1 :

$$E = E_1 + E_2 = \frac{kq_1}{(7\text{m})^2} + \frac{kq_2}{(3\text{m})^2} = 1.47\text{N/C} + 12.0\text{N/C} = 13.5\text{N/C}.$$

- Electric field at point P_2 :

$$E = E_1 + E_2 = \frac{kq_1}{(3\text{m})^2} - \frac{kq_2}{(1\text{m})^2} = 7.99\text{N/C} - 108\text{N/C} = -100\text{N/C}.$$

