$^{186}W(^{11}B,5n\gamma)$ 2001Gu29

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 1871 (2012)	15-Jun-2012

E(^{11}B)=65 (pulsed), 84, 86 MeV; stacked foil target; Eurogam II array (30 large-volume Compton-suppressed Ge detectors At θ= 22°, 46°, 134° and 158° and 24 composite 'clover' type Ge detectors At $\theta\approx$90°); electron-γ spectrometer (Kleinheinz magnetic lens coupled to Si(Li) detector and 8 Compton-suppressed Ge detectors); measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$, γ(lin pol), I(ce) (E=30-350 keV), $T_{1/2}$ (from slope of time distribution of ce lines for the isomeric transitions).

2001Gu29 present a partial level scheme, omitting information for levels below the 432-keV 11$^-$ isomer.

^{192}Au Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[#]	Comments
0.0	1$^-$	4.94 h *9*	
31.7 *3*	2$^-$	0.69 ns *2*	
72.7 *4*	3$^-$		
135.5 *4*	5$^+$	29 ms	
225.0 *5*	6$^+$		
243.0 *5*	7$^+$		
371.9 *5*	8$^+$		
431.7[@] *6*	(11$^-$)	160 ms *20*	%IT=100 E(level),J$^\pi$: from Adopted Levels.
659.4[@] *7*	12$^-$		
839.4[&] *7*	13$^-$		
1099.0[@] *7*	14$^-$		
1547.3[&] *9*	15$^-$		
1819.8[@] *10*	16$^-$		
1963.1[a] *11*	15$^+$		
2176.2[a] *11*	17$^+$		
2315.9[&] *11*	17$^-$		
2431.3 *11*	18$^+$		
2516.6 *12*	18$^+$		
2585.0[b] *12*	20$^+$	5.4 ns *3*	$T_{1/2}$: from 341(ce(K))-γ (2001Gu29).
2608.8[@] *11*	18$^-$		
2642.3 *12*			J$^\pi$: 17$^+$,18$^+$,19$^+$ based on M1 211γ to 18$^+$ 2431.
3009.4 *11*	19$^-$		J$^\pi$: from table III of 2001Gu29; not shown In level scheme (fig. 6).
3046.0[b] *15*			
3593.0 *17*			
3786.0[b] *17*			
4638.0[b] *20*			

† From least-squares fit to Eγ, assigning 1 keV uncertainty to Eγ for which authors did not state an uncertainty.

‡ Authors suggested values.

\# From Adopted Levels, except As noted.

@ Band(a): $(\pi\ h_{11/2})^{-1}\otimes(\nu\ i_{13/2})^{-1}$), α=1.

& Band(A): $(\pi\ h_{11/2})^{-1}\otimes(\nu\ i_{13/2})^{-1}$), α=0.

a Band(B): π=+ band fragment.

b Band(C): band based on 20$^+$ isomer. 2-quasiparticle excitation from 11$^-$ isomer; likely high-spin 4-quasiparticle configurations are $(\pi\ h_{11/2})^{-1}\otimes(\nu\ i^{-2}_{13/2}h^{-1}_{9/2})$ and $(\pi\ h_{11/2})^{-1}\otimes(\nu\ i^{-2}_{13/2}f^{-1}_{7/2})$, probably the former (2001Gu29).

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γ(^{192}Au)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ	α[@]	Comments
(18.0 *7*)		243.0	7⁺	225.0	6⁺				
31.7 *3*		31.7	2⁻	0.0	1⁻	M1+E2[‡]	0.084[‡] *3*	46.2 *9*	
41.0 *3*		72.7	3⁻	31.7	2⁻	M1+E2[‡]	0.063[‡]	18.9 *5*	
59.8 *3*		431.7	(11⁻)	371.9	8⁺	E3[‡]		2.44×10^3 *8*	E_γ: from Adopted Gammas.
62.8 *3*		135.5	5⁺	72.7	3⁻	M2[‡]		157 *4*	
68.5	4.3 *2*	2585.0	20⁺	2516.6	18⁺	E2		27.3	I_γ: deduced by authors using I(ce(L3)) and α(L3)(E2 theory). Mult.: α(L1)exp+α(L2)exp=8.5 *9*, α(M)exp+α(N)exp+α(O)exp =6.1 *7*.
89.5 *3*		225.0	6⁺	135.5	5⁺	M1+E2[‡]	0.18[‡]	9.91 *17*	
103.8 *3*		135.5	5⁺	31.7	2⁻	E3[‡]		103.3 *23*	
107.5 *3*		243.0	7⁺	135.5	5⁺	E2[‡]		3.86 *7*	
128.9 *3*		371.9	8⁺	243.0	7⁺	M1+E2[‡]	1.0[‡]	2.69 *5*	
146.9 *3*		371.9	8⁺	225.0	6⁺	E2[‡]		1.133 *19*	
153.6	3.4 *7*	2585.0	20⁺	2431.3	18⁺	E2		0.960	Mult.: α(K)exp=0.54 *18*, α(L)exp=0.51 *12*.
179.8	50 *4*	839.4	13⁻	659.4	12⁻	M1		1.369	Mult.: α(K)exp=1.3 *1*, α(L)exp=0.25 *3*.
192.6	7.0 *8*	3786.0		3593.0		M1		1.129	Mult.: α(K)exp=0.83 *17*.
211.0	11 *3*	2642.3		2431.3	18⁺	M1		0.875	Mult.: α(K)exp=0.44 *15*, α(L)exp=0.13 *3*.
213.1	71 *5*	2176.2	17⁺	1963.1	15⁺	E2		0.302	Mult.: α(K)exp=0.24 *3*, α(L1)exp+α(L2)exp=0.011 *1*, α(M)exp=0.036 *9*.
227.4	91 *6*	659.4	12⁻	431.7	(11⁻)	M1		0.711	Mult.: α(L)exp=0.11 *1*, α(M)exp=0.035 *5*.
254.9	33 *2*	2431.3	18⁺	2176.2	17⁺	M1		0.519	Mult.: α(K)exp=0.48 *7*, α(L)exp=0.065 *11*.
259.5	121 *3*	1099.0	14⁻	839.4	13⁻	M1		0.494	Mult.: α(K)exp=0.45 *2*, α(L)exp=0.067 *5*, α(M)exp=0.023 *2*.
273[#]		1819.8	16⁻	1547.3	15⁻				
293[#]		2608.8	18⁻	2315.9	17⁻				
340.5	45 *2*	2516.6	18⁺	2176.2	17⁺	M1		0.235	Mult.: α(K)exp=0.19 *1*.
367[#]		3009.4	19⁻	2642.3					
400.6	12 *1*	3009.4	19⁻	2608.8	18⁻	M1		0.1522	Mult.: α(K)exp=0.14 *5*.
408.0	100	839.4	13⁻	431.7	(11⁻)	E2		0.0432	Mult.: α(K)exp=0.028 *4*.
440[#]		1099.0	14⁻	659.4	12⁻				
448[#]		1547.3	15⁻	1099.0	14⁻				
461[#]		3046.0		2585.0	20⁺				
496[#]		2315.9	17⁻	1819.8	16⁻				
547[#]		3593.0		3046.0					
708[#]		1547.3	15⁻	839.4	13⁻				
721[#]		1819.8	16⁻	1099.0	14⁻				
740[#]		3786.0		3046.0					
769[#]		2315.9	17⁻	1547.3	15⁻				
789[#]		2608.8	18⁻	1819.8	16⁻				

Continued on next page (footnotes at end of table)

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$\gamma(^{192}Au)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
852[#]	4638.0		3786.0	
864[#]	1963.1	15^+	1099.0	14^-

[†] From conversion coefficient measurements (2001Gu29), except As noted. the conversion coefficient data from 2001Gu29 have been renormalized by the evaluator so α(K)exp(227γ)=α(K)(M1 theory)=0.585.
[‡] From Adopted Gammas.
[#] From partial level scheme given In fig. 6 of 2001Gu29; not included In table III, but known from other reactions.
[@] 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.

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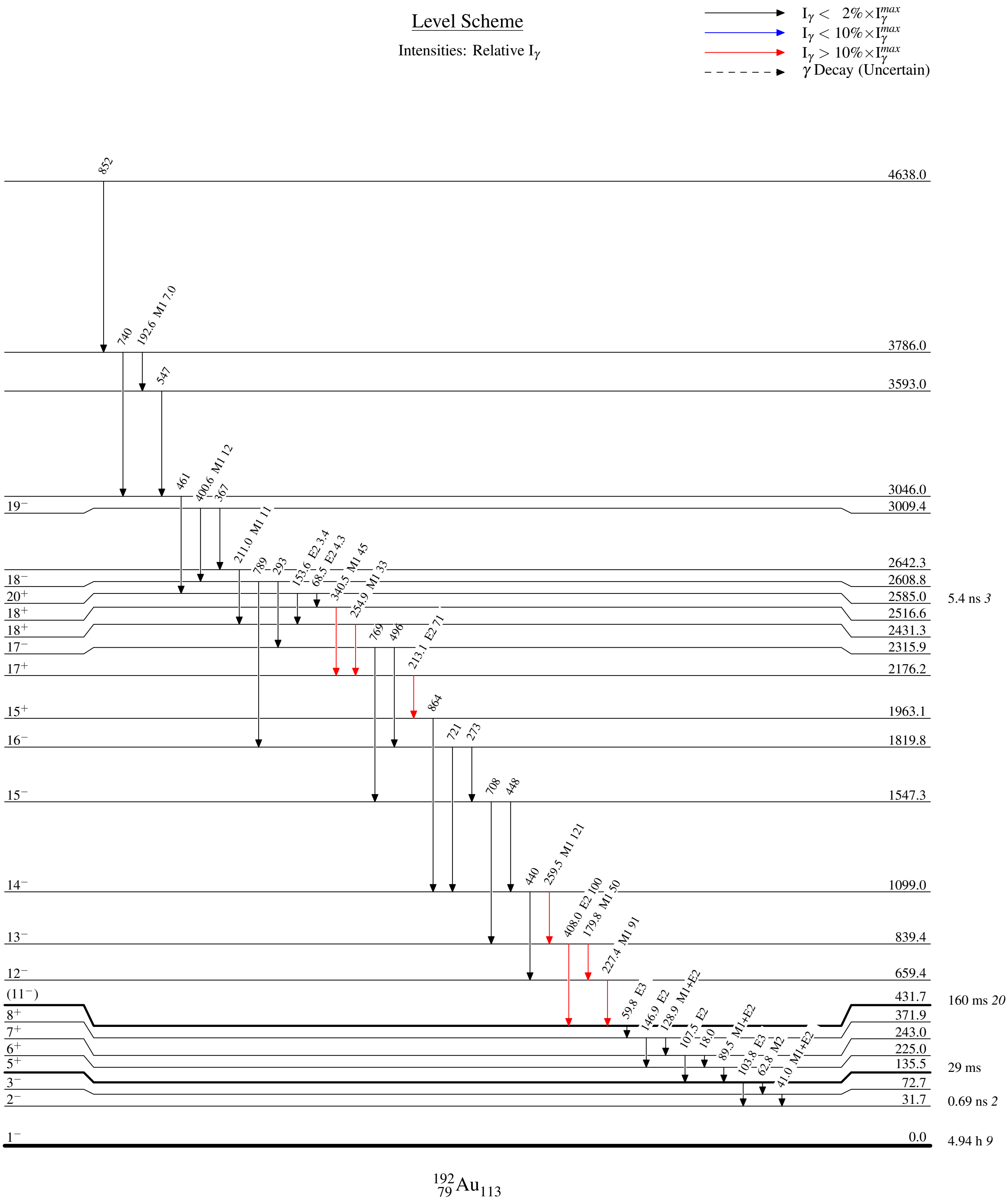

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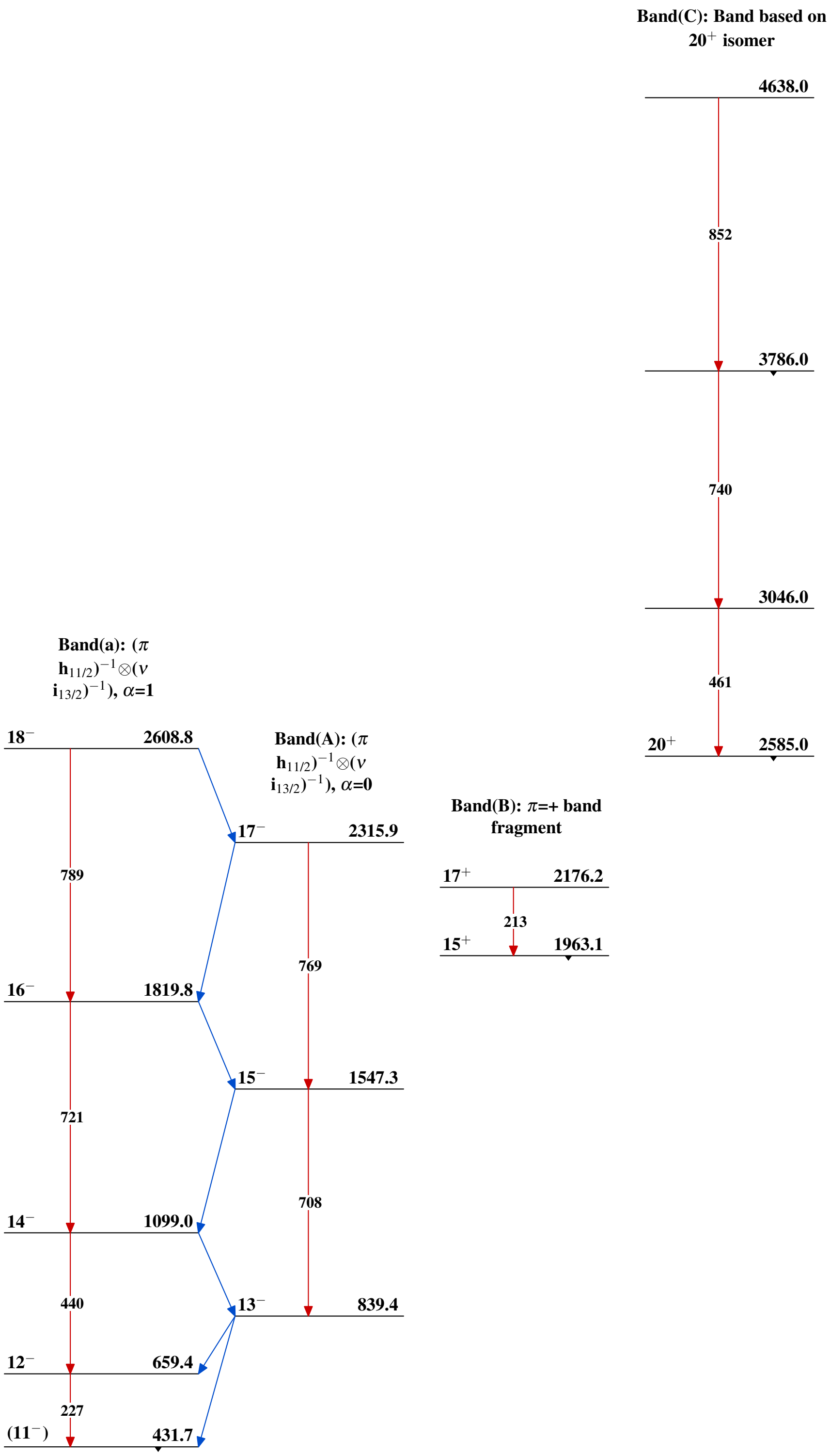

$^{192}_{79}Au_{113}$