

$$R \simeq 3 \, (\text{kg}\cdot\text{yr})^{-1} \left(\frac{n_s}{(4.6 \, \text{\AA})^{-3}} \right) \left(\frac{4.95 \, \text{g}/\text{cm}^3}{\rho_T} \right) \left(\frac{0.1 \, \text{MeV}}{m_\chi} \right) \int d^3 v_\chi f(\boldsymbol{v}_\chi) \left(\frac{10^{-3}}{v_\chi} \right) \left(\frac{\hat{R}}{4 \times 10^{-27}} \right)$$