^{176}Yb(^{136}Xe,Xγ) 2009Wa11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev	NDS 112, 855 (2011)	31-Oct-2010

2009Wa11: ^{176}Yb,^{192}Os(^{136}Xe,Xγ), E=820,840 MeV; measured Eγ, Iγ, γγ-coin, γγ(θ), $T_{1/2}$. ^{133}I; deduced levels, J^π, δ, α(exp), mult. GAMMASPHERE array consisting of 98 Compton-suppressed Ge detectors. Shell-model calculations.

^{133}I Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0	7/2$^+$	20.83[#] h *8*	
912.3 *3*	11/2$^+$		
1559.4 *4*	15/2$^+$		
1633.5 *5*	19/2$^-$	9[#] s *2*	
1728.1 *5*	15/2$^-$	≈170[#] ns	
2080.4 *4*	15/2$^+$		
2434.3 *5*	19/2$^+$	0.78[#] μs *16*	
2493.0 *6*	23/2$^+$	469 ns *15*	$T_{1/2}$: from γ(t) 2009Wa11.
3107.1 *6*			
3820.8 *7*			
3892.8 *7*			
4046.6 *7*			

† From a least-squares fit to the Eγ uncertainty of 0.3 keV for each γ ray by evaluators.
‡ From 2009Wa11.
# From Adopted Levels.

γ(^{133}I)

Eγ[†]	Iγ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
58.7	41 *1*	2493.0	23/2$^+$	2434.3	19/2$^+$	E2		11.9 *3*	α(exp)=19 *4* (2009Wa11)
74.1	34 *1*	1633.5	19/2$^-$	1559.4	15/2$^+$	(M2)[@]		23.5 *5*	
94.6	17 *1*	1728.1	15/2$^-$	1633.5	19/2$^-$	E2[@]		2.14 *4*	
153.8	≈3.5	4046.6		3892.8					
168.7	13 *1*	1728.1	15/2$^-$	1559.4	15/2$^+$	(E1)[@]		0.0472 *7*	
225.7	≈3.5	4046.6		3820.8					
353.9	6 *1*	2434.3	19/2$^+$	2080.4	15/2$^+$				
521.0	4 *1*	2080.4	15/2$^+$	1559.4	15/2$^+$	M1(+E2)	−0.3 *+6−7*	0.0091 *7*	(521γ)(647γ)(θ): A_2=+0.27 *9*, A_4=+0.16 *13*.
614.1	≈3.5	3107.1		2493.0	23/2$^+$				
647.1	97 *1*	1559.4	15/2$^+$	912.3	11/2$^+$	E2		0.00429 *6*	
713.7	≈3.5	3820.8		3107.1					
785.7	≈3.5	3892.8		3107.1					
874.9	45 *1*	2434.3	19/2$^+$	1559.4	15/2$^+$	E2(+M3)	0.02 *+6−5*	0.00207 *9*	(875γ)(647γ)(θ): A_2=+0.112 *25*, A_4=+0.01 *4*.
912.3	100 *1*	912.3	11/2$^+$	0.0	7/2$^+$	E2		0.00188 *3*	
1168.1	5 *1*	2080.4	15/2$^+$	912.3	11/2$^+$	E2(+M3)	+0.1 *+53−3*	0.001 *5*	(1168γ)(912γ)(θ): A_2=+0.16 *14*, A_4=+0.24 *19*.

† From ^{133}I level scheme shown in fig.1 in 2009Wa11. ΔEγ=0.30 keV for each γ rays are assumed by evaluators.
‡ Deduced by the evaluators from ^{133}I level scheme in fig. 1 of 2009Wa11, following authors statement that the widths of arrows represent relative intensities.

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^{176}Yb(^{136}Xe,Xγ) 2009Wa11 (continued)

γ(^{133}I) (continued)

[#] From $\gamma\gamma(\theta)$, except as noted; δ=0 was fixed for 647γ and 912γ in the data analysis.
[@] From adopted gammas.
[&] 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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