^{152}Yb IT decay 1982No13,1995Ni10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 114, 1497 (2013)	31-Aug-2013

Parent: ^{152}Yb: E=2743.8; J$^{\pi}$=(10^{+}); $T_{1/2}$=30 μs *1*; %IT decay=100.0

^{152}Yb Levels

Production: ^{96}Ru(^{58}Ni,2p), E=238 to 250 MeV; excit (1982No13); E=250 MeV (1995Ni10).

E(level)	J$^{\pi}$ †	$T_{1/2}$	Comments
0.0	0^{+}		
1531.2	2^{+}		
1889.7	(3)$^{-}$		
2202.0	(5)$^{-}$		
2549.4	(7)$^{-}$		
2689.2	(8)$^{+}$		
2743.8	(10^{+})	30 μs *1*	$T_{1/2}$: from 1995Ni10; other 39 μs *5* (1982No13).

† From Adopted Levels.

γ(^{152}Yb)

Iγ normalization: From Iγ(1531γ)=100.
Measured: γ, $\gamma\gamma$, γ(t) (1982No13); γ, ce, $\gamma\gamma$, γce (1995Ni10).
All γ's are in coin with Yb K x ray (1982No13).

E_{γ} †	I_{γ} †‡	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.	α #	Comments
54.6 *10*		2743.8	(10^{+})	2689.2	(8)$^{+}$	(E2)	39 *4*	α(L)=30 *3*; α(M)=7.3 *7*; α(N+..)=1.86 *18* α(N)=1.67 *16*; α(O)=0.188 *18*; α(P)=0.000163 *8* E_{γ}: deduced from ce(L) and ce(M) peaks (1995Ni10). Mult.: α(exp)>23 (1995Ni10) from the ce intensities and an upper limit on Iγ. This limit rules out E1 and M1. RUL limits mult to Q, and systematics suggest that mult=E2 is more likely than mult=M2.
139.8	54 *5*	2689.2	(8)$^{+}$	2549.4	(7)$^{-}$	E1	0.1414	α(K)=0.1177 *17*; α(L)=0.0185 *3*; α(M)=0.00413 *6*; α(N+..)=0.001088 *16* α(N)=0.000955 *14*; α(O)=0.0001280 *18*; α(P)=5.44$\times10^{-6}$ *8* Mult.: α(K)exp=0.19 *4*, α(L)exp=0.018 *8* (1995Ni10).
312.3	86 *8*	2202.0	(5)$^{-}$	1889.7	(3)$^{-}$	E2	0.0655	α(K)=0.0472 *7*; α(L)=0.01408 *20*; α(M)=0.00334 *5*; α(N+..)=0.000869 *13* α(N)=0.000770 *11*; α(O)=9.71$\times10^{-5}$ *14*; α(P)=2.43$\times10^{-6}$ *4* Mult.: α(K)exp=0.040 *12*, α(L)exp=0.010 *4* (1995Ni10).
347.4	78 *7*	2549.4	(7)$^{-}$	2202.0	(5)$^{-}$	E2	0.0479	α(K)=0.0354 *5*; α(L)=0.00963 *14*; α(M)=0.00227 *4*; α(N+..)=0.000593 *9* α(N)=0.000525 *8*; α(O)=6.70$\times10^{-5}$ *10*; α(P)=1.86$\times10^{-6}$ *3* Mult.: α(K)exp=0.029 *9* (1995Ni10).
358.5	95 *9*	1889.7	(3)$^{-}$	1531.2	2^{+}	E1	0.0130	α(K)=0.01092 *16*; α(L)=0.001591 *23*; α(M)=0.000354 *5*; α(N+..)=9.45$\times10^{-5}$ *14*

Continued on next page (footnotes at end of table)

^{152}Yb IT decay 1982No13,1995Ni10 (continued)

$\gamma(^{152}$Yb) (continued)

E_γ †	I_γ †‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.	α #	Comments
								α(N)=8.25×10^{-5} *12*; α(O)=1.149×10^{-5} *16*; α(P)=5.62×10^{-7} *8* Mult.: α(K)exp=0.0074 *23* (1995Ni10).
1531.2	100	1531.2	2$^+$	0.0	0$^+$	[E2]	0.00169	α(K)=0.001360 *19*; α(L)=0.000197 *3*; α(M)=4.40×10^{-5} *7*; α(N+..)=9.31×10^{-5} *13* α(N)=1.030×10^{-5} *15*; α(O)=1.464×10^{-6} *21*; α(P)=7.65×10^{-8} *11*; α(IPF)=8.13×10^{-5} *12* α: Value includes internal pair formation.

† From 1982No13, unless otherwise noted.
‡ Absolute intensity per 100 decays.
# Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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