Adopted Levels, Gammas

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

Q(β^-)=4778 (syst) *201*; S(n)=5827 (syst) *201*; S(p)=12959 (syst) *479*; Q(α)=−3812 (syst) *210* 2017Wa10
S(2n)=10276 (syst) *201*; S(2p)=23658 (syst) *479* 2017Wa10
Additional information 1.
Assignment: ^{235}U(n,F), ion chem, ms; detection of Pr K x ray (1990Ta07).
All excited state data are from ^{252}Cf SF decay.
The 3.1-S activity previously assigned to ^{152}Ce by 1983Hi05 is now believed to belong to ^{152}Pr (1988Ka14).

^{152}Ce Levels

Calculations:
Emission of ^{20}O from ^{152}Ce (1996Ku05).
Equilibrium shape (1984Na22).

E(level)	J$^\pi$†	$T_{1/2}$	Comments
0.0‡	0^+	1.4 s *2*	%β^-=100 $T_{1/2}$: from 1990Ta07. Other: 0.8 s *3* (1991AyZY).
81.2‡ *5*	2^+	2.5 ns	
264.0‡ *7*	4^+		
538.6‡ *9*	6^+		
894.2‡ *11*	8^+		
1268.6# *10*	(7^-)		
1320.6‡ *11*	10^+		
1564.9# *11*	(9^-)		
1808.2‡ *11*	12^+		
1936.9# *11*	(11^-)		
2346.7‡ *13*	14^+		
2380.8# *12*	(13^-)		
2924.9‡ *14*	16^+		

† See arguments in ^{252}Cf SF decay.
‡ Band(A): ΔJ=2 yrast band.
# Band(B): ΔJ=2 negative parity band.

$\gamma(^{152}Ce)$

E_i(level)	J_i^π	E_γ	I_γ†	E_f	J_f^π	Mult.	α‡	Comments
81.2	2^+	81.2 *5*		0.0	0^+	[E2]	4.35	B(E2)(W.u.)=249
264.0	4^+	182.8 *5*		81.2	2^+			
538.6	6^+	274.6 *5*		264.0	4^+			
894.2	8^+	355.6		538.6	6^+			
1268.6	(7^-)	374.4 *5*	5.3 *9*	894.2	8^+			
		730.0 *5*	100 *6*	538.6	6^+			
1320.6	10^+	426.4 *5*		894.2	8^+			
1564.9	(9^-)	244.3 *5*	14 *2*	1320.6	10^+			

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Adopted Levels, Gammas (continued)

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

E_i(level)	J_i^π	E_γ	I_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ	I_γ †	E_f	J_f^π
1564.9	(9^-)	296.3 *5*	82 *5*	1268.6	(7^-)	1936.9	(11^-)	616.3 *5*	63 *9*	1320.6	10^+
		670.7 *5*	100 *6*	894.2	8^+	2346.7	14^+	538.5 *5*		1808.2	12^+
1808.2	12^+	487.6 *5*		1320.6	10^+	2380.8	(13^-)	443.9 *5*	100 *17*	1936.9	(11^-)
1936.9	(11^-)	128.7 *5*	10 *4*	1808.2	12^+			572.6 *5*	66 *12*	1808.2	12^+
		372.0 *5*	100 *7*	1564.9	(9^-)	2924.9	16^+	578.2 *5*		2346.7	14^+

† Relative branching from each level.

‡ 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.

Adopted Levels, Gammas

Level Scheme

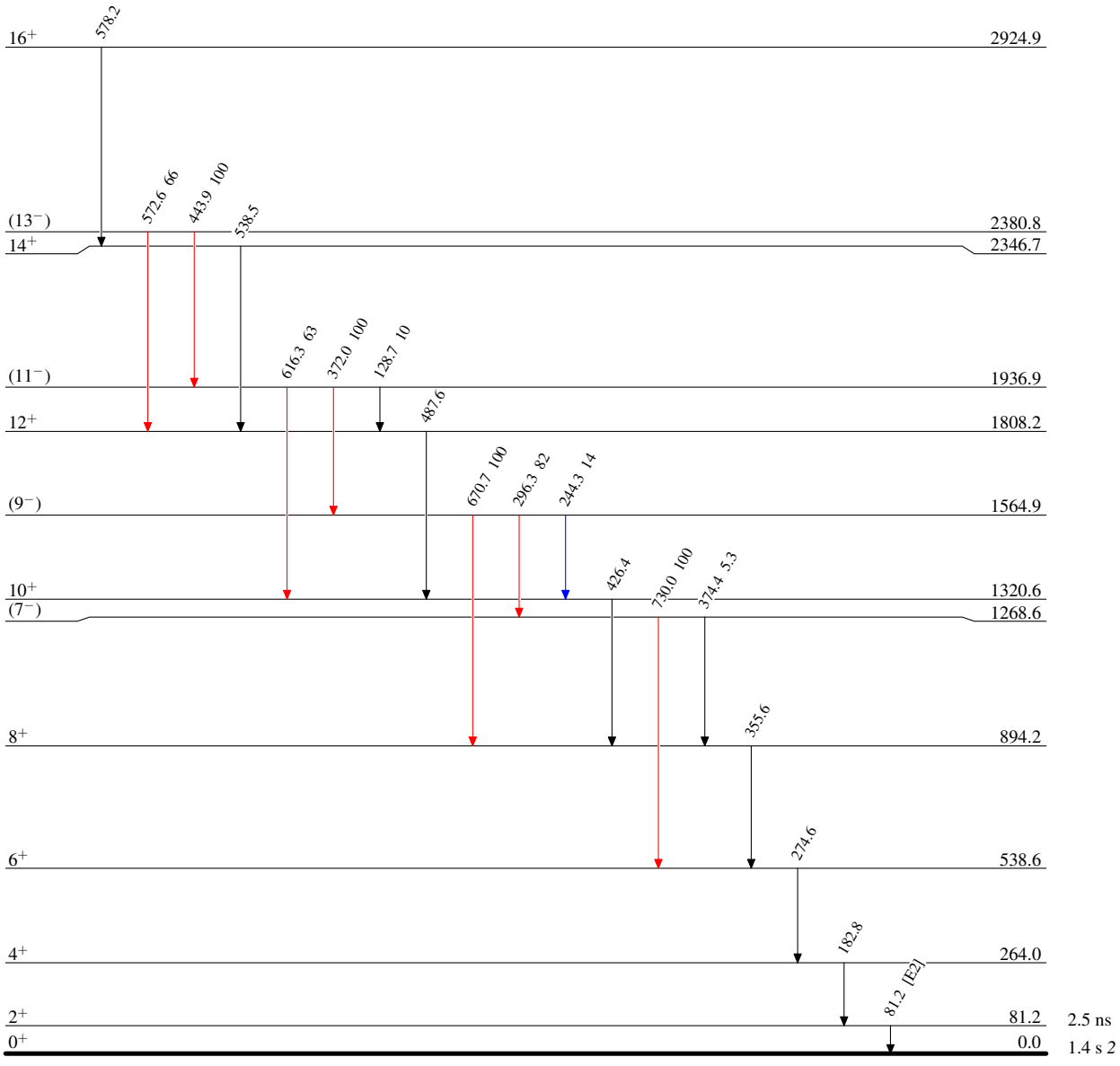
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

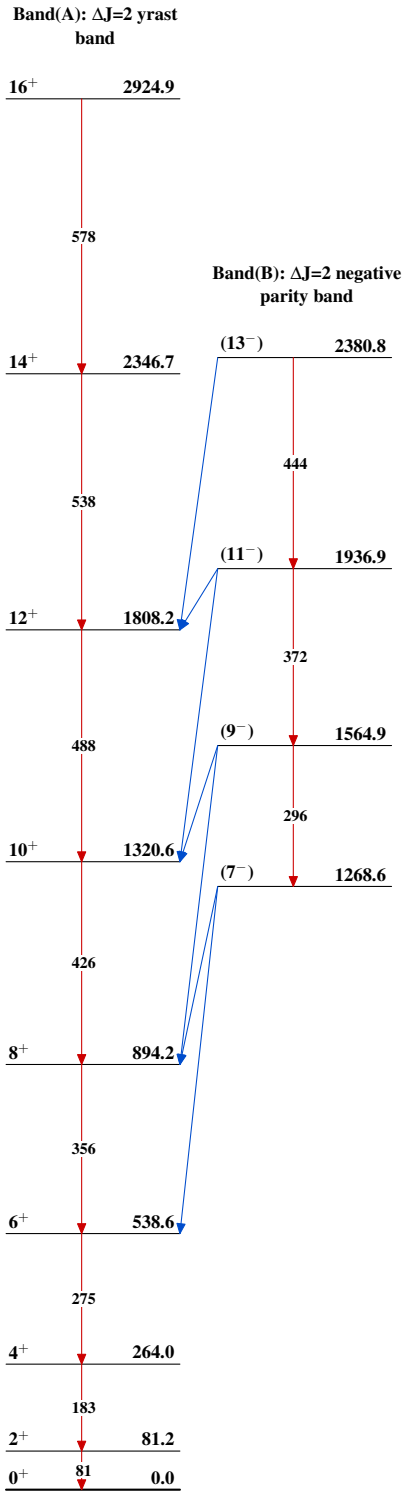
$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{152}_{58}Ce_{94}$

Adopted Levels, Gammas



$^{152}_{58}Ce_{94}$