

$^{123}\text{Sb}(\alpha,2n\gamma),^{122}\text{Sn}(\text{}^6\text{Li},3n\gamma)$ 2001Sh02,1999Sh19,1977Ha36

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

1999Sh19, 2001Sh02: $^{123}\text{Sb}(\alpha,2n\gamma)$ E=30 MeV; enriched target 99 %. measured E_γ , I_γ and $\gamma\gamma$ using two HPGe detectors. $\gamma(\theta)$ measured by 2001Sh02.

1977Ha36: $^{123}\text{Sb}(\alpha,2n\gamma)$ E=19.8-27 MeV; enriched target 92%, semi γ ; excitation function, $\gamma\gamma$ -coin, $\gamma(t)$, $\gamma(\theta)$.

1982Sh20: $^{122}\text{Sn}(\text{}^6\text{Li},3n\gamma)$ E=32-34 MeV; enriched target, semi γ ; excitation function, $\gamma\gamma$ -coin, $\gamma(\theta)$.

1988Ko16: $^{123}\text{Sb}(\alpha,2n\gamma)$ E=27 MeV; enriched target 98%, semi γ ; $\alpha\gamma(t)$.

The level scheme is that proposed by 1999Sh19.

 ^{125}I Levels

E(level) [†]	J ^π [‡]	T _{1/2} [#]	Comments
0.0 ^a	5/2 ⁺		
113.55 ^{& 9}	7/2 ⁺		
188.42 ¹⁰	3/2 ⁺	0.2 ns 1	
372.09 ¹⁰	3/2 ⁺		
536.10 ^{@ 13}	7/2 ⁺		
595.56 ^{a 12}	9/2 ⁺		
704.31 ¹²	9/2 ⁺		
768.10 ^{& 14}	11/2 ⁺		
935.8 ^{d 4}	9/2 ⁽⁺⁾	0.2 ns 1	
1084.87 ^{c 14}	11/2 ⁻	≤0.2 ns	
1173.07 ^{@ 20}	11/2 ⁺		
1203.72 ^{a 18}	13/2 ⁺		
1269.9 ^{d 4}	11/2 ⁽⁺⁾		
1332.0 ⁶			
1554.44 ^{& 21}	15/2		
1616.8 ^{d 4}	13/2 ⁽⁺⁾		
1664.55 ^{c 22}	15/2 ⁻		
1868.7 ⁶			
1870.9 ^{@ 3}	15/2		
1887.93 ^{a 22}	17/2 ⁺		
1997.4 ^{d 5}	(15/2)		
2221.7 ⁶			
2278.1 ^{c 3}	19/2 ⁻		
2350.53 ^{b 24}	(17/2)	1.6 ns 3	
2397.0 ^{d 6}			
2462.9 ⁴			
2502.3 ^{& 3}	19/2		
2554.78 ^{b 25}	19/2		
2624.2 ⁶			Additional information 1.
2713.3 ^{@ 6}			
2737.9 ^{a 4}	21/2		
2783.9 ^{c 4}	23/2 ⁽⁻⁾		
2790.9 ^{b 3}	21/2	0.3 ns 1	
2815.0 ^{d 8}			
2916.1 ⁶			
2919.1 ⁶			
3060.2 ⁴			
3073.4 ^{? 11}			

Continued on next page (footnotes at end of table)

$^{123}\text{Sb}(\alpha,2n\gamma), ^{122}\text{Sn}(^6\text{Li},3n\gamma)$ 2001Sh02,1999Sh19,1977Ha36 (continued) ^{125}I Levels (continued)

<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>E(level)[†]</u>
3098.9 ^b 3	23/2	3259.5 4	3458.8 7		3775.3? 14
3158.8 6		3293.4 4	3496.9 ^b 5		3867.9 ^a 7
3258.9? ^d 13		3302.9 7	3674.5 ^c 5	27/2	

[†] From a least-squares fit to E γ 's by evaluators.

[‡] Spin and parity values are from Adopted Levels.

From centroid-shift method (1988Ko16).

@ Band(A): 7/2⁺ band.

& Band(B): $\pi d_{5/2}$, $\alpha=-1/2$ yrast band (2001Sh02).

^a Band(C): $\pi d_{5/2}$, $\alpha=+1/2$ yrast band (2001Sh02).

^b Band(D): Probable 3-p band. $\pi h_{11/2} \nu g_{7/2} \nu h_{11/2}$ (2001Sh02).

^c Band(E): Probable $\pi h_{11/2}$ 1/2[550] band (2001Sh02).

^d Band(F): Probable $\pi g_{9/2}$ 9/2[404] band (2001Sh02).

$\gamma(^{125}\text{I})$									
E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.&	δ^a	α^b	Comments
113.56 10	209	113.55	7/2 ⁺	0.0	5/2 ⁺	M1+E2	-0.12 2	0.530 9	$\alpha(\text{K})=0.453$ 7; $\alpha(\text{L})=0.0614$ 14; $\alpha(\text{M})=0.0124$ 3; $\alpha(\text{N}+..)=0.00279$ 6 $\alpha(\text{N})=0.00250$ 6; $\alpha(\text{O})=0.000290$ 6 Mult.: From ¹²⁵ Xe ϵ decay. δ : Absolute value from ¹²⁵ Xe ϵ decay. A ₂ and A ₄ values suggest negative sign. $\alpha(\text{K})_{\text{exp}}=0.48$ 4 (normalization; 1977Ha36). A ₂ =-0.15 2, A ₄ =+0.03 4 (1977Ha36), A ₂ =-0.24 10 (1982Sh20). A ₂ =-0.19 9 (1977Ha36). A ₂ =-0.22 9 (1977Ha36).
168.20 10	3	704.31	9/2 ⁺	536.10	7/2 ⁺				$\alpha(\text{K})=0.1152$ 17; $\alpha(\text{L})=0.01625$ 25; $\alpha(\text{M})=0.00329$ 5; $\alpha(\text{N}+..)=0.000737$ 11 $\alpha(\text{N})=0.000662$ 10; $\alpha(\text{O})=7.53\times 10^{-5}$ 11 Mult.: From adopted gammas. E_γ : From 1977Ha36. Mult., δ : From ¹²⁵ Xe ϵ decay.
172.56 10	4	768.10	11/2 ⁺	595.56	9/2 ⁺				
188.42 10		188.42	3/2 ⁺	0.0	5/2 ⁺	M1+E2	+0.357 9	0.1354 20	
194.3# 3		3293.4		3098.9	23/2				$\alpha(\text{K})=0.110$ 16; $\alpha(\text{L})=0.019$ 7; $\alpha(\text{M})=0.0039$ 14; $\alpha(\text{N}+..)=0.0008$ 3 $\alpha(\text{N})=0.0008$ 3; $\alpha(\text{O})=8.2\times 10^{-5}$ 24 $\alpha(\text{K})_{\text{exp}}=0.12$ 2. A ₂ =+0.05 3 (1977Ha36).
199.32 10	6	3259.5		3060.2		M1,E2		0.134 24	
204.26 10	14	2554.78	19/2	2350.53	(17/2)	M1+E2	-0.23 +4-3	0.1053 17	$\alpha(\text{K})=0.0903$ 14; $\alpha(\text{L})=0.01204$ 25; $\alpha(\text{M})=0.00243$ 6; $\alpha(\text{N}+..)=0.000548$ 11 $\alpha(\text{N})=0.000491$ 10; $\alpha(\text{O})=5.69\times 10^{-5}$ 11 $\alpha(\text{K})_{\text{exp}}=0.10$ 1. A ₂ =-0.46 5, A ₄ =+0.09 11 (1977Ha36), A ₂ =-0.59 4, A ₄ =-0.06 6 (2001Sh02).
236.08 10	18	2790.9	21/2	2554.78	19/2	(M1)		0.0701	$\alpha(\text{K})=0.0604$ 9; $\alpha(\text{L})=0.00775$ 11; $\alpha(\text{M})=0.001559$ 22; $\alpha(\text{N}+..)=0.000353$ 5 $\alpha(\text{N})=0.000316$ 5; $\alpha(\text{O})=3.71\times 10^{-5}$ 6 $\alpha(\text{K})_{\text{exp}}=0.062$ 5. A ₂ =-0.55 4, A ₄ =+0.02 7 (1977Ha36).
242.68 10	6	3158.8		2916.1		M1,E2		0.073 8	$\alpha(\text{K})=0.061$ 5; $\alpha(\text{L})=0.0096$ 24; $\alpha(\text{M})=0.0020$ 5; $\alpha(\text{N}+..)=0.00043$ 11 $\alpha(\text{N})=0.00039$ 10; $\alpha(\text{O})=4.3\times 10^{-5}$ 9 Mult.: From $\alpha(\text{K})_{\text{exp}}$ by evaluators. $\alpha(\text{K})_{\text{exp}}=0.057$ 5. A ₂ =-0.15 7, A ₄ =+0.06 13 (1977Ha36). E_γ : Not reported in 1999Sh19. A ₂ =-0.55 9 (1977Ha36).
278.0 ^c 3		3775.3?		3496.9					$\alpha(\text{K})=0.0301$ 5; $\alpha(\text{L})=0.00393$ 9; $\alpha(\text{M})=0.000792$ 19; $\alpha(\text{N}+..)=0.000179$ 4
294.88 10	6	2919.1		2624.2					
300.0 3	4	3458.8		3158.8					
308.00 10	10	3098.9	23/2	2790.9	21/2	M1+E2	-0.31 +12-10	0.0350	

$\gamma(^{125}\text{I})$ (continued)

E_γ †	I_γ ‡	E_i (level)	J_i^π	E_f	J_f^π	Mult. &	δ^a	α^b	Comments
322.24 10	12	3060.2		2737.9	21/2	(M1)		0.0310	$\alpha(\text{N})=0.000160$ 4; $\alpha(\text{O})=1.86\times 10^{-5}$ 4 $\alpha(\text{K})_{\text{exp}}=0.031$ 3. $A_2=-0.61$ 4, $A_4=+0.14$ 8 (1977Ha36), $A_2=-0.63$ 11, $A_4=-0.09$ 12 (2001Sh02). $\alpha(\text{K})=0.0268$ 4; $\alpha(\text{L})=0.00340$ 5; $\alpha(\text{M})=0.000684$ 10; $\alpha(\text{N}+..)=0.0001548$ 22 $\alpha(\text{N})=0.0001385$ 20; $\alpha(\text{O})=1.628\times 10^{-5}$ 23 $\alpha(\text{K})_{\text{exp}}=0.028$ 3. $A_2=-0.39$ 4, $A_4=+0.08$ 7 (1977Ha36).
333.6 5	5	1887.93	17/2 ⁺	1554.44	15/2				
334.10 10	23	1269.9	11/2 ⁽⁺⁾	935.8	9/2 ⁽⁺⁾	M1+E2	+0.14 1	0.0283	$\alpha(\text{K})=0.0244$ 4; $\alpha(\text{L})=0.00311$ 5; $\alpha(\text{M})=0.000625$ 9; $\alpha(\text{N}+..)=0.0001414$ 20 $\alpha(\text{N})=0.0001266$ 18; $\alpha(\text{O})=1.486\times 10^{-5}$ 21 $\alpha(\text{K})_{\text{exp}}=0.025$ 2. $A_2=-0.02$ 3, $A_4=+0.01$ 5 (1977Ha36), $A_2=-0.05$ 3, $A_4=+0.02$ 8 (1982Sh20), $A_2=-0.05$ 5, $A_4=+0.01$ 8 (2001Sh02).
346.78 10	16	1616.8	13/2 ⁽⁺⁾	1269.9	11/2 ⁽⁺⁾	M1+E2	+0.11 4	0.0257	$\alpha(\text{K})=0.0222$ 4; $\alpha(\text{L})=0.00282$ 4; $\alpha(\text{M})=0.000566$ 8; $\alpha(\text{N}+..)=0.0001281$ 19 $\alpha(\text{N})=0.0001147$ 17; $\alpha(\text{O})=1.347\times 10^{-5}$ 19 $\alpha(\text{K})_{\text{exp}}=0.023$ 2. $A_2=+0.03$ 4, $A_4=+0.08$ 7 (1977Ha36), $A_2=-0.06$ 4, $A_4=-0.01$ 5 (1982Sh20), $A_2=-0.06$ 5, $A_4=+0.02$ 6 (2001Sh02).
350 @c 1		1554.44	15/2	1203.72	13/2 ⁺				
372.09 10		372.09	3/2 ⁺	0.0	5/2 ⁺				E_γ : From 1977Ha36. $A_2=-0.01$ 9 (1977Ha36). $\alpha=0.00552$ 25; $\alpha(\text{K})=0.00478$ 21; $\alpha(\text{L})=0.00059$ 3; $\alpha(\text{M})=0.000119$ 6; $\alpha(\text{N}+..)=2.67\times 10^{-5}$ 14 $\alpha(\text{N})=2.39\times 10^{-5}$ 13; $\alpha(\text{O})=2.77\times 10^{-6}$ 15 $\alpha(\text{K})_{\text{exp}}=0.0053$ 12 (for 380.56 γ + 380.6 γ doublet). $A_2=-0.18$ 2, $A_4=+0.03$ 4 for 380.56+380.6 (1977Ha36), $A_2=-0.18$ 4 (1982Sh20), $A_2=-0.18$ 1, $A_4=+0.02$ 3 (2001Sh02).
380.56 10	97	1084.87	11/2 ⁻	704.31	9/2 ⁺	E1(+M2)	+0.04 +3-2	0.00552 25	
380.6 3	9	1997.4	(15/2)	1616.8	13/2 ⁽⁺⁾				
398.0 3	4	3496.9		3098.9	23/2	M1,E2		0.0174 8	$\alpha(\text{K})=0.0148$ 9; $\alpha(\text{L})=0.00204$ 8; $\alpha(\text{M})=0.000413$ 19; $\alpha(\text{N}+..)=9.2\times 10^{-5}$ 3 $\alpha(\text{N})=8.3\times 10^{-5}$ 3; $\alpha(\text{O})=9.45\times 10^{-6}$ 14 $\alpha(\text{K})_{\text{exp}}=0.013$ 2. $A_2=-0.05$ 9 (1977Ha36).
399.6 3	5	2397.0		1997.4	(15/2)				
418.0 5	3	2815.0		2397.0					
435.55 20	22	1203.72	13/2 ⁺	768.10	11/2 ⁺	M1+E2	-0.34 +7-11	0.01425 23	$\alpha(\text{K})=0.01229$ 21; $\alpha(\text{L})=0.001570$ 22; $\alpha(\text{M})=0.000316$ 5; $\alpha(\text{N}+..)=7.13\times 10^{-5}$ 10 $\alpha(\text{N})=6.39\times 10^{-5}$ 9; $\alpha(\text{O})=7.48\times 10^{-6}$ 11

$\gamma(^{125}\text{I})$ (continued)

E_γ †	I_γ ‡	E_i (level)	J_i^π	E_f	J_f^π	Mult. &	δ^a	α^b	Comments
									$\alpha(\text{K})_{\text{exp}}=0.011$ 1. $A_2=-0.61$ 3, $A_4=+0.10$ 7 (1977Ha36), $A_2=-0.63$ 3, $A_4=-0.04$ 5 (1982Sh20), $A_2=-0.70$ 5, $A_4=-0.04$ 6 (2001Sh02).
444 ^c 1	2	3258.9?		2815.0					
468.7 3	3	1173.07	11/2 ⁺	704.31	9/2 ⁺				
482.00 20	86	595.56	9/2 ⁺	113.55	7/2 ⁺	M1+E2	-0.23 3	0.01112	$\alpha(\text{K})=0.00961$ 14; $\alpha(\text{L})=0.001212$ 17; $\alpha(\text{M})=0.000243$ 4; $\alpha(\text{N}+..)=5.51\times 10^{-5}$ 8 $\alpha(\text{N})=4.93\times 10^{-5}$ 7; $\alpha(\text{O})=5.80\times 10^{-6}$ 9 $\alpha(\text{K})_{\text{exp}}=0.0091$ 6. $A_2=-0.57$ 2, $A_4=+0.06$ 4 (1977Ha36), $A_2=-0.54$ 5, $A_4=+0.01$ 6 (1982Sh20), $A_2=-0.62$ 3, $A_4=-0.01$ 3 (2001Sh02).
489.3 3	3	1084.87	11/2 ⁻	595.56	9/2 ⁺				
502.7 3	4	3293.4		2790.9	21/2				
505.71 20	20	2783.9	23/2 ⁽⁻⁾	2278.1	19/2 ⁻	(E2)		0.00829 12	$A_2=-0.15$ 9 (1977Ha36). E_γ : 1999Sh19 report 503.9. $\alpha=0.00829$ 12; $\alpha(\text{K})=0.00705$ 10; $\alpha(\text{L})=0.001001$ 14; $\alpha(\text{M})=0.000203$ 3; $\alpha(\text{N}+..)=4.52\times 10^{-5}$ 7 $\alpha(\text{N})=4.06\times 10^{-5}$ 6; $\alpha(\text{O})=4.56\times 10^{-6}$ 7 $\alpha(\text{K})_{\text{exp}}=0.0075$ 8. $A_2=+0.17$ 4, $A_4=-0.02$ 5 (1982Sh20), $A_2=+0.28$ 5, $A_4=-0.06$ 5 (2001Sh02).
536.11 20	43	536.10	7/2 ⁺	0.0	5/2 ⁺	M1+E2	-0.13 6	0.00860 13	$\alpha=0.00860$ 13; $\alpha(\text{K})=0.00744$ 11; $\alpha(\text{L})=0.000931$ 14; $\alpha(\text{M})=0.000187$ 3; $\alpha(\text{N}+..)=4.23\times 10^{-5}$ 6 $\alpha(\text{N})=3.79\times 10^{-5}$ 6; $\alpha(\text{O})=4.46\times 10^{-6}$ 7 $\alpha(\text{K})_{\text{exp}}=0.0072$ 8. $A_2=-0.52$ 2, $A_4=+0.09$ 4 (1977Ha36), $A_2=-0.43$ 5, $A_4=+0.14$ 6 (2001Sh02).
577.3 5	6	1173.07	11/2 ⁺	595.56	9/2 ⁺				
579.70 20	69	1664.55	15/2 ⁻	1084.87	11/2 ⁻	E2		0.00572 8	$\alpha=0.00572$ 8; $\alpha(\text{K})=0.00488$ 7; $\alpha(\text{L})=0.000673$ 10; $\alpha(\text{M})=0.0001360$ 19; $\alpha(\text{N}+..)=3.04\times 10^{-5}$ 5 $\alpha(\text{N})=2.73\times 10^{-5}$ 4; $\alpha(\text{O})=3.09\times 10^{-6}$ 5 $\alpha(\text{K})_{\text{exp}}=0.0053$ 8. $A_2=+0.22$ 4, $A_4=-0.03$ 7 (1977Ha36), $A_2=+0.27$ 3, $A_4=-0.04$ 6 (1982Sh20), $A_2=+0.23$ 3, $A_4=+0.02$ 4 (2001Sh02).
590.84 20	18	704.31	9/2 ⁺	113.55	7/2 ⁺	M1+E2	+0.15 +6-7	0.00678 10	$\alpha=0.00678$ 10; $\alpha(\text{K})=0.00587$ 9; $\alpha(\text{L})=0.000732$ 11; $\alpha(\text{M})=0.0001468$ 21; $\alpha(\text{N}+..)=3.33\times 10^{-5}$ 5 $\alpha(\text{N})=2.98\times 10^{-5}$ 5; $\alpha(\text{O})=3.51\times 10^{-6}$ 5 $\alpha(\text{K})_{\text{exp}}=0.0053$ 10. $A_2=+0.12$ 5, $A_4=+0.14$ 9 (1977Ha36), $A_2=+0.11$ 5, $A_4=+0.12$ 10 (1982Sh20), $A_2=+0.16$ 7, $A_4=+0.06$ 6 (2001Sh02).
594 ^{@c} 1		2462.9		1868.7					
595.55 20	20	595.56	9/2 ⁺	0.0	5/2 ⁺	Q			$\alpha(\text{K})=0.00454$; $\alpha(\text{L})=0.00062$ $A_2=+0.19$ 4, $A_4=-0.02$ 6 (1977Ha36), $A_2=+0.20$ 6, $A_4=+0.03$ 7 (1982Sh20).
608.12 20	68	1203.72	13/2 ⁺	595.56	9/2 ⁺	E2		0.00504 7	$\alpha=0.00504$ 7; $\alpha(\text{K})=0.00430$ 6; $\alpha(\text{L})=0.000588$ 9; $\alpha(\text{M})=0.0001188$ 17; $\alpha(\text{N}+..)=2.66\times 10^{-5}$ 4

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$\gamma(^{125}\text{I})$ (continued)

E_γ [†]	I_γ [‡]	E_i (level)	J_i^π	E_f	J_f^π	Mult.&	δ^a	α^b	Comments
610.5 ^{@c} 10 613.59 20	37	3073.4? 2278.1	19/2 ⁻	2462.9 1664.55	15/2 ⁻	E2		0.00492 7	$\alpha(\text{N})=2.39\times 10^{-5}$ 4; $\alpha(\text{O})=2.71\times 10^{-6}$ 4 $\alpha(\text{K})_{\text{exp}}=0.0047$ 8. $A_2=+0.23$ 2, $A_4=-0.02$ 5 (1977Ha36), $A_2=+0.22$ 4, $A_4=-0.05$ 4 (1982Sh20), $A_2=+0.38$ 4, $A_4=+0.06$ 4 (2001Sh02).
614.2 3 637.03 20	4 29	2502.3 1173.07	19/2 11/2 ⁺	1887.93 536.10	17/2 ⁺ 7/2 ⁺	E2		0.00447 7	$\alpha=0.00492$ 7; $\alpha(\text{K})=0.00421$ 6; $\alpha(\text{L})=0.000574$ 8; $\alpha(\text{M})=0.0001158$ 17; $\alpha(\text{N}+..)=2.59\times 10^{-5}$ 4 $\alpha(\text{N})=2.33\times 10^{-5}$ 4; $\alpha(\text{O})=2.65\times 10^{-6}$ 4 $\alpha(\text{K})_{\text{exp}}=0.0048$ 8. $A_2=+0.24$ 4, $A_4=-0.07$ 6 (1977Ha36), $A_2=+0.24$ 5, $A_4=-0.03$ 8 (1982Sh20), $A_2=+0.25$ 4, $A_4=-0.05$ 4 (2001Sh02).
654.52 20	100	768.10	11/2 ⁺	113.55	7/2 ⁺	E2		0.00417 6	$\alpha=0.00447$ 7; $\alpha(\text{K})=0.00382$ 6; $\alpha(\text{L})=0.000517$ 8; $\alpha(\text{M})=0.0001044$ 15; $\alpha(\text{N}+..)=2.34\times 10^{-5}$ 4 $\alpha(\text{N})=2.10\times 10^{-5}$ 3; $\alpha(\text{O})=2.39\times 10^{-6}$ 4 $\alpha(\text{K})_{\text{exp}}=0.0043$ 10. $A_2=+0.17$ 5, $A_4=-0.06$ 9 (1977Ha36), $A_2=+0.21$ 9, $A_4=-0.03$ 11 (2001Sh02).
666.8 3	6	2554.78	19/2	1887.93	17/2 ⁺	D+Q	-0.19 +23-33	0.00506 22	$\alpha=0.00417$ 6; $\alpha(\text{K})=0.00357$ 5; $\alpha(\text{L})=0.000481$ 7; $\alpha(\text{M})=9.70\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.17\times 10^{-5}$ 3 $\alpha(\text{N})=1.95\times 10^{-5}$ 3; $\alpha(\text{O})=2.23\times 10^{-6}$ 4 $\alpha(\text{K})_{\text{exp}}=0.0036$ 6. $A_2=+0.20$ 2, $A_4=-0.05$ 3 (1977Ha36), $A_2=+0.28$ 4, $A_4=-0.06$ 4 (1982Sh20), $A_2=+0.37$ 4, $A_4=-0.07$ 6 (2001Sh02).
681.5 3 684.10 20	6 64	1616.8 1887.93	13/2 ⁽⁺⁾ 17/2 ⁺	935.8 1203.72	9/2 ⁽⁺⁾ 13/2 ⁺	E2		0.00373 6	$\alpha=0.00506$ 22; $\alpha(\text{K})=0.00438$ 19; $\alpha(\text{L})=0.000544$ 18; $\alpha(\text{M})=0.000109$ 4; $\alpha(\text{N}+..)=2.47\times 10^{-5}$ 9 $\alpha(\text{N})=2.21\times 10^{-5}$ 8; $\alpha(\text{O})=2.61\times 10^{-6}$ 10 $A_2=-0.38$ 15, $A_4=+0.26$ 25 (2001Sh02).
686.0 3 697.81 20 704.26 20	13 19 91	2350.53 1870.9 704.31	(17/2) 15/2 9/2 ⁺	1664.55 1173.07 0.0	15/2 ⁻ 11/2 ⁺ 5/2 ⁺	Q E2		0.00347 5	$\alpha=0.00373$ 6; $\alpha(\text{K})=0.00319$ 5; $\alpha(\text{L})=0.000427$ 6; $\alpha(\text{M})=8.61\times 10^{-5}$ 12; $\alpha(\text{N}+..)=1.93\times 10^{-5}$ 3 $\alpha(\text{N})=1.732\times 10^{-5}$ 25; $\alpha(\text{O})=1.98\times 10^{-6}$ 3 $\alpha(\text{K})_{\text{exp}}=0.0036$ 10. $A_2=+0.25$ 5, $A_4=-0.03$ 9 (1977Ha36), $A_2=+0.22$ 4, $A_4=-0.05$ 5 (1982Sh20).
									$A_2=+0.30$ 9 (1977Ha36), $A_2=+0.23$ 5, $A_4=+0.01$ 6 (2001Sh02). $\alpha=0.00347$ 5; $\alpha(\text{K})=0.00297$ 5; $\alpha(\text{L})=0.000396$ 6; $\alpha(\text{M})=7.97\times 10^{-5}$ 12; $\alpha(\text{N}+..)=1.79\times 10^{-5}$ 3 $\alpha(\text{N})=1.605\times 10^{-5}$ 23; $\alpha(\text{O})=1.84\times 10^{-6}$ 3 $\alpha(\text{K})_{\text{exp}}=0.0029$ 8. $A_2=+0.17$ 4, $A_4=-0.07$ 7 (1977Ha36), $A_2=+0.23$ 5, $A_4=+0.01$ 6 (1982Sh20), $A_2=+0.27$ 2, $A_4=+0.10$ 3 (2001Sh02).

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$\gamma(^{125}\text{I})$ (continued)

E_γ^\dagger	I_γ^\ddagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. &	δ^a	Comments
728 1	3	1997.4	(15/2)	1269.9	11/2 ⁽⁺⁾			
736.3 5	11	2624.2		1887.93	17/2 ⁺			$\delta(Q/D)=-0.07$ to $+0.12$.
^x 778.0 5	4							
783.8 5	9	1868.7		1084.87	11/2 ⁻			
786.43 20	50	1554.44	15/2	768.10	11/2 ⁺	Q		$A_2=+0.14$ 6, $A_4=-0.03$ 10 (1977Ha36), $A_2=+0.19$ 8, $A_4=+0.02$ 5 (1982Sh20), $A_2=+0.18$ 6, $A_4=-0.04$ 6 (2001Sh02).
795.9 5	8	1332.0		536.10	7/2 ⁺			
796.1 3	13	2350.53	(17/2)	1554.44	15/2			$A_2=-0.16$ 9 (1977Ha36).
798.3 3	15	2462.9		1664.55	15/2 ⁻			$A_2=-0.01$ 8 (1977Ha36).
822.2 3	32	935.8	9/2 ⁽⁺⁾	113.55	7/2 ⁺	D+Q	+0.12 +5-3	$A_2=-0.08$ 3, $A_4=-0.04$ 5 (1977Ha36), $A_2=+0.04$ 5, $A_4=-0.07$ 9, (1982Sh20), $A_2=-0.11$ 7, $A_4=-0.05$ 9 (2001Sh02).
840.0 5	8	3302.9		2462.9				
842.4 5	7	2713.3		1870.9	15/2			
850.0 3	31	2737.9	21/2	1887.93	17/2 ⁺	Q		$\alpha(K)=0.00190$; $\alpha(L)=0.00025$ $A_2=+0.24$ 6, $A_4=-0.03$ 9 (1977Ha36), $A_2=+0.20$ 8, $A_4=-0.06$ 9 (1982Sh20), $A_2=+0.23$ 6, $A_4=-0.03$ 8 (2001Sh02).
890.6 3	9	3674.5	27/2	2783.9	23/2 ⁽⁻⁾	Q		$A_2=+0.45$ 9 (1977Ha36), $A_2=+0.30$ 9, $A_4=-0.08$ 7 (1982Sh20), $A_2=+0.21$ 9, $A_4=+0.03$ 13 (2001Sh02).
948.0 3	16	2502.3	19/2	1554.44	15/2	Q		$A_2=+0.30$ 9 (1977Ha36), $A_2=+0.39$ 8, $A_4=+0.10$ 11 (2001Sh02).
1018.0 5	8	2221.7		1203.72	13/2 ⁺			
1028.2 5	7	2916.1		1887.93	17/2 ⁺			
1130.0 5	8	3867.9		2737.9	21/2			

[†] From 1977Ha36 and 1999Sh19, uncertainties of E_γ 's are 0.05-0.3 keV and 0.2-0.5 keV for 1977Ha36 and 1999Sh19 respectively; evaluators assigned 0.1 keV for E_γ 's ≤ 400 keV, 0.2 keV for strong E_γ 's > 400 keV and 0.3 keV for weak E_γ 's.

[‡] From 1999Sh19; typical uncertainties of I_γ 's are 5 to 20% for $I_\gamma > 10$ and 20-40% for $I_\gamma < 10$.

[#] Observed in coincidence only; no intensity was given (1977Ha36).

[@] Weak transition observed in coincidence only (1999Sh19).

[&] From $\alpha(K)_{\text{exp}}$, A_2 and A_4 values (1977Ha36,2001Sh02).

^a From $\gamma(\theta)$ (2001Sh02), unless otherwise indicated; 1977Ha36 measured $\alpha(K)_{\text{exp}}$ relative to $\alpha(K)_{\text{exp}}(113.56\gamma)=0.48$ 4, the value for M1 transition. Since the adopted value for $\delta=-0.12$ 2 is 0.454 1, evaluators corrected the experimental values.

^b Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^c Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

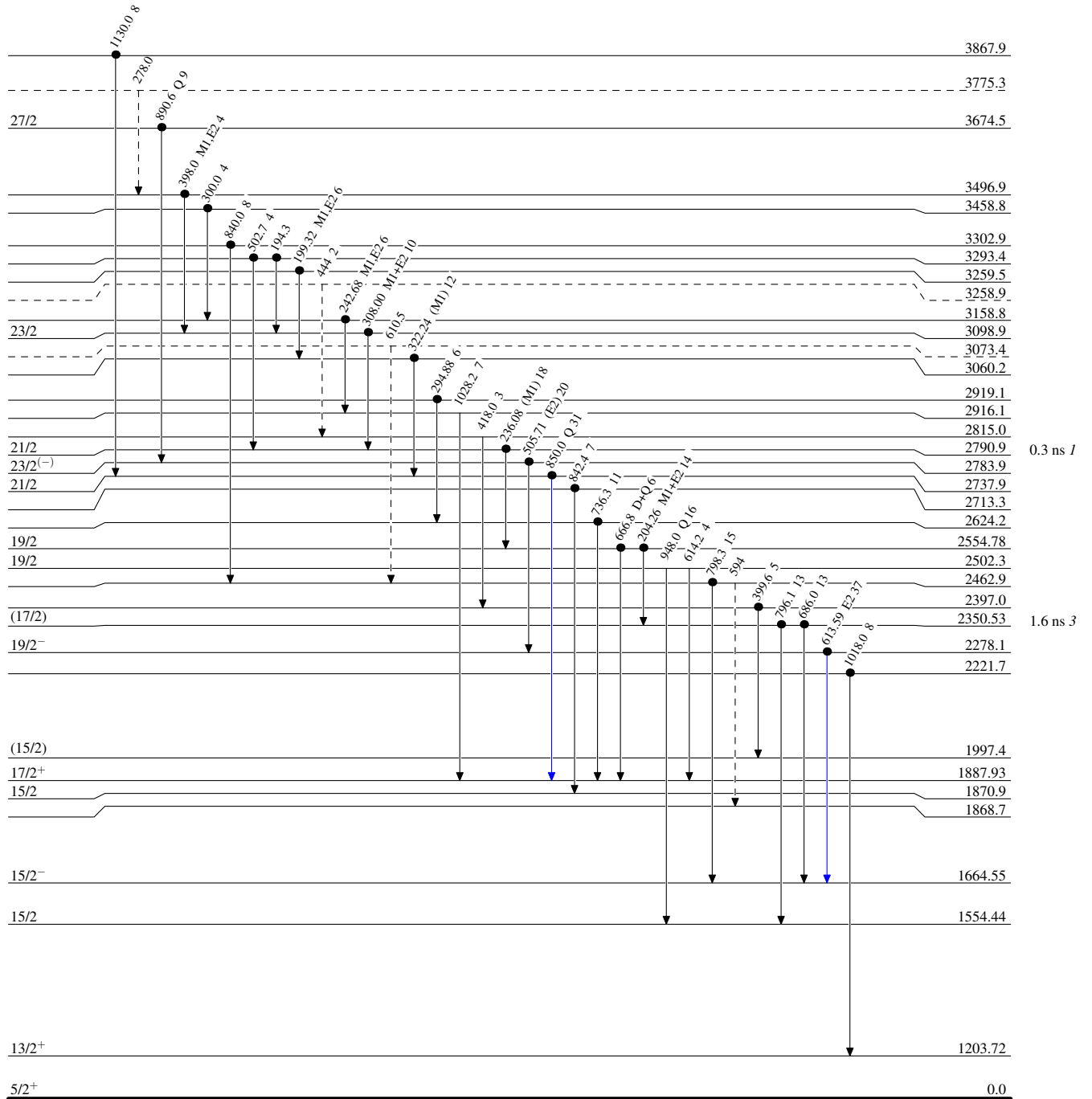
¹²³Sb(α ,2n γ), ¹²²Sn(⁶Li,3n γ) 2001Sh02,1999Sh19,1977Ha36

Legend

Level Scheme

Intensities: Relative I _{γ}

- I _{γ} < 2% × I _{γ} ^{max}
- I _{γ} < 10% × I _{γ} ^{max}
- I _{γ} > 10% × I _{γ} ^{max}
- - - → γ Decay (Uncertain)
- Coincidence



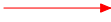
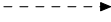



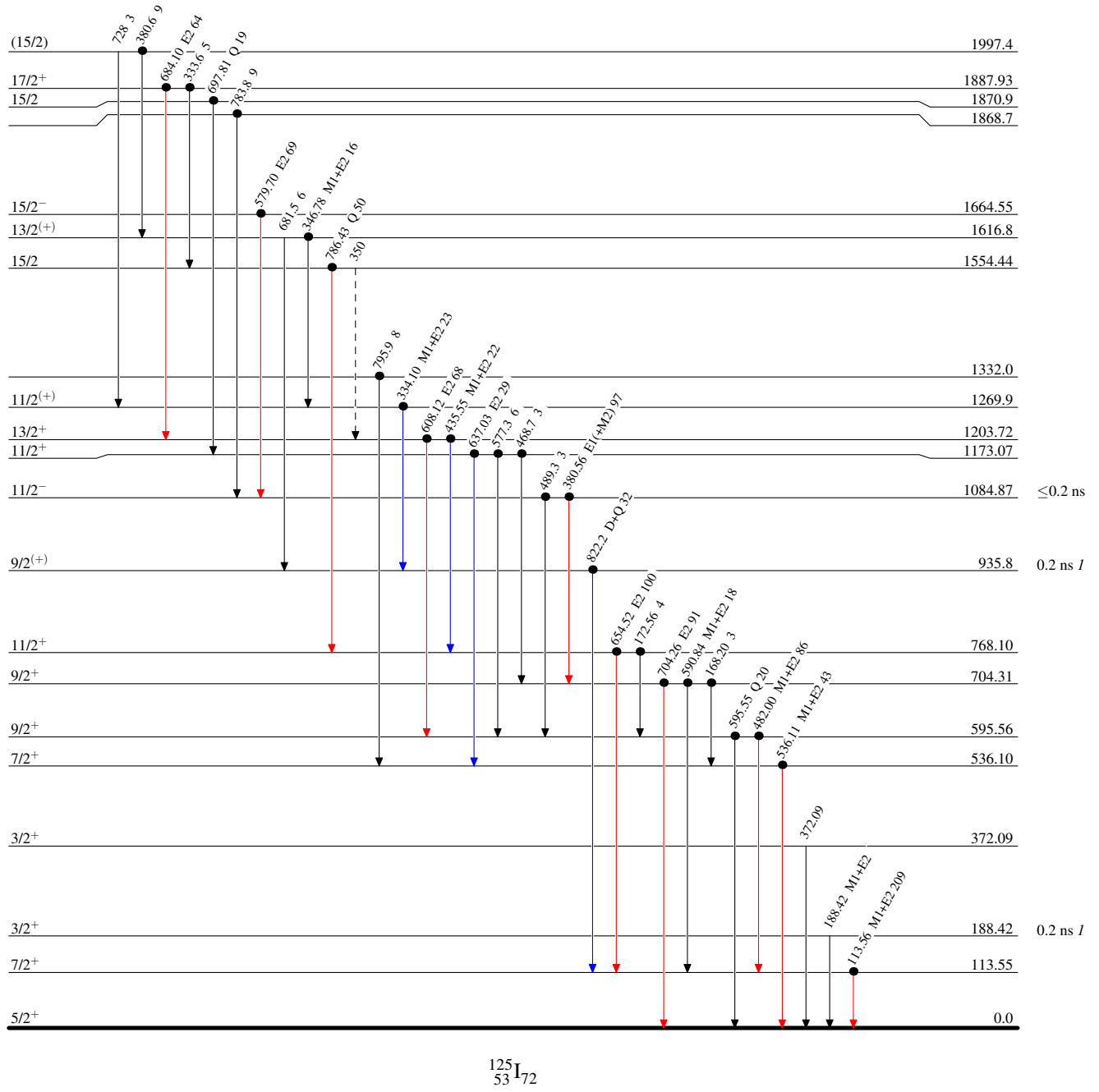
$^{123}\text{Sb}(\alpha,2n\gamma), ^{122}\text{Sn}(^6\text{Li},3n\gamma)$ 2001Sh02,1999Sh19,1977Ha36

Level Scheme (continued)

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)
-  Coincidence



$^{123}\text{Sb}(\alpha, 2n\gamma), ^{122}\text{Sn}(\text{Li}, 3n\gamma)$ 2001Sh02, 1999Sh19, 1977Ha36