^{117}Sn(α,nγ),^{110}Pd(^{13}C,3nγ) 1982Ch01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	K. Kitao, Y. Tendow and A. Hashizume	NDS 96, 241 (2002)	1-Dec-2001

^{117}Sn(α,nγ) E=16,18,20 MeV; ^{110}Pd(^{13}C,3nγ) E=40,45,49,52 MeV; measured γ, $\gamma\gamma$(t), $\gamma(\theta)$.
The level scheme is that proposed by the authors as a combined result from ^{110}Pd(^{13}C,3nγ) and ^{117}Sn(α,nγ).

^{120}Te Levels

E(level)‡	Jπ†	E(level)‡	Jπ†	E(level)‡	Jπ†	E(level)‡	Jπ†
0.0	0^+	2201.48 *5*	6^+	2899.20 *7*		3487.40 *10*	
560.44 *2*	2^+	2358.3 *4*		2940.28 *7*		3543.58 *9*	(10^+)
1103.21 *20*	0^+	2423.1 *4*		3030.55 *7*		3813.61 *9*	
1161.56 *3*	4^+	2445.6 *4*		3039.27	8^+	4086.36 *9*	
1201.28 *5*	2^+	2461.36 *11*		3130.84 *9*	$(9^+,10^+)$	4092.92 *9*	12^+
1535.08 *9*	(2^+)	2519.89 *6*	6^+	3142.17 *7*		4459.79 *13*	
1776.23 *5*	6^+	2652.97 *6*	8^+	3340.4 *11*		4818.72 *13*	14^+
1815.11 *6*	4^+	2807.7 *4*		3364.30 *7*	10^+	5345.12	16^+
1863.34 *10*		2835.33 *9*	8^+	3374.20 *8*		6039.7 *12*	
1924.40 *6*	4^+	2877.62 *13*		3399.73 *8*			

† Values given by authors based on $\gamma(\theta)$ and Iγ results, and the assumption of stretched E2 for mult=Q and M1+E2 for D+Q.
‡ From a least-squares fit to the E(γ's) by the evaluators.

γ(^{120}Te)

E_γ†	I_γ†	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	Comments
112.1 *3*	<1	3142.17		3030.55			
202‡		3142.17		2940.28			
243‡		3142.17		2899.20			
296.0 *3*	<2	3130.84	$(9^+,10^+)$	2835.33	8^+	(D+Q)	
325.1 *3*		3364.30	10^+	3039.27	8^+	Q	E_γ: from (^{13}C,3nγ). Unplaced in (α,nγ). I_γ: 19 *2* in (^{13}C,3nγ).
357‡@		3487.40		3130.84	$(9^+,10^+)$		
416‡@		2877.62		2461.36			
425.5 *3*	3 *1*	2201.48	6^+	1776.23	6^+	D+Q	I_γ: 10 *1* in (^{13}C,3nγ).
432‡		1535.08	(2^+)	1103.21	0^+		
525.9# *3*		5345.12	16^+	4818.72	14^+	Q	I_γ: 10 *1* in (^{12}C,3nγ).
542.8 *3*	<2	1103.21	0^+	560.44	2^+		
560.6 *3*	100	560.44	2^+	0.0	0^+	E2	
601.3 *3*	67 *7*	1161.56	4^+	560.44	2^+	Q	I_γ: 99 *10* in (^{13}C,3nγ).
614.7& *3*	<39	1776.23	6^+	1161.56	4^+	Q	I_γ: 71 *7* for a singles′ value in (^{13}C,3nγ).
614.7& *3*	<39	1815.11	4^+	1201.28	2^+	Q	I_γ: 10 *1* in (^{13}C,3n).
634‡		2835.33	8^+	2201.48	6^+		
640.9& *3*	11 *1*	1201.28	2^+	560.44	2^+	(D+Q)	
653.7 *3*	2 *1*	1815.11	4^+	1161.56	4^+	D+Q	
662.1 *3*	2 *1*	1863.34		1201.28	2^+		
671‡		3813.61		3142.17			
687‡		3340.4		2652.97	8^+		
694‡#		6039.7		5345.12	16^+		
701.8 *3*	<2	1863.34		1161.56	4^+		

Continued on next page (footnotes at end of table)

^{117}Sn(α,nγ),^{110}Pd(^{13}C,3nγ) 1982Ch01 (continued)

γ(^{120}Te) (continued)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	Comments
704.7 *3*	1 *1*	2519.89	6^+	1815.11	4^+	Q	
712.2[&#] *3*	32 *4*	3364.30	10^+	2652.97	8^+	Q[b]	I_γ: <10 in (^{13}C,3nγ).
712.2[&#] *3*		4086.36		3374.20		Q[b]	
721[‡#]		3374.20		2652.97	8^+		
725.8[#] *3*		4818.72	14^+	4092.92	12^+	Q	I_γ: 13 *1* in (^{12}C,3nγ).
728.7[#] *3*		4092.92	12^+	3364.30	10^+	Q	I_γ: 23 *2* in (^{13}C,3nγ).
743.8 *3*	2 *1*	2519.89	6^+	1776.23	6^+	D+Q	
747[‡#]		3399.73		2652.97	8^+		
762.9 *3*	3 *1*	1924.40	4^+	1161.56	4^+	D+Q	
837.8 *3*	2	3039.27	8^+	2201.48	6^+	Q	I_γ: 26 *3* in (^{13}C,3nγ).
876.8 *3*	5 *1*	2652.97	8^+	1776.23	6^+	Q	I_γ: 36 *4* in (^{13}C,3nγ).
890.8[#] *3*		3543.58	(10^+)	2652.97	8^+	Q	I_γ: 8 *1* in (^{13}C,3nγ).
915[‡#]		4459.79		3543.58	(10^+)		
974.7 *3*	2 *1*	1535.08	(2^+)	560.44	2^+	(D+Q)	
1031.1 *3*	3 *1*	2807.7		1776.23	6^+		
1040.0 *3*	5 *1*	2201.48	6^+	1161.56	4^+	Q	I_γ: 21 *2* in (^{13}C,3nγ).
1059.1 *3*	2 *1*	2835.33	8^+	1776.23	6^+	Q	
1101.3 *3*	<2	2877.62		1776.23	6^+		
1123.0 *3*	2 *1*	2899.20		1776.23	6^+		
1164.0 *3*	2 *1*	2940.28		1776.23	6^+		
1196.4 *3*	<2	2358.3		1161.56	4^+		
1201.4 *3*	3 *1*	1201.28	2^+	0.0	0^+		
1254.8 *3*	2 *1*	3030.55		1776.23	6^+		
1261.2 *3*	2 *1*	2423.1		1161.56	4^+		
1283.7 *3*	<2	2445.6		1161.56	4^+		
1299.8 *3*	3 *1*	2461.36		1161.56	4^+		
1303.0 *3*	2 *1*	1863.34		560.44	2^+		
1364.2 *3*	3 *1*	1924.40	4^+	560.44	2^+	Q	

† From (α,nγ). Intensities are relative to Iγ(560)=100, unless otherwise noted.
‡ From authors′ drawing. No intensity is given by the authors.
# Observed in (^{13}C,3nγ).
@ Observed in (α,nγ).
& Doublet.
a From $\gamma(\theta)$.
b From $\gamma(\theta)$ for a doublet.

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Level Scheme

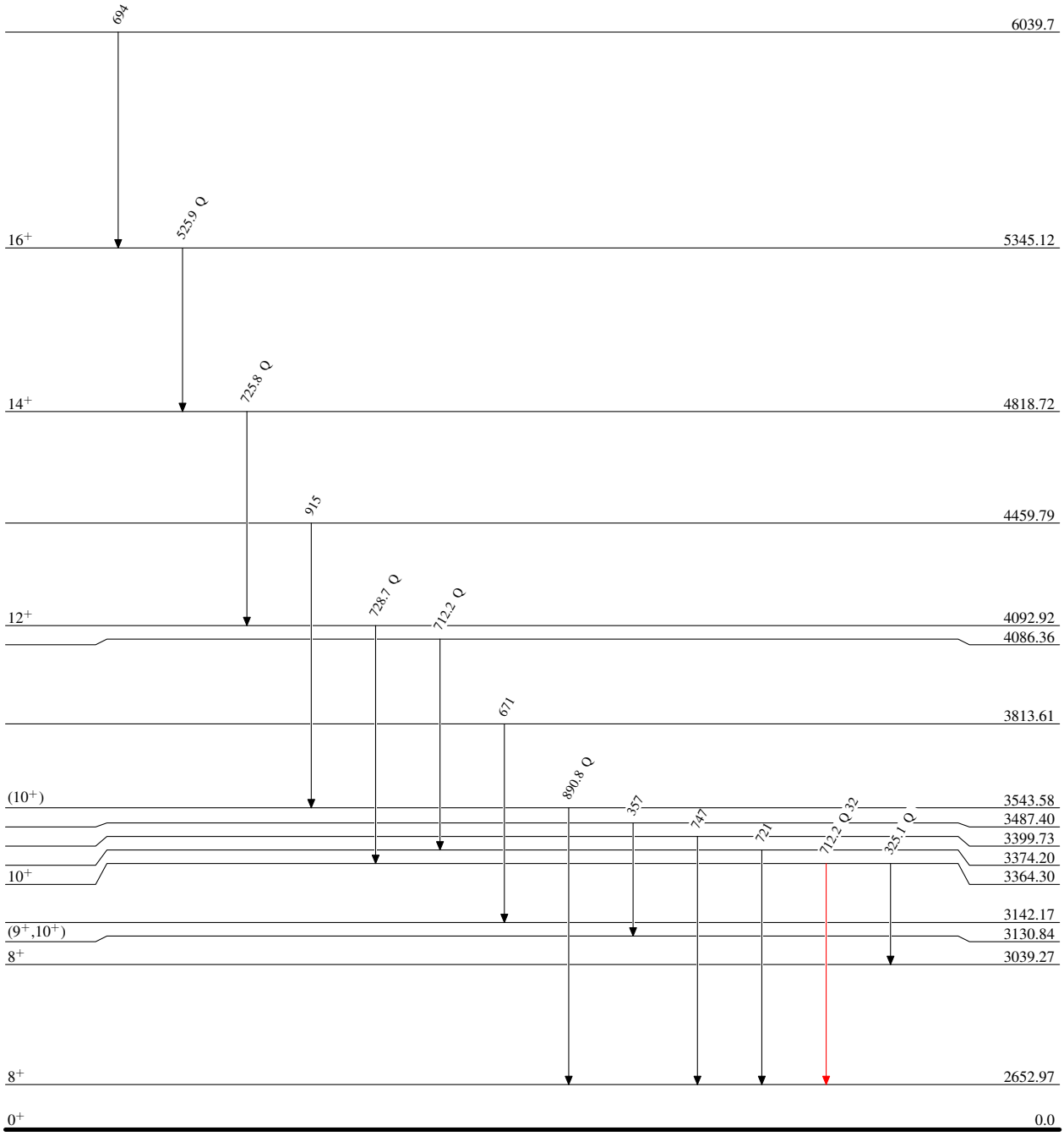
Intensities: Relative I_γ

Legend

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

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

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



$^{120}_{52}Te_{68}$

^{117}Sn(α,nγ),^{110}Pd(^{13}C,3nγ) 1982Ch01

Level Scheme (continued)

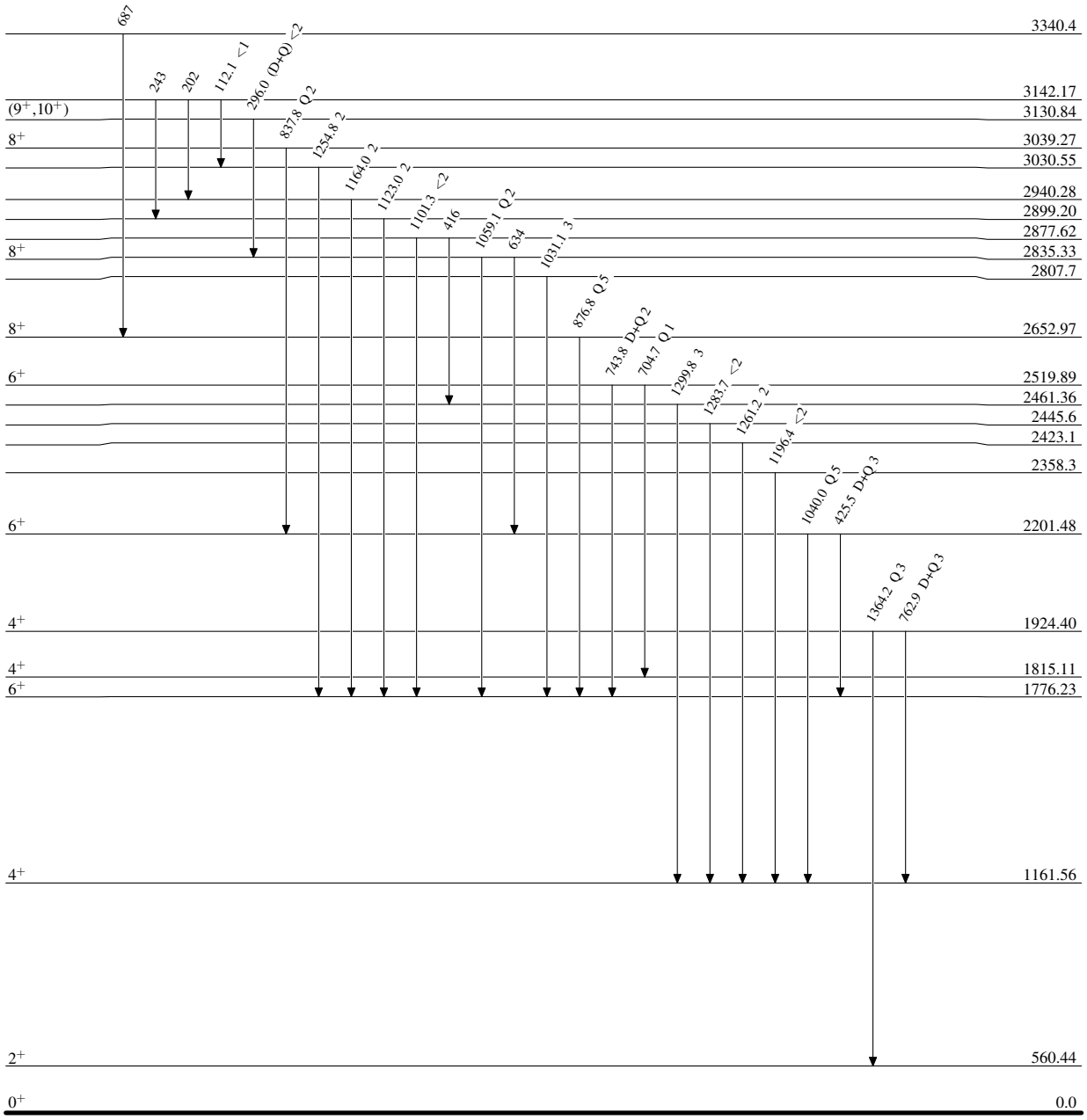
Intensities: Relative I_γ

Legend

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

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

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



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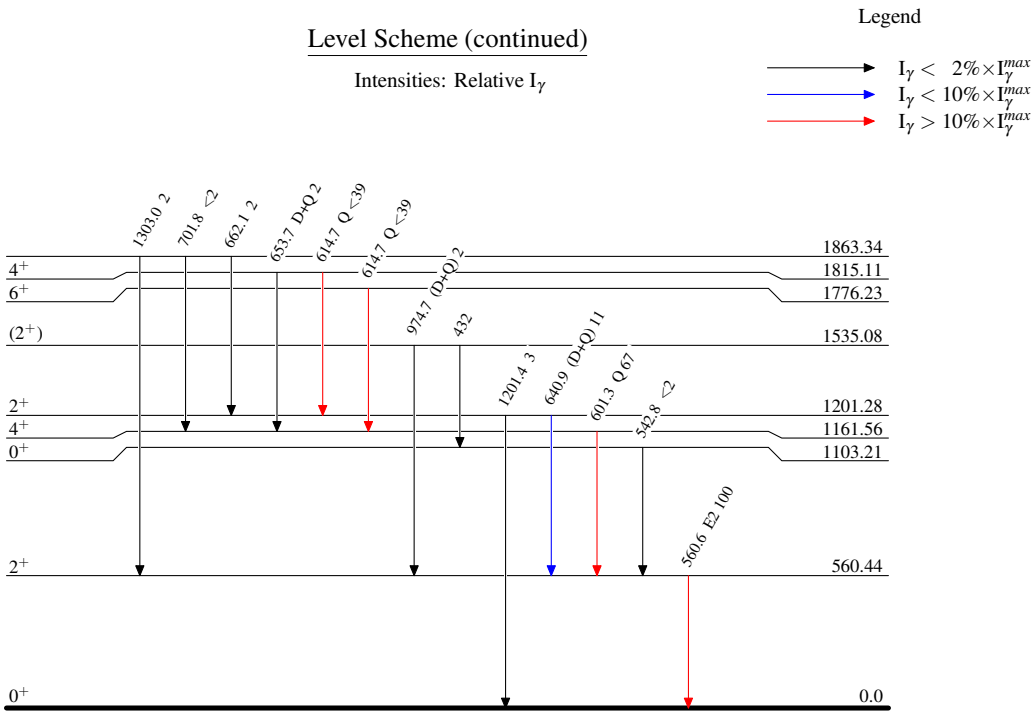
Level Scheme (continued)

Intensities: Relative I_γ



$^{120}_{52}Te_{68}$