^{80}Se(α,pnγ), ^{82}Se(d,2nγ) 1986Fu04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)	1-Mar-2019

(α,pnγ): E=27 MeV, measured Eγ, Iγ, $\gamma\gamma$ coin, pγ coin, γ(t), $\gamma(\theta)$. E=35– 48 MeV, measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma(\theta)$, γ linear polarization, DSA.
(d,2nγ): E= 13.5 MeV, measured Eγ, Iγ, $\gamma(\theta)$.

^{82}Br Levels

E(level)	J$^\pi$	T$_{1/2}$[†]	E(level)	J$^\pi$	E(level)	J$^\pi$	T$_{1/2}$[†]
0.0	5^-		420.1 *4*	(2)	967.51[#] *9*	$(6)^+$	
45.9490[‡] *10*	2^-		475.35[‡] *15*	$(4)^-$	1068.73[#] *13*	$(7)^+$	<0.14 ns
75.0620 *15*	$(1)^+$		541.0 *3*	$(2^+,3^+)$	1261.03[#] *17*	$(8)^+$	<0.2 ns
290.75[‡] *10*	$(3)^-$		627.16 *15*	$(2,3^+)$	1793.8[#] *3*	$(9)^+$	
362.76 *10*	$(2)^+$		794.05[‡] *25*	(5)	2243.3[#] *4*	(10^+)	
376.70 *9*	$(6)^-$	<0.2 ns	910.81 *10*	$(4,5^+)$			

[†] From γ(t), center of gravity analysis.
[‡] Band(A): possible π=– collective band.
[#] Band(B): π=+ sequence with Configuration=((π $g_{9/2}$)(ν $g_{9/2}$)).

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$\gamma(^{82}Br)$

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[&b]	α[a]	Comments
29.113[‡] *1*		75.0620	$(1)^+$	45.9490	2^-				
45.949[‡] *1*		45.9490	2^-	0.0	5^-				
101.2 *1*	26 *1*	1068.73	$(7)^+$	967.51	$(6)^+$	M1[@]		0.1109	α(K)=0.0982 *14*; α(L)=0.01087 *16*; α(M)=0.001731 *25* α(N)=0.0001607 *23*
184.6 *1*	39 *1*	475.35	$(4)^-$	290.75	$(3)^-$	M1		0.0223	α(K)=0.0198 *3*; α(L)=0.00215 *3*; α(M)=0.000343 *5* α(N)=3.19×10^{-5} *5*
192.3 *1*	26 *1*	1261.03	$(8)^+$	1068.73	$(7)^+$	M1		0.0201	α(K)=0.0178 *3*; α(L)=0.00194 *3*; α(M)=0.000308 *5* α(N)=2.87×10^{-5} *4*
244.8 *1*	90 *2*	290.75	$(3)^-$	45.9490	2^-				
250.2 *3*	3.5 *5*	541.0	$(2^+,3^+)$	290.75	$(3)^-$				
264.4 *1*	11 *1*	627.16	$(2,3^+)$	362.76	$(2)^+$				
287.7 *1*	45 *2*	362.76	$(2)^+$	75.0620	$(1)^+$				
318.7 *2*	15 *1*	794.05	(5)	475.35	$(4)^-$				
345.0 *4*	14 *3*	420.1	(2)	75.0620	$(1)^+$				
376.7 *1*	100	376.70	$(6)^-$	0.0	5^-	M1+E2	+0.3 *1*	0.00405 *21*	α(K)=0.00360 *19*; α(L)=0.000387 *21*; α(M)=6.1×10^{-5} *4* α(N)=5.7×10^{-6} *3*
449.5 *3*	1.2 *3*	2243.3	(10^+)	1793.8	$(9)^+$				
495.1[c]	<10	541.0	$(2^+,3^+)$	45.9490	2^-				
532.7 *2*	7.1 *5*	1793.8	$(9)^+$	1261.03	$(8)^+$	M1+E2[@]	−0.14 *6*	0.00168 *3*	α(K)=0.001496 *25*; α(L)=0.000159 *3*; α(M)=2.52×10^{-5} *5* α(N)=2.36×10^{-6} *4*
[x]566.1 *1*	11 *1*								
590.8 *1*	20 *1*	967.51	$(6)^+$	376.70	$(6)^-$				
692.5 *5*	10 *4*	1068.73	$(7)^+$	376.70	$(6)^-$				
910.8 *1*	15 *1*	910.81	$(4,5^+)$	0.0	5^-				
967.5 *1*	22 *1*	967.51	$(6)^+$	0.0	5^-	E1		2.10×10^{-4}	α(K)=0.000187 *3*; α(L)=1.95×10^{-5} *3*; α(M)=3.09×10^{-6} *5* α(N)=2.90×10^{-7} *4*
983 *1*	≈1.0	2243.3	(10^+)	1261.03	$(8)^+$				I_γ: from Iγ/Iγ(495γ)≈10/ 12 *4* in (α,pnγ) E= 43 MeV.

[†] Relative Iγ measured in the (d,2nγ) reaction, except as noted.
[‡] From adopted gammas.
[#] From linear polarization measurement, except where noted otherwise.
[@] From lifetime and $\gamma(\theta)$.
[&] From $\gamma(\theta)$ assuming that the attenuation values are 0.6 and 0.8 for the 377γ and 533γ, respectively.
[a] Additional information 1.

$^{82}_{35}Br_{47}$-2

$\gamma(^{82}Br)$ (continued)

[b] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[c] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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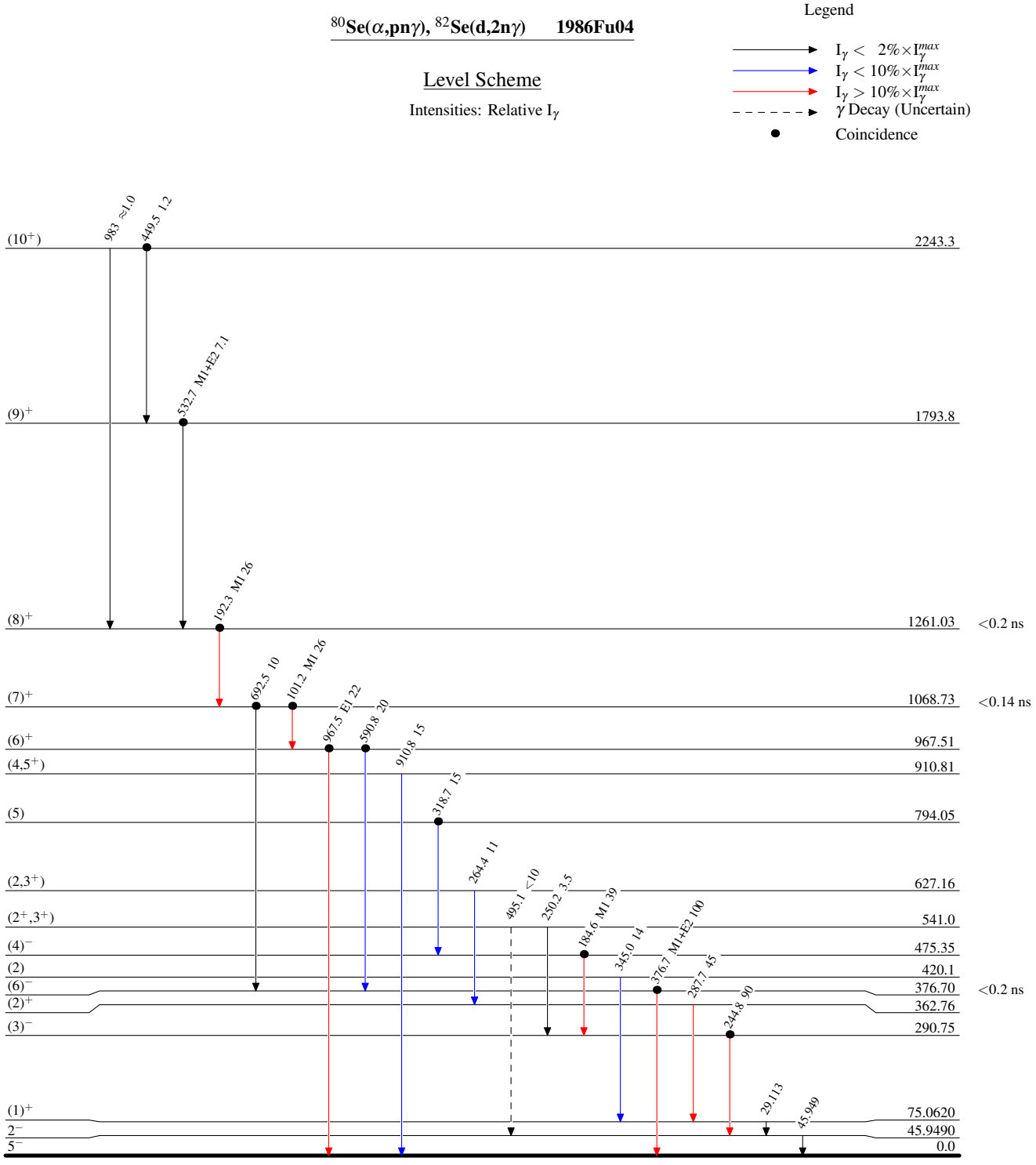
Level Scheme

Intensities: Relative I_γ



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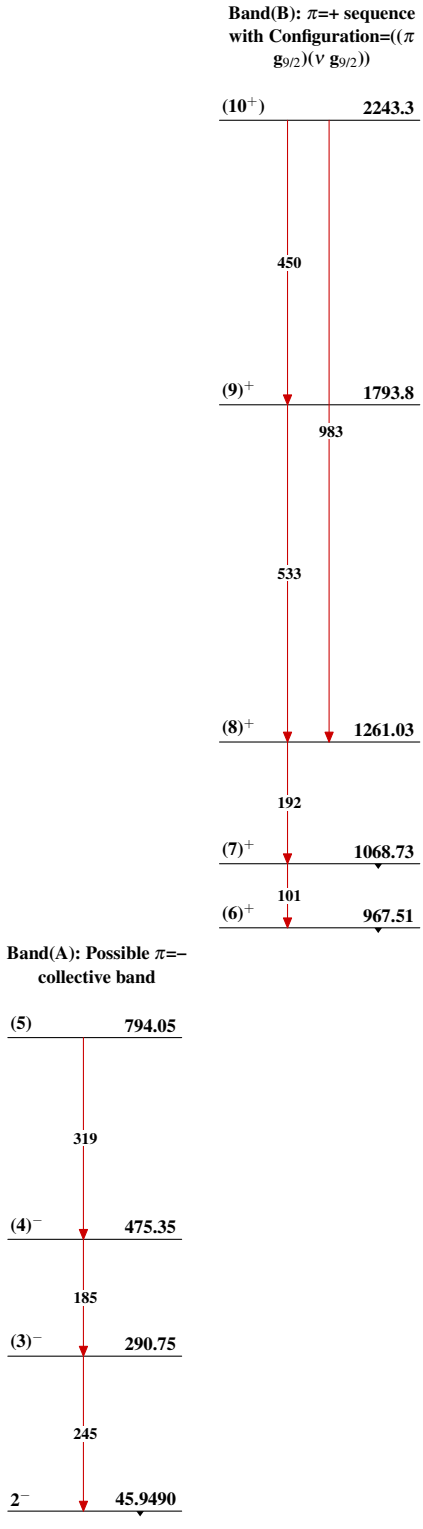

$^{82}_{35}Br_{47}$