^{115}Sn(α,2nγ) 1979Ha47

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

Enriched ^{115}Sn, Eα=19.8-27 MeV.
Measured: γ, $\gamma\gamma$, Ag(t), pγ, $\gamma(\theta)$,Ge(Li), μ from TDPAD method (1981Ka10).
Other measurements: 1979Ha18, 1977HaYL, 1976HaXN, ^{114}Sn(^{6}Li,p2n) (1977GaZY).

^{117}Te Levels

E(level)	J$^{\pi}$[†]	T$_{1/2}$	Comments
0.0	1/2$^+$		
x			E(level): x=0 ,see Adopted Levels.
274.4 *1*	5/2$^+$	19.9 ns *4*	μ=−0.75 *5* (1981Ka10) T$_{1/2}$: from 1981Ka10.
296.0 *2*	(7/2$^+$)		
296+x[‡]	(11/2$^-$)	103 ms	E(level): the isomeric transition is not known.
325.6 *2*	(3/2)$^+$		
540.0 *2*	(5/2$^+$)		
577.7 *2*	(7/2$^+$)		
681.5[#]	(7/2$^+$)		
821.2	(9/2$^+$)		
918.7	(9/2$^+$)		
929.7[#]	(9/2$^+$)		
967+x[‡]	(15/2$^-$)		
1021.3 *2*	(9/2$^+$)		
1095+x[‡]	(13/2$^-$)		
1186.9 *2*	(11/2$^+$)		
1416.3 *4*	(13/2$^+$)		
1680+x[‡]	(19/2$^-$)		
1726+x[‡]	(17/2$^-$)		
1904.1[#] *3*			
2304+x[‡]	(23/2$^-$)		

[†] From Adopted Levels.
[‡] Band(A): 11/2$^-$ band, the energy of 11/2$^-$ level is not known (296+X).
[#] Band(B): proposed 5/2$^+$ [402] band (1979Ha18,1979Ha47).

γ(^{117}Te)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	α[†]	Comments
21.6 *1*	3.2 *4*	296.0	(7/2$^+$)	274.4	5/2$^+$	(M1)	8.70	
37.4 *2*	0.7 *2*	577.7	(7/2$^+$)	540.0	(5/2$^+$)			
[x]111.8 *1*	0.9 *1*							Mult.: A$_2$=−0.09 *11*,A$_4$=−0.11 *18*.
139.8 *2*	0.5 *1*	821.2	(9/2$^+$)	681.5	(7/2$^+$)	(M1+E2)		δ: 0.01≤δ≤0.19. Mult.: A$_2$=−0.07 *10*,A$_4$=−0.20 *18*.
248.2 *1*	0.9 *1*	929.7	(9/2$^+$)	681.5	(7/2$^+$)			
274.4 *1*	100 *10*	274.4	5/2$^+$	0.0	1/2$^+$	E2		B(E2)(W.u.)=0.538 *11* The high attenuation of A$_2$,A$_4$ is due to a partial excitation through the 103-ms 11/2$^-$ state (1979Ha18). Mult.: A$_2$=0.10 *2*,A$_4$=−0.02 *3*.

Continued on next page (footnotes at end of table)

^{115}Sn(α,2nγ) 1979Ha47 (continued)

γ(^{117}Te) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
[x]294.6 *1*	3.6 *2*						Mult.: A_2=0.06 *6*,A_4=−0.01 *9*.
303.3 *2*	1.0 *2*	577.7	(7/2$^+$)	274.4	5/2$^+$	(M1)	δ: −0.28≤δ≤0.11. Mult.: A_2=−0.22 *16*,A_4=−0.02 *26*.
325.6 *1*	3.4 *2*	325.6	(3/2)$^+$	0.0	1/2$^+$		Mult.: A_2=0.23 *6*,A_4=−0.10 *8*.
341.0 *1*	7.4 *2*	918.7	(9/2$^+$)	577.7	(7/2$^+$)		Mult.: A_2=0.25 *7*,A_4=0.01 *12*.
365.7 *2*	1.5 *2*	1186.9	(11/2$^+$)	821.2	(9/2$^+$)		
407.1 *1*	5.1 *2*	681.5	(7/2$^+$)	274.4	5/2$^+$	(M1+E2)	δ: −1.40≤δ≤−0.47. Mult.: A_2=−0.60 *5*,A_4=0.08 *7*.
505.4 *2*	1.7 *3*	1186.9	(11/2$^+$)	681.5	(7/2$^+$)		
525.2 *2*	5.5 *4*	821.2	(9/2$^+$)	296.0	(7/2$^+$)	(M1+E2)	δ: −1.90≤δ≤−0.30. Mult.: A_2=−0.58 *4*,A_4=0.12 *8*.
540.0 *2*	3.7 *4*	540.0	(5/2$^+$)	0.0	1/2$^+$	(E2)	Mult.: A_2=0.46 *10*,A_4=0.33 *16*.
595.1 *2*	1.7 *2*	1416.3	(13/2$^+$)	821.2	(9/2$^+$)		Mult.: A_2=0.17 *6*, A_4=−0.04 *10*.
623.9 *2*	5.6 *4*	2304+x	(23/2$^-$)	1680+x	(19/2$^-$)	E2	Mult.: A_2=0.36 *9*,A_4=−0.16 *14*.
631.9 *2*	5.1 *3*	1726+x	(17/2$^-$)	1095+x	(13/2$^-$)	(E2)	Mult.: A_2=0.43 *15*,A_4=0.04 *22*.
655.2 *2*	4.0 *4*	929.7	(9/2$^+$)	274.4	5/2$^+$	E2	Mult.: A_2=0.32 *8*,A_4=−0.07 *11*.
670.6 *1*	25.5 *15*	967+x	(15/2$^-$)	296.0	(7/2$^+$)	E2	Mult.: A_2=0.37 *3*,A_4=−0.10 *4*.
713.3 *2*	11.9 *5*	1680+x	(19/2$^-$)	967+x	(15/2$^-$)	E2	Mult.: A_2=0.35 *5*,A_4=−0.11 *6*.
717.2[‡] *3*	1.0 *5*	1904.1		1186.9	(11/2$^+$)		
746.9 *2*	6.2 *5*	1021.3	(9/2$^+$)	274.4	5/2$^+$	(E2)	Mult.: A_2=0.30 *8*,A_4=−0.14 *11*.
759.3 *2*	2.7 *3*	1726+x	(17/2$^-$)	967+x	(15/2$^-$)	(M1+E2)	δ: −21≤δ≤−6. Mult.: A_2=−0.24 *8*,A_4=0.26 *12*.
798.0 *2*	5.8 *3*	1095+x	(13/2$^-$)	296.0	(7/2$^+$)	(M1+E2)	δ: 0.5≤δ≤2.6. Mult.: A_2=0.49 *4*, A_4=0.17 *6*.

[†] 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.

[‡] 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

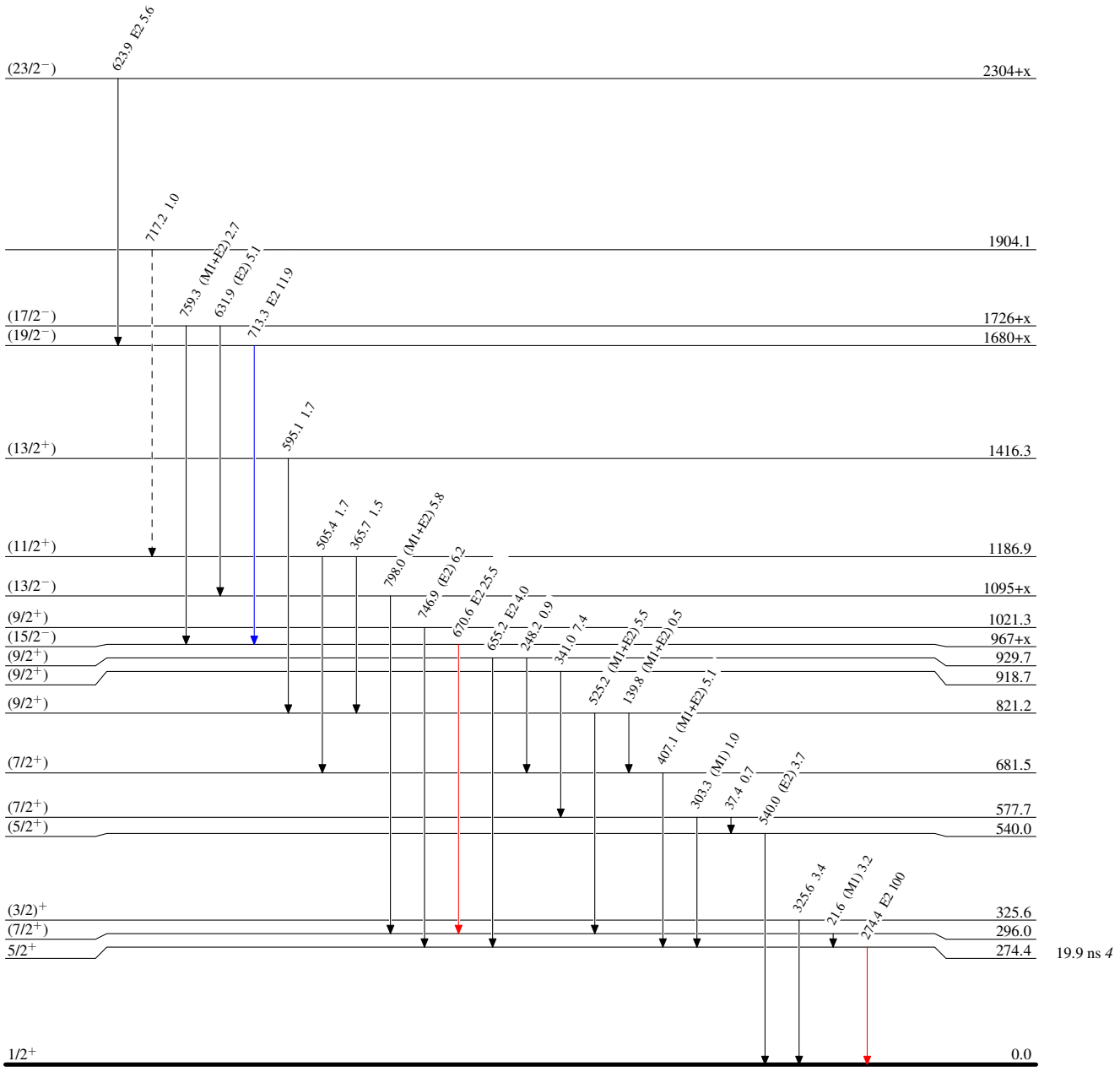
Legend

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

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

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

γ Decay (Uncertain)



$^{117}_{52}Te_{65}$

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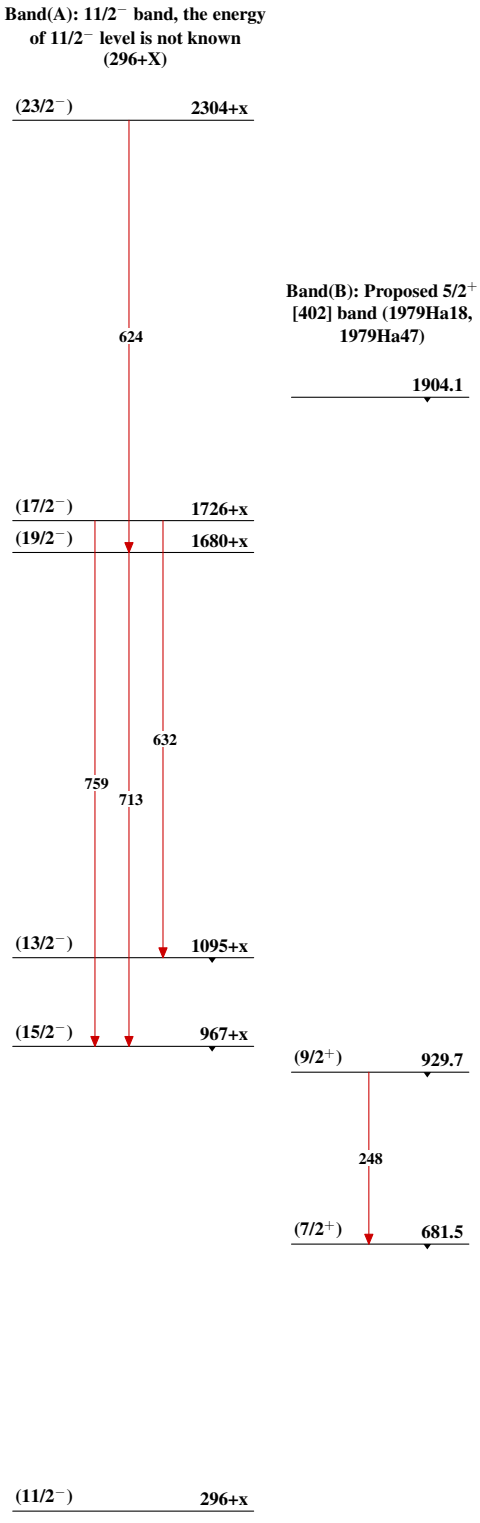

$^{117}_{52}Te_{65}$