$^{132}_{52}\mathrm{Te}_{80}$

1 Decay Scheme

Te-132 decays solely by one single beta- emission to the 277.86-keV nuclear level of I-132 which undergoes immediate decay to the ground state by means of a cascade of four gamma transitions.
Le tellure 132 se désintègre par une transition bêta moins vers le niveau excité de 277 keV de l'iode 132. Le niveau fondamental de l'iode 132 est atteint par des transitions gamma en cascade.

2 Nuclear Data

$T_{1/2}(^{132}\mathrm{Te})$	:	3,230	(13)	d
$T_{1/2}(^{132}\mathrm{I})$	:	2,295	(13)	h
$Q^-(^{132}\mathrm{Te})$	:	518	(4)	keV

2.1 β^- Transitions

	Energy keV	Probability × 100	Nature	lg ft
$\beta^-_{0,5}$	240 (4)	100	allowed	4,85

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{2,0}$(I)	49,72 (1)	100	M1	4,83 (7)	0,638 (9)	0,1286 (18)	5,62 (8)
$\gamma_{4,2}$(I)	111,81 (8)	3,2 (3)	M1 + 25 % E2	0,562 (17)	0,115 (9)	0,0238 (18)	0,71 (3)
$\gamma_{5,4}$(I)	116,34 (13)	3,15 (12)	M1 + 22 % E2	0,489 (13)	0,093 (6)	0,0193 (13)	0,606 (20)
$\gamma_{5,2}$(I)	228,327 (3)	96,8 (2)	E2	0,0802 (12)	0,01507 (21)	0,00311 (5)	0,0990 (14)

3 Atomic Data

3.1 I

ω_K : 0,882 (4)
$\bar{\omega}_L$: 0,092 (4)
n_{KL} : 0,909 (4)

3.1.1 X Radiations

		Energy keV		Relative probability
X_K				
	$K\alpha_2$	28,3175		53,9
	$K\alpha_1$	28,6123		100
	$K\beta_3$	32,2397	}	
	$K\beta_1$	32,2951	}	
	$K\beta_5''$	32,544	}	28,8
	$K\beta_2$	33,042	}	
	$K\beta_4$	33,12	}	6,52
	$KO_{2,3}$	33,166	}	
X_L				
	$L\ell$	3,485		
	$L\alpha$	3,926 – 3,938		
	$L\eta$	3,78		
	$L\beta$	4,221 – 4,508		
	$L\gamma$	4,802 – 5,065		

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	22,659 – 23,909	100
KLX	26,853 – 28,609	45,9
KXY	31,02 – 33,16	5,27
Auger L	2,37 – 3,88	1219

4 Electron Emissions

		Energy keV	Electrons per 100 disint.
e_{AL}	(I)	2,37 - 3,88	78,0 (13)
e_{AK}	(I)		9,7 (3)
	KLL	22,659 - 23,909	}
	KLX	26,853 - 28,609	}
	KXY	31,02 - 33,16	}
$ec_{2,0\ K}$	(I)	16,55 (1)	72,9 (18)
$ec_{2,0\ L}$	(I)	44,53 - 45,16	9,63 (23)
$ec_{2,0\ M}$	(I)	48,65 - 49,10	1,94 (5)
$ec_{2,0\ N}$	(I)	49,53 - 49,67	0,393 (10)
$ec_{4,2\ K}$	(I)	78,64 (8)	1,04 (11)
$ec_{5,4\ K}$	(I)	83,17 (13)	0,96 (4)
$ec_{4,2\ L}$	(I)	106,62 - 107,25	0,21 (3)
$ec_{5,4\ L}$	(I)	111,15 - 111,78	0,183 (13)
$ec_{5,2\ K}$	(I)	195,158 (3)	7,07 (11)
$ec_{5,2\ L}$	(I)	223,139 - 223,770	1,328 (19)
$ec_{5,2\ M}$	(I)	227,255 - 227,708	0,274 (4)
$ec_{5,2\ N}$	(I)	228,141 - 228,277	0,0539 (8)
$\beta^-_{0,5}$	max:	240 (4)	100
$\beta^-_{0,5}$	avg:	67,0 (13)	

5 Photon Emissions

5.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(I)	3,485 — 5,065	7,9 (4)	
$XK\alpha_2$	(I)	28,3175	20,6 (5)	} Kα
$XK\alpha_1$	(I)	28,6123	38,2 (9)	}
$XK\beta_3$	(I)	32,2397 }		
$XK\beta_1$	(I)	32,2951 }	11,0 (3)	$K'\beta_1$
$XK\beta''_5$	(I)	32,544 }		

		Energy keV		Photons per 100 disint.	
$XK\beta_2$	(I)	33,042	}		
$XK\beta_4$	(I)	33,12	}	2,49 (9)	$K'\beta_2$
$XKO_{2,3}$	(I)	33,166	}		

5.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{2,0}$(I)	49,72 (1)	15,1 (3)
$\gamma_{4,2}$(I)	111,81 (8)	1,85 (18)
$\gamma_{5,4}$(I)	116,34 (13)	1,97 (7)
$\gamma_{5,2}$(I)	228,327 (3)	88,12 (13)

6 Main Production Modes

U − 238(n,f)
Cf − 252(sf)

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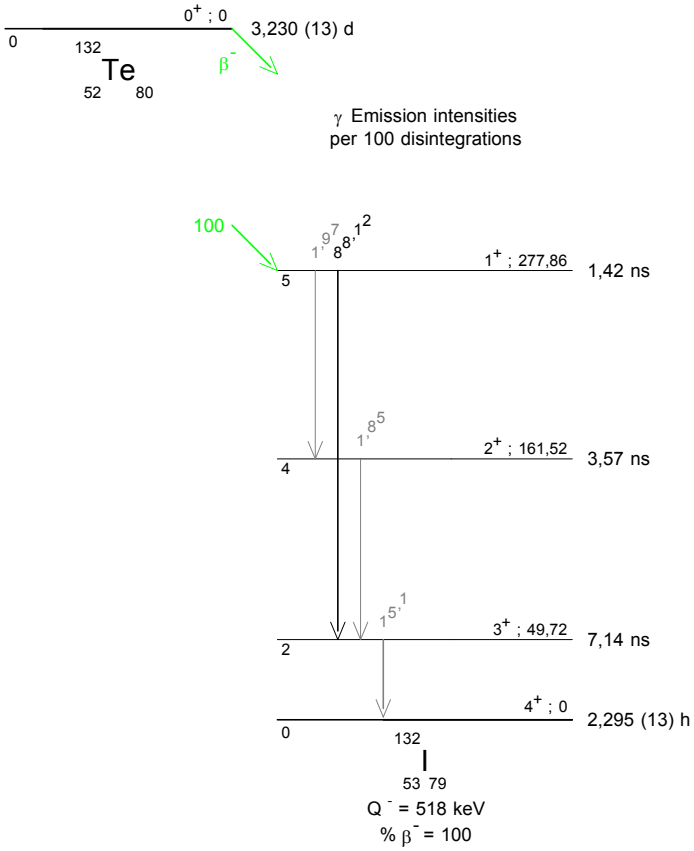
0+ ; 0
3,230 (13) d
0
132
Te
52 80
β-
γ Emission intensities
per 100 disintegrations
100
1,97 1,88 1,12
1+ ; 277,86
1,42 ns
5
1,85
2+ ; 161,52
3,57 ns
4
1,51
3+ ; 49,72
7,14 ns
2
4+ ; 0
2,295 (13) h
0
132
I
53 79
Q - = 518 keV
% β- = 100