

$$\begin{aligned}q_1 &= -1.60 \times 10^{-19} \text{ C} \\q_2 &= +1.60 \times 10^{-19} \text{ C} \\r &= .53 \times 10^{-10} \text{ m} \\k_e &= 9.0 \times 10^9 \text{ N} \cdot \text{m}^2/\text{C}^2\end{aligned}$$

$$F_e = \frac{k_e \cdot |q_1| \cdot |q_2|}{r^2}$$

$$= \frac{(9.0 \times 10^9 \text{ N} \cdot \text{m}^2/\text{C}^2)(1.6 \times 10^{-19} \text{ C})^2}{(.53 \times 10^{-10} \text{ m})^2}$$

$$F_e = 8.2 \times 10^{-8} \text{ N} \\(\text{attract})$$

$$\begin{aligned}F_e &= 8.2 \times 10^{-8} \text{ N} \\m_e &= 9.11 \times 10^{-31} \text{ kg} \\r &= .53 \times 10^{-10} \text{ m}\end{aligned}$$

$$F_e = F_c = m \cdot a_c = \frac{m \cdot v^2}{r}$$

$$F_e = \frac{m \cdot v^2}{r} \quad \text{so}$$

$$(8.2 \times 10^{-8} \text{ N}) = \frac{(9.11 \times 10^{-31} \text{ kg}) \cdot v^2}{(.53 \times 10^{-10} \text{ m})}$$

$$v = 2.2 \times 10^6 \text{ m/s}$$