^{130}Cs ε decay (29.21 min) 1973Ho25

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

Parent: ^{130}Cs: E=0.0; $J^\pi=1^+$; $T_{1/2}$=29.21 min *4*; Q(ε)=2979 *8*; %ε+%$β^+$ decay=98.4
1973Ho25: measured Eγ, Iγ, γγ.
$β$: 1975We23, 1952Sm41.
ε(K)/$β^+$=1.079 *22* (1981Ha09).
E0 transitions: 1973Ba77.
Others: 1973GrXX, 1968Fe06, 1967Wa11, 1966Gf01, 1958Ni27, 1954Mi16, 1950Fi16.

^{130}Xe Levels

E(level)†	J^π‡	Comments
0.0	0^+	
536.95 *18*	2^+	
1122.36 *16*	2^+	
1793.7 *3*	0^+	B(E0)/B(E2)=6 *3* (1974BaZN).
2017.11 *22*	0^+	B(E0)/B(E2)=100 *50* (1973Ba77,1974BaZN).
2151.00 *21*	(2^+)	
2223.4 *3*		
2243.0 *3*		
2386.3 *3*		
2494.9 *5*		
2503.4 *3*	1,2	
2533.3 *4*		
2629.4? *6*		

† From least-squares fit to Eγ′s.
‡ From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	I$β^+$ †	Iε†	Log *ft*	I(ε+$β^+$)†	Comments
(350 *8*)	2629.4?		0.013 *7*	6.7 *3*	0.013 *7*	εK=0.8335; εL=0.1303 *5*; εM+=0.03619 *16*
(446 *8*)	2533.3		0.17 *4*	5.9 *1*	0.17 *4*	εK=0.8391; εL=0.1261 *3*; εM+=0.03481 *9*
(476 *8*)	2503.4		0.018 *7*	6.9 *2*	0.018 *7*	εK=0.8404; εL=0.12511 *24*; εM+=0.03451 *8*
(484 *8*)	2494.9		0.017 *8*	6.9 *2*	0.017 *8*	εK=0.8407; εL=0.12487 *23*; εM+=0.03443 *8*
(593 *8*)	2386.3		0.069 *13*	6.5 *1*	0.069 *13*	εK=0.8440; εL=0.12240 *15*; εM+=0.03364 *5*
(736 *8*)	2243.0		0.14 *2*	6.4 *1*	0.14 *2*	εK=0.8467; εL=0.1203; εM+=0.03298
(756 *8*)	2223.4		0.19 *3*	6.3 *1*	0.19 *3*	εK=0.8470; εL=0.1201; εM+=0.03291
(828 *8*)	2151.00		0.29 *5*	6.2 *1*	0.29 *5*	εK=0.8479; εL=0.1194; εM+=0.03268
(962 *8*)	2017.11		0.41 *6*	6.2 *1*	0.41 *6*	εK=0.8493; εL=0.1184; εM+=0.03235
(1185 *8*)	1793.7		0.09 *2*	7.0 *1*	0.09 *2*	εK=0.8508; εL=0.1172; εM+=0.03197
(1857 *8*)	1122.36	0.004 *3*	0.08 *7*	7.5 *4*	0.08 *7*	av Eβ=378 *4*; εK=0.8131 *13*; εL=0.10995 *19*; εM+=0.02992 *6*
(2442 *8*)	536.95	0.58 *12*	1.9 *4*	6.3 *1*	2.5 *5*	av Eβ=637 *4*; εK=0.657 *3*; εL=0.0882 *4*; εM+=0.02397 *11*
(2979 *8*)	0.0	43.0 *5*	51.5 *5*	5.073 *6*	94.5 *6*	av Eβ=879 *4*; εK=0.466 *3*; εL=0.0623 *4*; εM+=0.01692 *10* ε(K)/$β^+$=1.025 *22* (1981Ha09). Eβ: 1950 *20* (1975We23), 1970 (1952Sm41).

† Absolute intensity per 100 decays.

^{130}Cs ε decay (29.21 min) 1973Ho25 (continued)

γ(^{130}Xe)

Iγ normalization: based on I(ε+β$^+$)=96.0% 6 to g.s. calculated by 1981Ha09 from Iγ(536.95)/I(γ$^±$)=0.0466 *8*, I(γ+ce) imbalance at each level and theoretical ε/β$^+$ ratios.

E_γ	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	$I_{(\gamma+ce)}$[‡]	Comments
536.1 *3*	100 *10*	536.95	2$^+$	0.0	0$^+$			
586.1 *3*	12.2 *12*	1122.36	2$^+$	536.95	2$^+$			
671.9 *5*	0.32 *16*	1793.7	0$^+$	1122.36	2$^+$			
894.5 *2*	10.1 *10*	2017.11	0$^+$	1122.36	2$^+$			
1028.6 *3*	0.45 *20*	2151.00	(2$^+$)	1122.36	2$^+$			
1122.2 *2*	1.9 *4*	1122.36	2$^+$	0.0	0$^+$			
1257.5 *3*	2.0 *4*	1793.7	0$^+$	536.95	2$^+$			
1263.8 *3*	0.98 *20*	2386.3		1122.36	2$^+$			
1380.7 *4*	0.18 *9*	2503.4	1,2	1122.36	2$^+$			
1481.8 *3*	0.61 *12*	2017.11	0$^+$	536.95	2$^+$			
1615.0 *2*	6.7 *7*	2151.00	(2$^+$)	536.95	2$^+$			
1687.4 *2*	5.0 *5*	2223.4		536.95	2$^+$			
1707.0 *2*	3.6 *4*	2243.0		536.95	2$^+$			
1794		1793.7	0$^+$	0.0	0$^+$	E0	0.00025	Mult.: from 1974BaZN.
1850.5 *3*	0.81 *16*	2386.3		536.95	2$^+$			
1958.9 *4*	0.43 *20*	2494.9		536.95	2$^+$			
1967.4 *5*	0.24 *12*	2503.4	1,2	536.95	2$^+$			
1997.3 *3*	4.3 *9*	2533.3		536.95	2$^+$			
2016		2017.11	0$^+$	0.0	0$^+$	E0	0.004	Mult.: from 1973Ba77, 1974BaZN; I(ce(K))/Iβ$^+$=4×10^{-5} *2*, α(K)exp≥0.6.
2093.4 *5*	0.34 *17*	2629.4?		536.95	2$^+$			
2151.2 *4*	0.31 *15*	2151.00	(2$^+$)	0.0	0$^+$			
2503.6 *4*	0.05 *3*	2503.4	1,2	0.0	0$^+$			

[†] For absolute intensity per 100 decays, multiply by 0.038 *4*.
[‡] For absolute intensity per 100 decays, multiply by 0.984.

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Decay Scheme

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

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence
- Coincidence (Uncertain)