

Answer on question #60830, Physics / Other

Question two identical charges separated by 0.040m have an attractive force of 2kN. Find the magnitude of each.

Solution The force between them is

$$F = k \frac{q^2}{r^2}$$

Hence, magnitude of charges is

$$q = r\sqrt{F/k} = 0.04\sqrt{\frac{2 \cdot 10^3}{9 \cdot 10^9}} \approx 0.019 \cdot 10^{-3} C$$