^{134}Cs β^- decay (2.0652 y)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 103, 1 (2004)	31-Jul-2004

Parent: ^{134}Cs: E=0.0; $J^\pi=4^+$; $T_{1/2}$=2.0652 y *4*; Q(β^-)=2058.7 *4*; %β^- decay=99.9997 *1*

1998Ga24: Measured electron-γ correlation, α(K)exp.

^{134}Ba Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+	stable	
604.7230 *19*	2^+		
1167.970 *3*	2^+		
1400.591 *4*	4^+	0.83 ps *9*	$T_{1/2}$: adopted value; $T_{1/2}$=8.7 ps *17* from βce(t) (1975Bu16).
1643.335 *4*	3^+	78 ps *21*	$T_{1/2}$: from $\beta\gamma$(t) (1975Bu16).
1969.923 *4*	4^+		

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(88.8 *4*)	1969.923	27.27 *3*	6.490 *6*	av Eβ=23.12 Iβ^-: 27% 2 (1968Hs01).
(415.4 *4*)	1643.335	2.499 *9*	9.6528 *21*	av Eβ=123.49 Iβ^-: 3.0% 5 (1968Hs01).
658.0 *4*	1400.591	70.17 *7*	8.8849 *11*	av Eβ=210.20 E(decay): from 1968Hs01. Other: 661.9 *5* keV (1964Va06). Iβ^-: 70% 2 (1968Hs01).
(890.7 *4*)	1167.970	0.0		Iβ^-: <0.045% (1964Va06), 0.045% 15 (1968Hs01) and≤0 from the intensity balance.
(1454.0 *4*)	604.7230	0.07 *13*	13.1 *8*	av Eβ=534.57 Iβ^-: <0.005% (1956Wo09,1964Va06), 0.008% 4 (1968Hs01), and<0.07% from the intensity balance.

[†] Absolute intensity per 100 decays.

^{134}Cs β^- decay (2.0652 y) (continued)

$\gamma(^{134}Ba)$

Iγ normalization: From Σ Iγ(1+α)(g.s.)=100.
I(Kα x ray)=0.722 *15*, I(Kβ$_1$ x ray)=0.139 *4*, I(Kβ$_2$ x ray)=0.013 *4* (1988Ch44).
α(K)exp=ce(K)/Iγ normalized to α(K)(604.7)=0.00503 (E2 1968Ha53).
ce(K): averaged from 1965Br20 and 1990Ch47. Others: 1968Na11, 1990Ma29.
γγ(θ): 1955St62, 1963Se09, 1967Ra18, 1969Ta12, 1970Ho06, 1970Si04, 1972Be45, 1973Ga10, 1980Ru03, 1990Ch47.

E_γ [†]	I_γ [‡@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[&]	Comments
232.6[a]	<0.0011	1400.591	4$^+$	1167.970	2$^+$	[E2]		0.104	I_γ: from 1987Wa28. Iγ<0.0002 from 1975Va12.
242.738 *8*	0.0272 *30*	1643.335	3$^+$	1400.591	4$^+$	(M1+E2)		0.088 *2*	
326.589 *13*	0.0162 *10*	1969.923	4$^+$	1643.335	3$^+$	[M1+E2]		0.037 *2*	
475.365 *2*	1.477 *7*	1643.335	3$^+$	1167.970	2$^+$	M1+E2	−6.0 *35*	0.01139 *4*	α(K)=0.00955 *4*; α(L)=0.00146; α(M)=0.00030 Mult.: from 1990Ch47.
563.246 *5*	8.338 *14*	1167.970	2$^+$	604.7230	2$^+$	M1+E2	−7.4 *9*	0.00727	α(K)=0.00609; α(L)=0.00089 Mult.: From 1972Be45. If one assumes E0 and E2 components, then the ratio of E0 to E2 intensities is estimated to be≤0.06 (1998Ga24).
569.331 *3*	15.373 *17*	1969.923	4$^+$	1400.591	4$^+$	M1+E2	+0.28 *3*	0.00956	α(K)=0.00816; α(L)=0.00105 Mult.: from 1990Ch47. Other +0.29 *2* (1972Be45), +0.278 *19* (1970Ho06).
604.721 *2*	97.62 *11*	604.7230	2$^+$	0.0	0$^+$	E2		0.00599	α(K)=0.00503; α(L)=0.00072 Mult.: α(L)exp=0.00070 *4*.
795.864 *4*	85.46 *6*	1400.591	4$^+$	604.7230	2$^+$	E2		0.00305	α(K)=0.00258; α(L)=0.00035
801.953 *4*	8.688 *16*	1969.923	4$^+$	1167.970	2$^+$	E2		0.00300	α(K)=0.00254; α(L)=0.00034
1038.610 *7*	0.990 *3*	1643.335	3$^+$	604.7230	2$^+$	M1+E2	+0.76 *+10−18*	0.00208 *9*	α(K)=0.00178 *8*; α(L)=0.00023 Mult.: from 1990Ch47. Other: +1.85 *15* (1972Be45), +0.51 *6* (1970Ho06), +0.85 *12* (1969Ta12).
1167.968 *5*	1.790 *5*	1167.970	2$^+$	0.0	0$^+$	E2		0.00131	α(K)=0.00112; α(L)=0.00014
1365.185 *7*	3.017 *8*	1969.923	4$^+$	604.7230	2$^+$	E2		0.00096	α(K)=0.00082; α(L)=0.00010

[†] Averaged from 1987Wa28 and 1985GoZK. Other measurements: 1967Ra10, 1975Va12, 1975Al21, 1976Gr11. See 1990ChZB, 1991BaZS.
[‡] Weighted average from 2002Mi06, 1988Ch44, 1987Wa28, 1980Yo05, 1975Va12 and the 1976 Debertin data as listed in 2002Mi06.
[#] From α(K)exp and γγ(θ).
[@] For absolute intensity per 100 decays, multiply by 0.999997 *1*.
[&] 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.
[a] Placement of transition in the level scheme is uncertain.

$^{134}_{56}Ba_{78}$-2

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Decay Scheme

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