^{252}Cf SF decay 2006Or05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

Parent: ^{252}Cf: E=0; $J^\pi=0^+$; $T_{1/2}$=2.645 y *8*; %SF decay=?

Measured γ, g factors by time integrated perturbed angular correlation functions. The γ rays were detected with Gammasphere array with 101 Compton-suppressed Ge detectors.

2006Or05 take level scheme from literature.

^{101}Zr Levels

E(level)	J^π	$T_{1/2}$[†]	Comments
0.0[‡]	$3/2^+$		
98.0[‡]	$5/2^+$	0.62 ns *21*	g=+0.047 *26* (2006Or05) g: from (134γ)(98γ)(θ) and (223γ)(98γ)(θ). g_K=−0.59 *15*, g_R=+0.26 *4*; assuming Q_0=4.1 *2*.
216.8[@]	$5/2^-$	0.33 ns *12*	g=−0.19 *10* (2006Or05) g: from (104γ)(217γ)(θ). g_K=−0.36 *11*, g_R=+0.23 *10*; assuming Q_0=3.9 *3*.
231.9[‡]	$7/2^+$	<0.007 ns	g=+0.17 *14* (2006Or05) g: from (177γ)[134γ](98γ)(θ), (177γ)(134γ)(θ) and (379γ)(134γ)(θ).
320.9[@]	$7/2^-$	0.27 ns *13*	g=−0.039 *32* (2006Or05) g: from (147γ)(104γ)(θ) and (147γ)(223γ)(θ). g_K=−0.39 *6*, g_R=+0.19 *4*; assuming Q_0=3.9 *3*.
408.9[‡]	$9/2^+$		
468.0[@]	$9/2^-$		
611.0[‡]	$11/2^+$		
619.9[@]	$11/2^-$		
858.6[‡]	$13/2^+$		
869.9[@]	$13/2^-$		
941.8[#]	$9/2^+$		
1048.1[@]	$15/2^-$		
1120.5[‡]	$15/2^+$		
1164.4[#]	$11/2^+$		
1424.2[#]	$13/2^+$		

[†] 2006Or05 take values from literature.
[‡] Band(A): ν3/2[411].
[#] Band(B): ν9/2[404].
[@] Band(C): ν5/2[532].

$\gamma(^{101}Zr)$

A_2 and A_4 are from 2006Or05.

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
98	98.0	$5/2^+$	0.0	$3/2^+$	M1+E2	−0.11 *4*	$(g_K-g_R)/Q_0$=−0.36 *14*.
104	320.9	$7/2^-$	216.8	$5/2^-$	M1+E2	−0.188 *21*	$(g_K-g_R)/Q_0$=−0.154 *17*. (104γ)(217γ)(θ): A_2=+0.136 *10*, A_4=−0.010 *15*.

Continued on next page (footnotes at end of table)

^{252}Cf SF decay 2006Or05 (continued)

$\gamma(^{101}Zr)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
119	216.8	$5/2^-$	98.0	$5/2^+$			
134	231.9	$7/2^+$	98.0	$5/2^+$	M1+E2	−0.25 *5*	$(g_K-g_R)/Q_0$=−0.147 *26*. (134γ)(98γ)(θ): A_2=+0.269 *12*, A_4=+0.018 *17*.
147	468.0	$9/2^-$	320.9	$7/2^-$	M1+E2	−0.216 *19*	$(g_K-g_R)/Q_0$=−0.144 *13*. (147γ)(104γ)(θ): A_2=+0.309 *13*, A_4=−0.024 *18*. (147γ)(223γ)(θ): A_2=+0.139 *19*, A_4=−0.028 *28*.
152	619.9	$11/2^-$	468.0	$9/2^-$	M1+E2	−0.183 *18*	$(g_K-g_R)/Q_0$=−0.143 *15*.
177	408.9	$9/2^+$	231.9	$7/2^+$	M1+E2	−0.133 *25*	$(g_K-g_R)/Q_0$=−0.28 *5*. (177γ)[134γ](98γ)(θ): A_2=+0.335 *15*, A_4=+0.033 *22*. (177γ)(134γ)(θ): A_2=+0.255 *14*, A_4=+0.022 *20*.
178	1048.1	$15/2^-$	869.9	$13/2^-$			
202	611.0	$11/2^+$	408.9	$9/2^+$			
217	216.8	$5/2^-$	0.0	$3/2^+$			
223	320.9	$7/2^-$	98.0	$5/2^+$			(223γ)(98γ)(θ): A_2=+0.119 *21*, A_4=−0.054 *32*.
223	1164.4	$11/2^+$	941.8	$9/2^+$			
232	231.9	$7/2^+$	0.0	$3/2^+$			
248	858.6	$13/2^+$	611.0	$11/2^+$			
250	869.9	$13/2^-$	619.9	$11/2^-$			
251	468.0	$9/2^-$	216.8	$5/2^-$			
260	1424.2	$13/2^+$	1164.4	$11/2^+$			
262	1120.5	$15/2^+$	858.6	$13/2^+$			
299	619.9	$11/2^-$	320.9	$7/2^-$			
311	408.9	$9/2^+$	98.0	$5/2^+$			
379	611.0	$11/2^+$	231.9	$7/2^+$			(379γ)(134γ)(θ): A_2=−0.175 *13*, A_4=−0.022 *18*.
402	869.9	$13/2^-$	468.0	$9/2^-$			
428	1048.1	$15/2^-$	619.9	$11/2^-$			
450	858.6	$13/2^+$	408.9	$9/2^+$			
510	1120.5	$15/2^+$	611.0	$11/2^+$			
710	941.8	$9/2^+$	231.9	$7/2^+$			
844	941.8	$9/2^+$	98.0	$5/2^+$			

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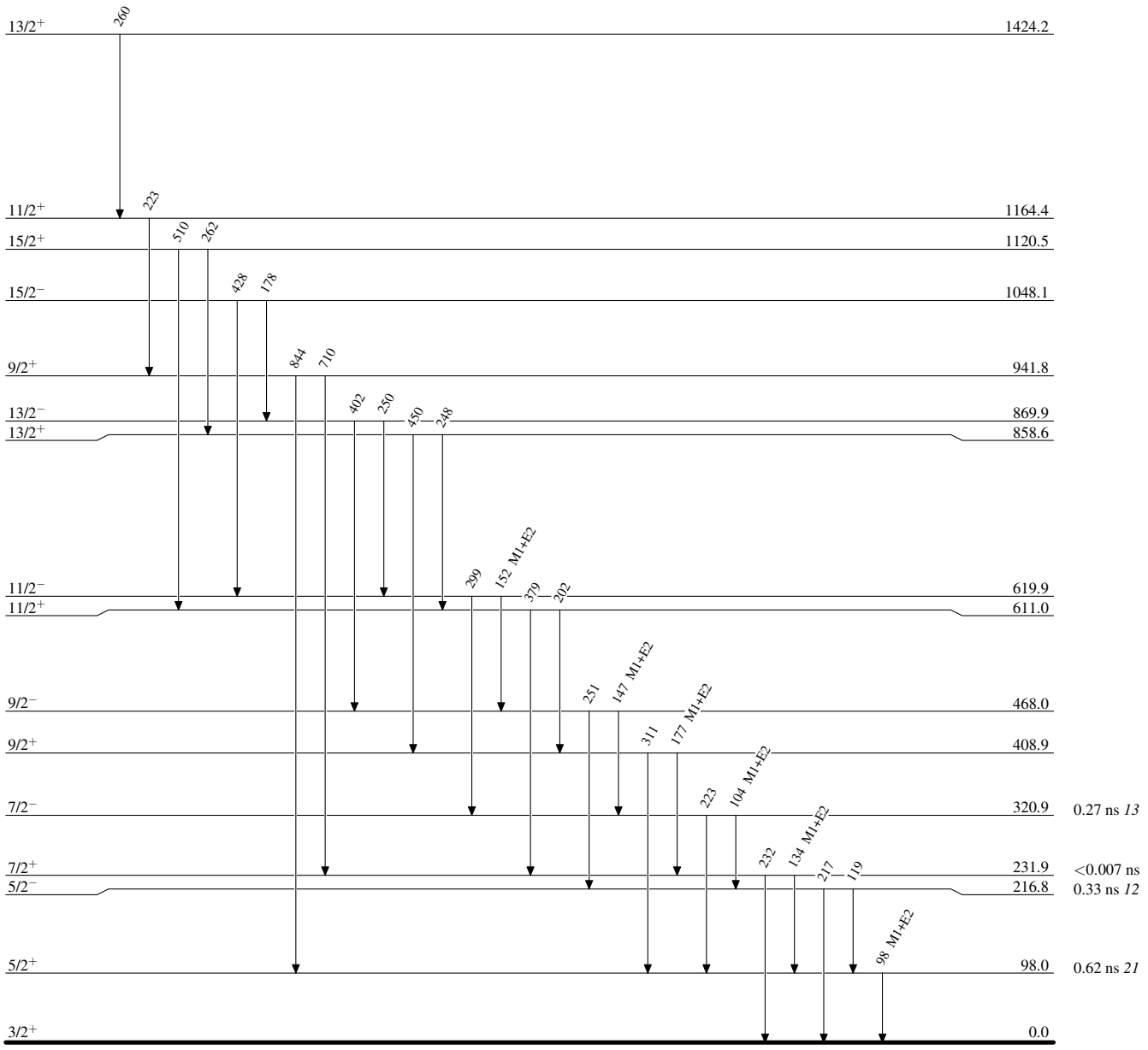
Level Scheme



$^{101}_{40}Zr_{61}$

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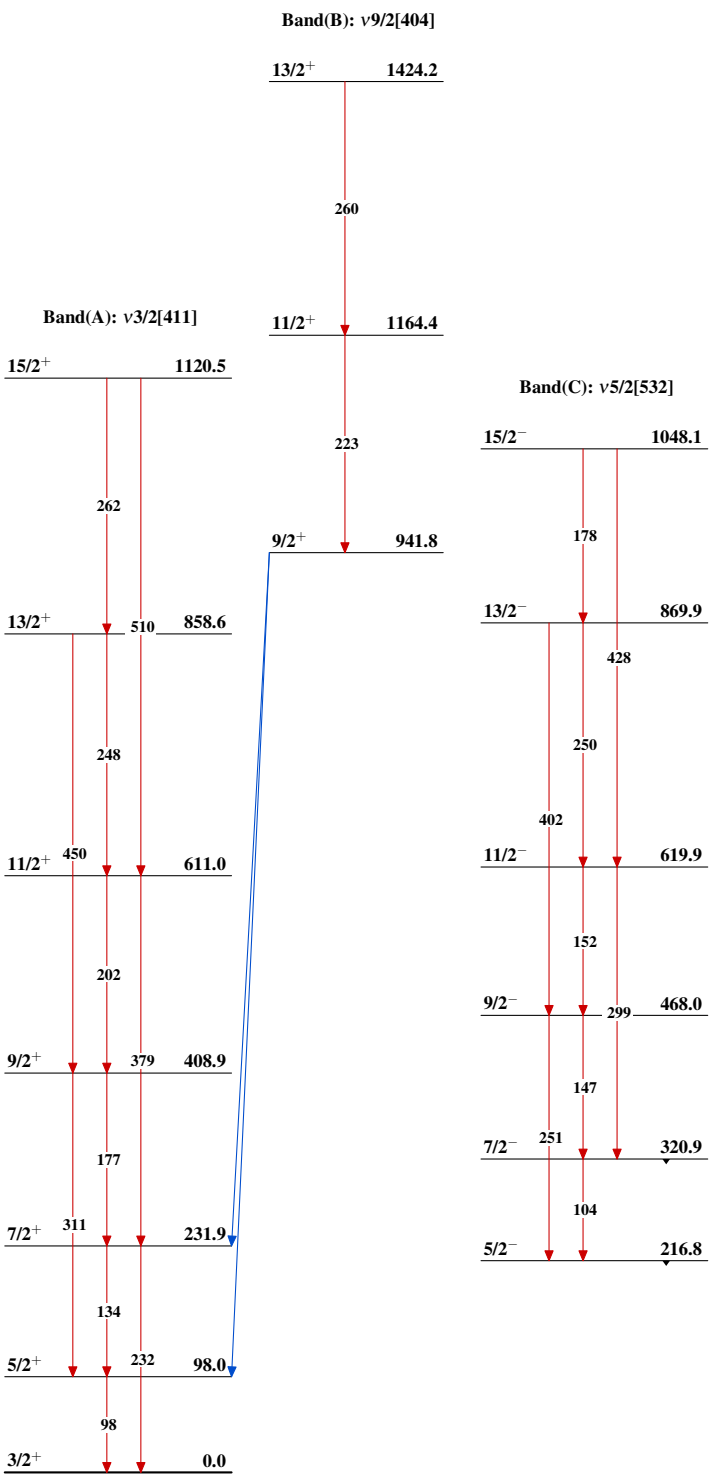

$^{101}_{40}Zr_{61}$