Radioactieve schilderijen

4. $0{,}025\ \text{eV} = 0{,}025 \cdot 1{,}6 \cdot 10^{-19} = 4{,}0 \cdot 10^{-21}\ \text{J}$

$E = \tfrac{1}{2}mv^2 = \tfrac{1}{2} \cdot 1{,}675 \cdot 10^{-27} \cdot v^2 = 4{,}0 \cdot 10^{-21}\ \text{J}$

$\rightarrow \quad v = 2{,}2 \cdot 10^{3}\ \text{m/s}$

5. $^{75}_{33}\text{As} + {}^{1}_{0}\text{n} \rightarrow {}^{76}_{33}\text{As}$ $\qquad$ $^{76}_{33}\text{As} \rightarrow {}^{0}_{-1}\beta + {}^{76}_{34}\text{Se}$

6. $\dfrac{A(20)_{Mn}}{A(20)_{As}} = \dfrac{(\tfrac{1}{2})^{20\ /\ (t_{\frac{1}{2}}\ Mn)}}{(\tfrac{1}{2})^{20\ /\ (t_{\frac{1}{2}}\ As)}} = (\tfrac{1}{2})^{20\ /\ 2{,}6\ -\ 20\ /\ 26{,}8} = (\tfrac{1}{2})^{6{,}946} = 8{,}1 \cdot 10^{-3}$

hetgeen kleiner is dan $^{1}/_{100}$, dus de bewering is juist.