



1 Decay Scheme

Bi-210 mainly disintegrates by beta minus emission to the Po-210 fundamental level. Two weak alpha emissions to excited levels of Tl-206 have been pointed out.

Le bismuth 210 se désintègre principalement par émission bêta moins vers le niveau fondamental de polonium 210. Des transitions alpha de très faible intensité vers les niveaux excités de 304,8 keV et 265,7 keV de thalium 206 ont été mises en évidence.

2 Nuclear Data

$T_{1/2}(^{210}\text{Bi})$:	5,012	(5)	d
$T_{1/2}(^{210}\text{Po})$:	138,3763	(17)	d
$T_{1/2}(^{206}\text{Tl})$:	4,202	(11)	min
$Q^-(^{210}\text{Bi})$:	1162,1	(8)	keV
$Q^\alpha(^{210}\text{Bi})$:	5042,7	(18)	keV

2.1 α Transitions

	Energy keV	Probability $\times 100$	F
$\alpha_{0,2}$	4740 (4)	0,000084 (9)	49
$\alpha_{0,1}$	4778 (4)	0,000056 (6)	58

2.2 β^- Transitions

	Energy keV	Probability $\times 100$	Nature	lg ft
$\beta_{0,0}^-$	1162,1 (8)	99,99986 (2)	1st Forbidden	8

2.3 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{1,0}(Tl)$	265,832 (5)	0,000056 (6)	E2	0,0855 (12)	0,0561 (8)	0,01440 (21)	0,1603 (23)
$\gamma_{2,0}(Tl)$	304,896 (6)	0,000084 (9)	M1	0,307 (5)	0,0519 (8)	0,01210 (17)	0,375 (6)

3 Atomic Data

3.1 Tl

ω_K	:	0,967	(15)
$\bar{\omega}_L$:	0,40	(4)
n_{KL}	:	0,81	(3)

4 α Emissions

	Energy keV	Probability $\times 100$
$\alpha_{0,2}$	4650 (4)	0,000084 (9)
$\alpha_{0,1}$	4687 (4)	0,000056 (6)

5 Electron Emissions

	Energy keV	Electrons per 100 disint.
$\beta_{0,0}^-$	max: 1162,1 (8)	99,99986 (2)
$\beta_{0,0}^-$	avg: 389,2 (3)	

6 Photon Emissions

6.1 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{1,0}(Tl)$	265,832 (5)	0,000048 (5)

	Energy keV	Photons per 100 disint.
$\gamma_{2,0}(Tl)$	304,896 (6)	0,000061 (7)

7 Main Production Modes

- { Ra – 226 decay chain
- { Possible impurities : Bi – 214

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