



## 1 Decay Scheme

Po-210 disintegrates by alpha emission to the 803-keV excited level (0,00124 (4) %) and to the ground state level of Pb-206.

*Le polonium 210 se désintègre par émission alpha principalement vers le niveau fondamental du plomb 206 ainsi que vers le niveau excité de 803 keV avec une intensité de 0,00124 (4)%.*

## 2 Nuclear Data

$$T_{1/2}(^{210}\text{Po}) : 138,3763 \quad (17) \quad \text{d}$$

$$Q^\alpha(^{210}\text{Po}) : 5407,46 \quad (7) \quad \text{keV}$$

### 2.1 $\alpha$ Transitions

	Energy keV	Probability $\times 100$	F
$\alpha_{0,1}$	4604,36 (9)	0,00124 (4)	1,5
$\alpha_{0,0}$	5407,46 (7)	99,99876 (4)	1

### 2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	$\alpha_K$	$\alpha_L$	$\alpha_M$	$\alpha_T$
$\gamma_{1,0}(\text{Pb})$	803,10 (5)	0,00124 (4)	E2	0,00804 (12)	0,001745 (25)	0,000420 (6)	0,01033 (15)

### 3 Atomic Data

#### 3.1 Pb

$\omega_K$	:	0,963	(4)
$\bar{\omega}_L$	:	0,379	(15)
$n_{KL}$	:	0,811	(5)

##### 3.1.1 X Radiations

	Energy keV	Relative probability		
X <sub>K</sub>	K $\alpha_2$	72,805	59,5	
	K $\alpha_1$	74,97	100	
	K $\beta_3$	84,451	}	
	K $\beta_1$	84,937	}	
	K $\beta_5''$	85,47	}	34,2
	K $\beta_2$	87,238	}	
	K $\beta_4$	87,58	}	10,3
	KO <sub>2,3</sub>	87,911	}	
	X <sub>L</sub>	L $\ell$	9,186	
		L $\alpha$	10,449 – 10,551	
L $\eta$		11,349		
L $\beta$		12,144 – 13,377		
L $\gamma$		14,308 – 15,217		

### 4 $\alpha$ Emissions

	Energy keV	Probability $\times 100$
$\alpha_{0,1}$	4516,66 (9)	0,00124 (4)
$\alpha_{0,0}$	5304,33 (7)	99,99876 (4)

## 5 Photon Emissions

### 5.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(Pb)	9,186 — 15,217	0,00000384 (10)	
XK $\alpha_2$	(Pb)	72,805	0,00000277 (10)	} K $\alpha$
XK $\alpha_1$	(Pb)	74,97	0,00000466 (17)	
XK $\beta_3$	(Pb)	84,451	}	} K' $\beta_1$
XK $\beta_1$	(Pb)	84,937	}	
XK $\beta_5''$	(Pb)	85,47	}	
XK $\beta_2$	(Pb)	87,238	}	} K' $\beta_2$
XK $\beta_4$	(Pb)	87,58	}	
XKO $_{2,3}$	(Pb)	87,911	}	

### 5.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{1,0}(\text{Pb})$	803,10 (5)	0,00123 (4)

## 6 Main Production Modes

Ra – 226 decay chain

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