

50. The de Broglie wavelength for the bullet is

$$\lambda = \frac{h}{p} = \frac{h}{mv} = \frac{6.63 \times 10^{-34} \text{ J}\cdot\text{s}}{(40 \times 10^{-3} \text{ kg})(1000 \text{ m/s})} = 1.7 \times 10^{-35} \text{ m} .$$