^{137}Ba IT decay (2.552 min)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)	1-Oct-2006

Parent: ^{137}Ba: E=661.659 *3*; J$^\pi$=11/2$^-$; T$_{1/2}$=2.552 min *1*; %IT decay=100.0
Measured: γ, ce, double-decay processes.

^{137}Ba Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$
0.0	3/2$^+$	stable
661.659 *3*	11/2$^-$	2.552 min *1*

† Adopted values.

γ(^{137}Ba)

E$_\gamma$	I$_\gamma^\dagger$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	$\alpha^\ddagger$	I$_{(\gamma+ce)}^\dagger$	Comments
661.657 *3*	89.90 *14*	661.659	11/2$^-$	0.0	3/2$^+$	M4	0.1124	100	B(M4)(W.u.)=2.726 *9* ce(K)/(γ+ce)=0.0822 *11*; ce(L)/(γ+ce)=0.01482 *21*; ce(M)/(γ+ce)=0.00317 *5*; ce(N+)/(γ+ce)=0.000791 *12* ce(N)/(γ+ce)=0.000682 *10*; ce(O)/(γ+ce)=0.0001020 *15*; ce(P)/(γ+ce)=6.49×10^{-6} *10* E$_\gamma$: from 1995HeZZ. α: evaluated by 1991BaZS based on the following values: 0.1083 *3* (1983Be18), 0.1100 *3* (1975Go28), 0.1105 *4* (1973LeZJ), 0.1124 *6* (1969Ha05), 0.1100 *11* (1965Me03). α(K)exp=0.0904 *5* (1992Ne04). Also α(K)exp: 0.0900 *6* from 1992Ne04 given as weighted mean of α(K)exp=0.0901 *4* (1973LeZJ), 0.0922 *22* (1973Wi10), 0.0894 *10* (1965Me03). Others: α(K)exp=0.0881 *2* (1983Be18), 0.0888 *7* (1978Ch22), 0.0916 *4* (1969Ha05). Mult.: K:L1:L2:L3=1000 *20*:151 *4*:22 *1*:19 *1* (1962Ge09), K/L=5.29 *23*, L1:L2:L3=341 *10*:100:50 *3* (1967Ka24). I$_\gamma$: from I(γ+ce)/(1+α). Double-decay processes: see 1971Lj02, 1971Lj01, 1971Po04, 1969Lj01. Probability ratio of two-ce(K)/one-ce(K)=8×10^{-5} *4* (1999Vi15).

† 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.

^{137}**Ba IT decay (2.552 min)**

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0

661.657 M4 100

11/2$^-$ 661.659   2.552 min *I*

3/2$^+$ 0.0   stable

$^{137}_{56}$Ba$_{81}$