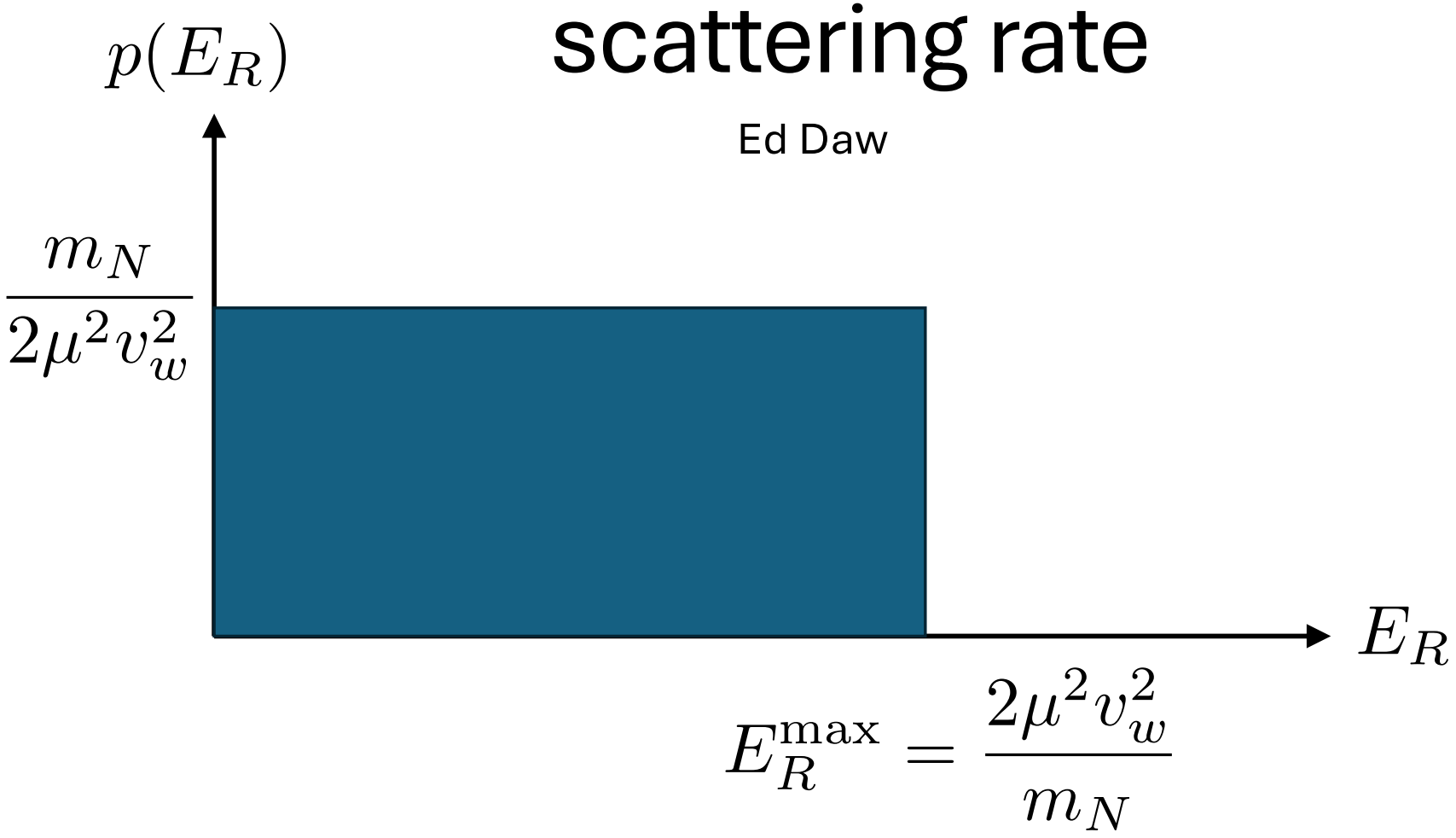
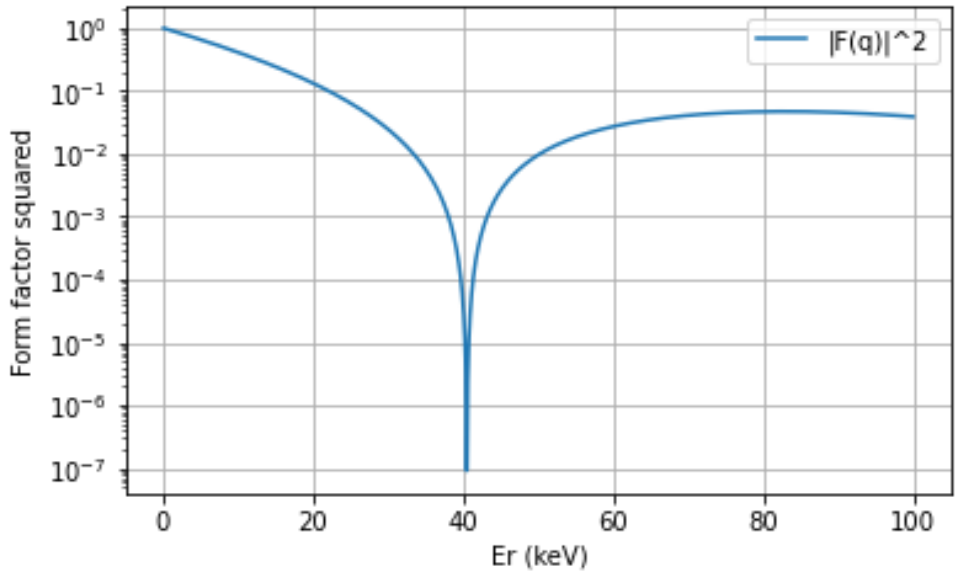
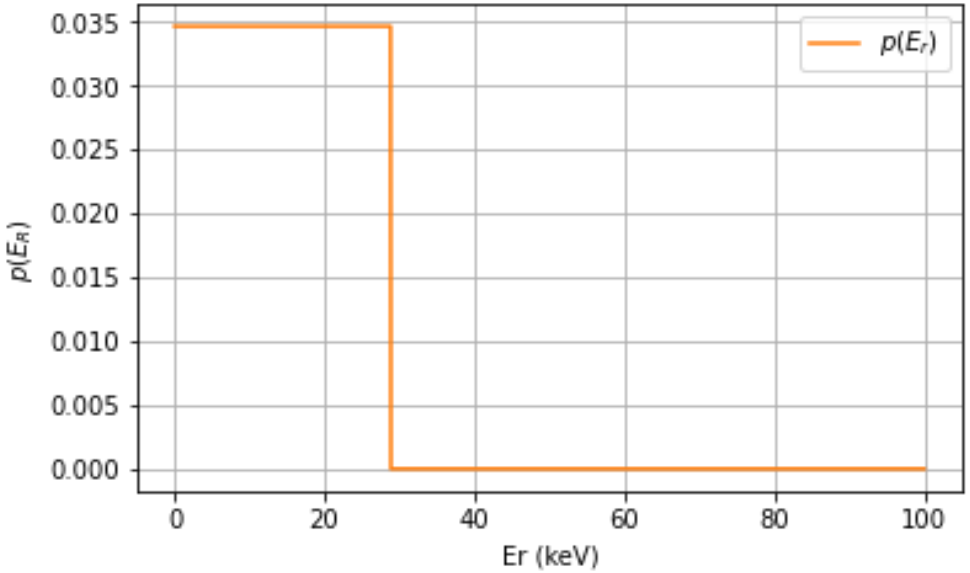
The Differential WIMP elastic scattering rate

Ed Daw







$$F^2(E_R) = \frac{\sin^2\left(\frac{R\sqrt{2(m_N c^2)E_R}}{\hbar c}\right)}{\frac{2(m_N c^2)E_R R^2}{(\hbar c)^2}}$$

$$p(E_R) = \frac{(m_N c^2)}{2(\mu c^2)^2 \frac{v_w^2}{c^2}}$$

for $E_R \leq \frac{2(\mu c^2)^2 \frac{v_w^2}{c^2}}{m_N c^2}$