

(7.5) What is the range of a 6.3 MeV α -particle in (a) aluminum, (b) nickel, (c) platinum?

Use eqn. (7.12)

(a) aluminum (it is also possible to read off the range in Al from Fig. 7.6)

$$E_{\alpha} := 6.3 \text{ MeV} \quad A := 27 \quad R_{Al} := 0.173 \cdot E_{\alpha}^{\frac{3}{2}} \cdot A^{\frac{1}{3}} \quad R_{Al} = 8.2 \quad \text{mg cm}^{-2}$$

(b) nickel

$$A := 59 \quad R_{Ni} := 0.173 \cdot E_{\alpha}^{\frac{3}{2}} \cdot A^{\frac{1}{3}} \quad R_{Ni} = 10.6 \quad \text{mg cm}^{-2}$$

(c) platinum

$$A := 195 \quad R_{Pt} := 0.173 \cdot E_{\alpha}^{\frac{3}{2}} \cdot A^{\frac{1}{3}} \quad R_{Pt} = 15.9 \quad \text{mg cm}^{-2}$$