63. The wavelength associated with the unknown particle is $\lambda_p = h/p_p = h/(m_p v_p)$, where p_p is its momentum, m_p is its mass, and v_p is its speed. The classical relationship $p_p = m_p v_p$ was used. Similarly, the wavelength associated with the electron is $\lambda_e = h/(m_e v_e)$, where m_e is its mass and v_e is its speed. The ratio of the wavelengths is $\lambda_p/\lambda_e = (m_e v_e)/(m_p v_p)$, so

$$m_p = \frac{v_e \lambda_e}{v_p \lambda_p} m_e = \frac{9.109 \times 10^{-31}\,\text{kg}}{3(1.813 \times 10^{-4})} = 1.675 \times 10^{-27}\ \text{kg} .$$

According to Appendix B, this is the mass of a neutron.