ZAD. 2.

$^{206}Pb/^{204}Pb = 13,211$

$^{207}Pb/^{204}Pb = 14,401$

$^{208}Pb/^{204}Pb = 33,069$

$(^{206}Pb/^{204}Pb)_0 = 9,307 = a_0$

$(^{207}Pb/^{204}Pb)_0 = 10,294 = b_0$

$(^{208}Pb/^{204}Pb)_0 = 29,476 = c_0$

$T = 4,55 \times 10^9$ god

μ, $^{232}Th/^{204}Pb$, K, $Th/U = ?$

$\lambda_1(^{238}U) = 1,55125 \times 10^{-10}$ god^{-1}

$\lambda_2(^{235}U) = 9,8485 \times 10^{-10}$ god^{-1}

$\lambda_3(^{232}Th) = 4,948 \times 10^{-11}$ god^{-1}

$$\frac{\frac{^{207}Pb}{^{204}Pb} - b_0}{\frac{^{206}Pb}{^{204}Pb} - a_0} = \frac{1}{137,8}\left\{\frac{e^{\lambda_2 T} - e^{\lambda_2 t}}{e^{\lambda_1 T} - e^{\lambda_1 t}}\right\}$$

$$\frac{14,401 - 10,294}{13,211 - 9,307} = 1,052 = m \quad \text{(nagib pravca)}$$

- interpolirali podatke u prilogu tabl. (Tabl. 13.2) $\Rightarrow$

$$t = 2,6 \times 10^9 + \frac{(2,8 - 2,6) \times 10^9}{1,0936 - 1,0347}(1,052 - 1,0347)$$

($1,052 \Downarrow m$)

$$\underline{t = 2,65 \times 10^9 \text{ god}}$$

$$\mu = \frac{^{238}U}{^{204}Pb} = \frac{\frac{^{206}Pb}{^{204}Pb} - a_0}{e^{\lambda_1 T} - e^{\lambda t}} = \frac{13,211 - 9,307}{e^{1,55125 \times 10^{-10} \cdot 4,55 \times 10^9} - e^{1,55125 \times 10^{-10} \cdot 2,65 \cdot 1}}$$

$$= \underline{7,58}$$

ZAD. 2 (nastavak)

$$K = \frac{^{232}Th}{^{238}U} = ?$$

$$\frac{^{208}Pb}{^{204}Pb} = c_0 - \mu K \left(e^{\lambda_3 T} - e^{\lambda_3 t}\right)$$

$$K = \frac{\left(^{208}Pb/^{204}Pb\right) - c_0}{e^{\lambda_3 T} - e^{\lambda_3 t}} = \underline{\underline{4{,}2535}}$$

$$\frac{^{232}Th}{^{204}Pb} = ?$$

$$\frac{^{232}Th}{^{204}Pb} = K \cdot \mu = \underline{\underline{32{,}24}}$$

$$\frac{^{232}Th}{^{238}U} = \frac{c(Th)}{c(U)} \cdot \frac{A_r(U)}{A_r(Th)} \cdot \frac{\omega(^{238}U)}{\omega(^{232}Th)} \quad (\frac{c(Th)}{c(U)} = ?)$$

$$\frac{Th}{U} = \frac{^{232}Th}{^{238}U} \cdot \frac{A_r(Th)}{A_r(U)} \cdot \frac{\omega(^{232}Th)}{\omega(^{238}U)}$$

($\omega(^{232}Th) \leftarrow 100$, $\omega(^{238}U) \leftarrow 99{,}3$)

$$= \underline{\underline{4{,}176}}$$