



1 Decay Scheme

Po-211 decays 100 % by alpha-particle emissions, populating mainly the ground state of Pb-207.
Le polonium 211 se désintègre par émission alpha vers le niveau fondamental du plomb 207.

2 Nuclear Data

$$T_{1/2}(^{211}\text{Po}) : 0,516 \quad (3) \quad \text{s}$$

$$Q^{\alpha}(^{211}\text{Po}) : 7594,48 \quad (51) \quad \text{keV}$$

2.1 α Transitions

	Energy keV	Probability $\times 100$	F
$\alpha_{0,2}$	6695,3 (10)	0,523 (9)	17,9
$\alpha_{0,1}$	7024,4 (10)	0,541 (17)	272
$\alpha_{0,0}$	7594,2 (3)	98,936 (19)	112

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{2,1}(\text{Pb})$	328,2 (2)	0,0043 (15)	M1	0,273 (4)	0,0465 (7)	0,01089 (16)	0,334 (5)
$\gamma_{1,0}(\text{Pb})$	569,65 (15)	0,546 (17)	E2	0,01583 (23)	0,00439 (7)	0,001081 (16)	0,0216 (3)
$\gamma_{2,0}(\text{Pb})$	897,8 (2)	0,519 (9)	M1+E2	0,0192 (3)	0,00318 (5)	0,000741 (11)	0,0233 (4)

3 Atomic Data

3.1 Pb

ω_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 _K	Kα ₂	72,8049		59,44
	Kα ₁	74,97		100
	Kβ ₃	84,451	}	34,22
	Kβ ₁	84,937	}	
	Kβ ₅ ''	85,47	}	
	Kβ ₂	87,238	}	10,33
	Kβ ₄	87,58	}	
	KO _{2,3}	87,911	}	
	X _L	Lℓ	9,186	
Lα		10,4495 – 10,5512		
Lη		11,3495		
Lβ		12,1443 – 13,3763		
Lγ		14,3078 – 15,2169		

3.1.2 Auger Electrons

		Energy keV	Relative probability
Auger K			
	KLL	56,028 – 61,669	100
	KLX	68,181 – 74,969	55,8
	KXY	80,3 – 88,0	7,78
Auger L			
		5,33 – 15,82	

4 α Emissions

	Energy keV	Probability $\times 100$
$\alpha_{0,2}$	6568,4 (10)	0,523 (9)
$\alpha_{0,1}$	6891,2 (10)	0,541 (17)
$\alpha_{0,0}$	7450,2 (3)	98,936 (19)

5 Electron Emissions

		Energy keV	Electrons per 100 disint.
e _{AL}	(Pb)	5,33 - 15,82	0,01216 (17)
e _{AK}	(Pb)		0,00071 (8)
	KLL	56,028 - 61,669	}
	KLX	68,181 - 74,969	}
	KXY	80,3 - 88,0	}

6 Photon Emissions

6.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(Pb)	9,186 — 15,2169	0,00740 (16)	
XK α_2	(Pb)	72,8049	0,00535 (14)	} K α
XK α_1	(Pb)	74,97	0,00900 (24)	}
XK β_3	(Pb)	84,451	}	
XK β_1	(Pb)	84,937	}	0,00308 (10) K' β_1
XK β_5''	(Pb)	85,47	}	
XK β_2	(Pb)	87,238	}	
XK β_4	(Pb)	87,58	}	0,00093 (4) K' β_2
XKO _{2,3}	(Pb)	87,911	}	

6.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{2,1}(\text{Pb})$	328,2 (2)	0,0032 (11)
$\gamma_{1,0}(\text{Pb})$	569,65 (15)	0,534 (17)
$\gamma_{2,0}(\text{Pb})$	897,8 (2)	0,507 (9)

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