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$^{151}_{62}\mathrm{Sm}_{89}$

1 Decay Scheme

^{151}Sm disintegrates by beta minus emission mainly to the ground state of ^{151}Eu. The internal ionisation probability of the K shell following beta minus decay is P_K = 1,98 (23) $\times 10^{-4}$ %. The corresponding probability of the L shell is P_L = 30,8 (30) $\times 10^{-2}$ %.

Le ^{151}Sm *se désintègre par émission bêta moins principalement vers le niveau fondamental du* ^{151}Eu. *La probabilité d'ionisation interne de la couche K lors la désintégration est de* P_K = 1,98 (23) $\times 10^{-4}$ %. *La probabilité d'ionisation interne de la couche L est de* P_L = 30,8 (30) $\times 10^{-2}$ %.

2 Nuclear Data

$T_{1/2}(^{151}\mathrm{Sm})$	:	94,7	(6)	a
$Q^-(^{151}\mathrm{Sm})$	:	76,43	(7)	keV

2.1 β^- Transitions

	Energy (keV)	Probability (%)	Nature	log ft
$\beta^-_{0,1}$	54,89 (7)	0,89 (4)	1st Forbidden	9,22
$\beta^-_{0,0}$	76,43 (7)	99,11 (4)	1st Forbidden	7,61

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_L	α_M	α_N	α_O	α_T
$\gamma_{1,0}$(Eu)	21,541 (3)	0,889 (46)	M1+0,085(5)%E2	21,7 (4)	4,71 (8)	1,074 (18)	0,168 (3)	27,6 (5)

3 Atomic Data

3.1 Eu

ω_K : 0,929 (4)
$\bar{\omega}_L$: 0,168 (7)
n_{KL} : 0,853 (4)

3.1.1 X Radiations

		Energy (keV)	Relative probability
X_L		5,1751 - 7,791	100
	Lℓ	5,1751	1,16
	Lα	5,815 - 5,8461	28,36
	Lη	5,8149	0,61
	Lβ	6,4365 - 6,9193	57,59
	Lγ	7,2538 - 7,791	12,76

3.1.2 Auger Electrons

	Energy (keV)	Relative probability
Auger L	3,377 - 7,786	100

4 Electron Emissions

		Energy (keV)	Electrons (per 100 disint.)
e_{AL}	(Eu)	3,377 - 7,786	0,558 (21)
$ec_{1,0\ L}$	(Eu)	13,489 - 14,564	0,675 (35)
$ec_{1,0\ M}$	(Eu)	19,70 - 20,41	0,146 (7)
$\beta^-_{0,1}$	max: 54,89 (7) avg: 13,819 (18)		0,89 (4)
$\beta^-_{0,0}$	max: 76,43 (7) avg: 19,453 (19)		99,11 (4)

5 Photon Emissions

5.1 X-Ray Emissions

	Energy (keV)	Photons (per 100 disint.)
X_L (Eu)	5,1751 - 7,791	0,116 (4)

5.2 Gamma Emission

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{1,0}$(Eu)	21,541 (3)	0,0311 (15)

6 Main Production Modes

{ Fission product
{ Possible impurities: ^{153}Sm

{ ^{149}Sm(n,γ)^{151}Sm σ : 104 (5) barns
{ Possible impurities: ^{153}Sm

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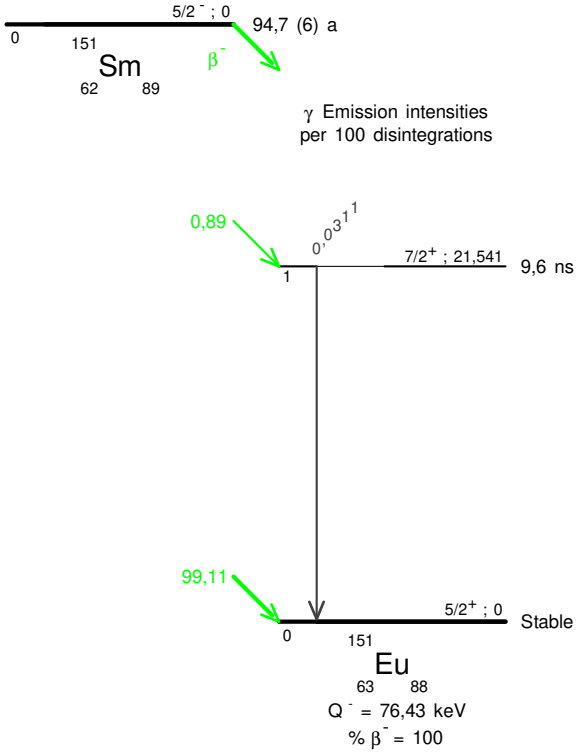
5/2⁻ ; 0
94,7 (6) a
0
151
Sm
62
89
β⁻
γ Emission intensities
per 100 disintegrations
0,89
0,03
1
0'
7/2⁺ ; 21,541
9,6 ns
1
99,11
5/2⁺ ; 0
Stable
0
151
Eu
63
88
Q⁻ = 76,43 keV
% β⁻ = 100