



Apr 26-7:41 AM

⑲ ${}_{82}^{210}\text{Pb}$ $t_{1/2} = 22.3\text{yr}$ $A_0 = 7.5\text{g}$ $A_t = \text{--- Pb}$
 \downarrow
 ${}_{80}^{206}\text{Hg}$ --- g Hg
 $t = 17.5\text{yrs}$ $\Delta\text{mass Pb}$
 converted to ${}_{80}^{206}\text{Hg}$

⑳ $\ln A_t = -Kt + \ln A_0$
 $\ln A_t = -(0.0311)(17.5) + \ln(7.5)$
 $A_t = 4.35 \text{ g Pb left after } 17.5\text{yrs}$
 $K = \frac{0.693}{22.3} = 0.0311 \text{ yr}^{-1}$
 START 7.50g Pb
 now 4.35g Pb
 lost 3.15g Pb
 $3.15\text{g Pb} \times \frac{206\text{Hg}}{210\text{Pb}} = 3.09\text{g Hg}$
 MASS RATIO

Apr 26-8:03 AM

Nuclear Reactor

- Control the # n re-reacting

↳ control rods \Rightarrow absorb excess n

- Moderator ^{heavy} H_2O / Graphite (C) Slows Down n

Containment Vessel \rightarrow 6+ ft concrete encapsulates reactor core

Apr 26-8:13 AM