

Answer on Question 65588, Physics, Electromagnetism

Question:

A charge of $8.5 \cdot 10^{-6} \text{ C}$ is in an electric field that has a strength of $3.2 \cdot 10^5 \text{ N/C}$. What is the electric force?

Solution:

By the definition of the electric field strength we have:

$$E = \frac{F_e}{q},$$

here, E is the electric field strength, F_e is the electric force, q is the charge.

Then, from this formula we can find the electric force:

$$F_e = qE = 8.5 \cdot 10^{-6} \text{ C} \cdot 3.2 \cdot 10^5 \frac{\text{N}}{\text{C}} = 2.72 \text{ N}.$$

Answer:

$$F_e = 2.72 \text{ N}.$$

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