

$$\begin{aligned}\Delta p_x &\geq \frac{h}{4\pi} \times \frac{1}{\Delta x} \\ &\geq \frac{6.626 \times 10^{-34} \text{ kg m}^2 \text{ s}^{-1}}{4\pi(1 \times 10^{-12} \text{ m})} \\ &\geq 5.27 \times 10^{-23} \text{ kg m s}^{-1}\end{aligned}$$

$$\begin{aligned}\Delta v_x &\geq (5.27 \times 10^{-23} \text{ kg m s}^{-1}) \times \frac{1}{m} \\ &\geq \frac{5.27 \times 10^{-23} \text{ kg m s}^{-1}}{9.1 \times 10^{-31} \text{ kg}} \\ &\geq 5.79 \times 10^7 \text{ m s}^{-1}\end{aligned}$$