

ABSTRAK

Telah dilakukan pengukuran radioaktivitas alpha dan beta dari batako dan bata merah, dengan pencacah sistem α/β model 2400.

Untuk aktivitas alpha didapatkan:

1. Batako:

$$\begin{aligned} A1 &= 0,021 \cdot 10^{-2} \text{ pCi/gr} \\ A2 &= 0,014 \cdot 10^{-2} \text{ pCi/gr} \\ A3 &= 0,013 \cdot 10^{-2} \text{ pCi/gr} \\ B1 &= 0,020 \cdot 10^{-2} \text{ pCi/gr} \\ B2 &= 0,015 \cdot 10^{-2} \text{ pCi/gr} \\ B3 &= 0,018 \cdot 10^{-2} \text{ pCi/gr} \\ C1 &= 0,021 \cdot 10^{-2} \text{ pCi/gr} \\ C2 &= 0,032 \cdot 10^{-2} \text{ pCi/gr} \\ C3 &= 0,024 \cdot 10^{-2} \text{ pCi/gr} \end{aligned}$$

2. Bata merah:

$$\begin{aligned} D1 &= 0,012 \cdot 10^{-2} \text{ pCi/gr} \\ D2 &= 0,014 \cdot 10^{-2} \text{ pCi/gr} \\ D3 &= 0,011 \cdot 10^{-2} \text{ pCi/gr} \\ D4 &= 0,009 \cdot 10^{-2} \text{ pCi/gr} \\ D5 &= 0,014 \cdot 10^{-2} \text{ pCi/gr} \end{aligned}$$

Untuk aktivitas beta didapatkan:

1. Batako:

$$\begin{aligned} A1 &= 12,16 \text{ pCi/gr} \\ A2 &= 12,70 \text{ pCi/gr} \\ A3 &= 12,43 \text{ pCi/gr} \\ B1 &= 16,22 \text{ pCi/gr} \\ B2 &= 13,78 \text{ pCi/gr} \\ B3 &= 10,00 \text{ pCi/gr} \\ C1 &= 17,84 \text{ pCi/gr} \\ C2 &= 12,70 \text{ pCi/gr} \\ C3 &= 14,86 \text{ pCi/gr} \end{aligned}$$

2. Bata merah:

$$\begin{aligned} D1 &= 8,92 \text{ pCi/gr} \\ D2 &= 9,19 \text{ pCi/gr} \\ D3 &= 11,35 \text{ pCi/gr} \\ D4 &= 6,22 \text{ pCi/gr} \\ D5 &= 10,27 \text{ pCi/gr} \end{aligned}$$

ABSTRACT

The alpha and beta radioactivity of brick and concrete brick has been measured, with α/β system counter model 2400.

The alpha activity of two materials above could be obtained as below:

1. Concrete Brick:

A1 = 0,021.10 ⁻² pCi/gr
A2 = 0,014.10 ⁻² pCi/gr
A3 = 0,013.10 ⁻² pCi/gr
B1 = 0,020.10 ⁻² pCi/gr
B2 = 0,015.10 ⁻² pCi/gr
B3 = 0,018.10 ⁻² pCi/gr
C1 = 0,021.10 ⁻² pCi/gr
C2 = 0,032.10 ⁻² pCi/gr
C3 = 0,024.10 ⁻² pCi/gr

2. Brick:

D1 = 0,012.10 ⁻² pCi/gr
D2 = 0,014.10 ⁻² pCi/gr
D3 = 0,011.10 ⁻² pCi/gr
D4 = 0,009.10 ⁻² pCi/gr
D5 = 0,014.10 ⁻² pCi/gr

The beta activity of two materials above could be obtained as below:

1. Concrete Brick:

A1 = 12,16 pCi/gr
A2 = 12,70 pCi/gr
A3 = 12,43 pCi/gr
B1 = 16,22 pCi/gr
B2 = 13,78 pCi/gr
B3 = 10,00 pCi/gr
C1 = 17,84 pCi/gr
C2 = 12,70 pCi/gr
C3 = 14,86 pCi/gr

2. Brick:

D1 = 8,92 pCi/gr
D2 = 9,19 pCi/gr
D3 = 11,35 pCi/gr
D4 = 6,22 pCi/gr
D5 = 10,27 pCi/gr