$^{210}_{84}\mathrm{Po}_{126}$

1 Decay Scheme

Po-210 disintegrates by alpha emission predominantly to the ground state level of Pb-206, with a very small branch to the 803-keV excited level (0.00124(4)%).

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

$T_{1/2}(^{210}\mathrm{Po}\ )$: 138,3763 (17) d
$Q^{\alpha}(^{210}\mathrm{Po}\ )$: 5407,45 (7) keV

2.1 α Transitions

	Energy (keV)	Probability (%)	F
$\alpha_{0,1}$	4604,40 (9)	0,00124 (4)	1,46
$\alpha_{0,0}$	5407,45 (7)	99,99876 (4)	1

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_K (10^{-3})	α_L (10^{-3})	α_M (10^{-3})	α_T (10^{-3})
$\gamma_{1,0}$(Pb)	803,052 (24)	0,00124 (4)	E2	8,03 (12)	1,742 (25)	0,419 (6)	10,32 (15)

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			
	$K\alpha_2$	72,805	59,5
	$K\alpha_1$	74,97	100
	$K\beta_3$	84,451	34,2
	$K\beta_1$	84,937	
	$K\beta_5''$	85,47	
	$K\beta_2$	87,238	10,3
	$K\beta_4$	87,58	
	$KO_{2,3}$	87,911	
X_L			
	$L\ell$	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 α Emissions

	Energy (keV)	Probability (%)
$\alpha_{0,1}$	4516,70 (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)	
XKα_2	(Pb)	72,805	0,00000277 (11)	Kα
XKα_1	(Pb)	74,97	0,00000466 (17)	Kα
XKβ_3	(Pb)	84,451	0,00000159 (7)	K$'\beta_1$
XKβ_1	(Pb)	84,937		K$'\beta_1$
XKβ''_5	(Pb)	85,47		K$'\beta_1$
XKβ_2	(Pb)	87,238	0,000000481 (21)	K$'\beta_2$
XKβ_4	(Pb)	87,58		K$'\beta_2$
XKO$_{2,3}$	(Pb)	87,911		K$'\beta_2$

5.2 Gamma Emissions

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{1,0}$(Pb)	803,052 (24)	0,00123 (4)

6 Main Production Modes

Ra – 226 decay chain

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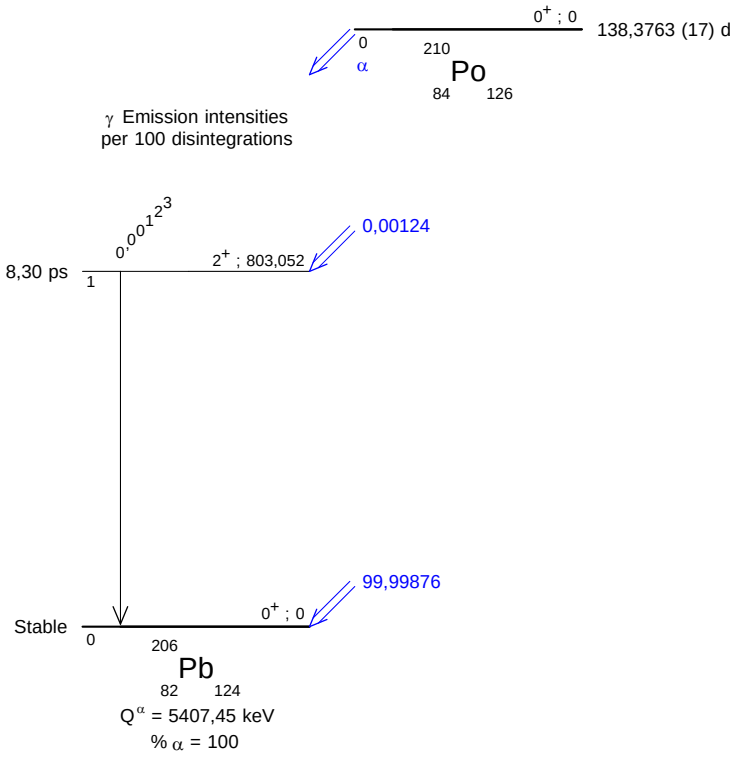
0+ ; 0
138,3763 (17) d
0
α
210
Po
84
126
γ Emission intensities
per 100 disintegrations
0
0
0
1
2
3
0,00124
8,30 ps
2+ ; 803,052
1
99,99876
Stable
0+ ; 0
0
206
Pb
82
124
Q α = 5407,45 keV
% α = 100