^{122}Sn(α,2nγ) 1998Wa18,1991Le16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109, 1655 (2008)	1-Apr-2008

1998Wa18: ^{122}Sn(α,2nγ) enriched target 92.2%;E=18, 20.5, 22.5, 26 MeV; Compton-suppression spectrometer and 40 cm^3 intrinsic Ge detector with FWHM=1.4 keV at 122 keV and FWHM=1.9 keV at 1.4 MeV for excitation functions; E ≈ 23 MeV Compton-suppression spectrometer and 144 cm^3 central Ge detector with FWHM=1.1 keV at 122 keV and FWHM=1.9 keV at 1.4 MeV for γ(q),three Compton-shielded intrinsic Ge detectors and one detector without Compton-shielding with FWHM=2 keV at 1.4 MeV for $\gamma\gamma$-coin, also measured Eγ.

1991Le16: ^{122}Sn(α,2nγ) E=18-23 MeV excitation functions 18-23 MeV, enriched target; semi, γ, $\gamma\gamma$ coin, $\gamma(\theta)$; Only 31 γ rays and 27 levels are reported.

1967Be07: ^{124}Sn(^{3}He,3nγ) E=19.3 MeV, metallic enriched target; Ge(Li), FWHM(511γ)=9 keV; observed 2+(603), 4+(1250).

1971Ke20: ^{122}Sn(α,2nγ) E=16-30 MeV, enriched target; excitation functions 16-30 MeV, Ge(Li) FWHM(1173γ)=2.2 keV, FWHM(122γ)=0.65 keV; γ, $\gamma(\theta)$.

1973Wy01,1971WyZW: ^{122}Sn(α,2nγ) E=27.5 MeV; Si(Li) FWHM=2.5 keV; ce(K), K/L values are measured.

^{124}Te Levels

E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†
0.0	0^+	2834.90 *5*	3^-	3382.924 *23*	(7)
602.727 *10*	2^+	2839.022 *21*	6	3409.02 *4*	9
1248.576 *13*	4^+	2844.454 *24*	(5)	3422.57 *4*	$6^{(+)}$
1325.538 *15*	2^+	2865.244 *22*	3^-	3444.01 *4*	(5,6)
1657.30 *5*	0^+	2872.88 *6*	3^+,4^+,5^+	3452.67 *3*	(6)
1746.951 *18*	6^+	2873.53 *6*	7	3475.53 *8*	(6,7)
1882.89 *7*	0^+	2880.33 *6*	$5^{(+)}$	3479.53 *4*	$6^{(+)}$
1957.883 *15*	4^+	2902.71 *4*	(5)	3513.43 *11*	5,6,7
2039.291 *16*	2^+ & 3^+‡	2911.162 *19*	$7^{(-)}$	3526.67 *3*	(7,8)
2225.004 *22*	4^+	2920.70 *5*	(3,4)	3549.98 *3*	$10^{(+)}$
2293.7 *3*	3^-	2933.83 *5*	6	3554.44 *11*	7
2321.714 *23*	(6^+)	2954.222 *20*	6	3598.958 *24*	$9^{(-)}$
2322.85 *15*	2^+	2965.16 *3*	(7^-)	3652.12 *6*	(7)
2335.012 *16*	5^-	2966.98 *6*	(5,6)	3703.46 *3*	8
2349.448 *21*	6^+	2973.24 *3*	(5,6)	3713.97 *7*	(8,9)
2454.05 *13*	2^+	2986.70 *19*	(5,6)	3836.44 *10*	(9)
2483.318 *16*	4^+#	3001.13 *7*	2^+,3@	3845.20 *11*	8
2511.96 *6*	4	3032.820 *20*	7	3850.52 *5*	11
2549.96 *6*	(4)	3038.26 *3*	$8^{(+)}$	3872.30 *5*	(9,10)
2589.60 *10*	(6)	3069.25 *10*	$6^{(+)}$	3931.55 *3*	10
2594.512 *19*	5	3136.74 *4*	$8^{(+)}$	3984.76 *10*	(8)
2619.06 *10*	(3)	3154.34 *3*	$10^{(+)}$	3988.65 *4*	$11^{(-)}$
2664.354 *20*	6	3260.84 *6*	(6)	4032.78 *4*	$11^{(-)}$
2664.41 *3*	8^+	3272.28 *3*	8	4034.42 *3*	(10)
2673.753 *18*	$7^{(-)}$	3290.73 *3*	$9^{(-)}$	4051.38 *5*	11
2693.5 *4*	3^-	3307.36 *6*	7	4114.06 *4*	(9,10)
2701.60 *8*	2^-	3336.21 *4*	8	4173.67 *4*	
2710.63 *7*	4^+	3350.943 *21*	$9^{(-)}$	4238.37 *5*	
2713.76 *13*	(5,7)	3365.42 *7*	(7)	4286.11 *4*	
2737.89 *6*	$6^{(+)}$	3367.96 *3*	9		
2773.88 *3*	$6^{(+)}$	3370.12 *5*	8		

† From Adopted Levels.

‡ According to 1998Wa18, 1989GoZK in (n,n′γ) and 2000Do11 in (n,γ) E=THERMAL, this level is a doublet. One has J^π of 3^+

Continued on next page (footnotes at end of table)

^{122}Sn(α,2nγ) 1998Wa18,1991Le16 (continued)

^{124}Te Levels (continued)

and the other 2^+.

1998Wa18 suggests negative parity, but M1+E2 γ's to 4^+ and (2^+ or 3^+) states in Adopted Levels, gammas data set are inconsistent with the assignment.

@ 1998Wa18 suggests 2^-,$(3)^-$ from log *ft*=6.7, but the value does not exclude parity change. γ to 4^+ exclude 2^-.

^{122}Sn(α,2nγ) 1998Wa18,1991Le16 (continued)

$\gamma(^{124}Te)$

α(K)exp values are calculated using relative intensities of conversion electrons in 1973Wy01 and relative γ ray intensities in 1991Le16 by evaluators normalizing α(K)exp of 603-keV transition to 4.2×10^{-3} for E2 character. K/L ratios are from 1971WyZW.

$\gamma(\theta)$ data (1998Wa18, 1971Ke20 and 1991Le16)

transition	A2	A4	references
122	+0.29 *4*		1998Wa18
134	+0.29 *5*		1998Wa18
190	+0.2 *1*		1998Wa18
214	+0.33 *4*		1998Wa18
253	-0.28 *1*		1998Wa18
280	-0.37 *6*		1998Wa18
297	-0.43 *2*		1998Wa18
329	-0.63 *1*		1998Wa18
	-0.66 *9*	+0.13 *11*	1991Le16
332	+0.30 *8*		1998Wa18
339	+0.31 *4*		1998Wa18
353	-1.19 *7*		1998Wa18
359	+0.39 *2*		1998Wa18
	+0.16 *5*	-0.03 *10*	1971Ke20
	+0.30 *5*	0	1991Le16
361	-0.23 *2**		1998Wa18
368	+0.29 *8*		1998Wa18
374	+0.40 *2*		1998Wa18
388	+0.25 *3*		1998Wa18
396	+0.29 *8*		1998Wa18
403	-0.36 *6*		1998Wa18
413	-1.18 *6*		1998Wa18
435	-0.69 *2*		1998Wa18
444	+0.12 *2*		1998Wa18
	-0.42 *24*	-0.36 *41*	1991Le16
471	+0.69 *4*		1998Wa18
472	+0.42 *2*		1998Wa18
	+0.41 *10*	-0.20 *16*	1991Le16
490	+0.27 *3*	-0.20 *4*	1998Wa18
	+0.35 *1*	-0.08 *4*	1971Ke20
	+0.43 *4*	-0.19 *6*	1991Le16
498	+0.43 *2*	-0.13 *2*	1998Wa18
	+0.31 *1*	-0.07 *4*	1971Ke20
	+0.35 *4*	-0.12 *6*	1991Le16
504	-0.37 *4*		1998Wa18
525	+0.47 *2*	+0.02 *3*	1998Wa18
	-0.01 *17*	+0.08 *25*	1991Le16
530	+0.16 *4*	-0.12 *4*	1998Wa18
557	+0.51 *7*		1998Wa18
562	-0.27 *2*		1998Wa18

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576	+0.30 *1*	-0.13 *1*	1998Wa18
581	-1.09 *7*		1998Wa18
599	+0.66 *6*		1998Wa18
603	+0.45 *2*	-0.09 *3*	1998Wa18
	+0.26 *1*	-0.05 *4*	1971Ke20
	+0.33 *4*	-0.14 *6*	1991Le16
608	+0.40 *7*	-0.24 *9*	1998Wa18
616	-0.17 *4*		1998Wa18
617	+0.30 *1*	-0.15 *2*	1998Wa18
619	-0.58 *5*		1998Wa18
628	+0.4 *1*		1998Wa18
630	+0.51 *5*	-0.073 *6*	1998Wa18
632	+0.6 *3*		1998Wa18
637	-0.3 *1*		1998Wa18
638	+0.56 *5*		1998Wa18
641	-0.8 *2*		1998Wa18
646	+0.42 *2*	-0.12 *2*	1998Wa18
	+0.29 *1*	-0.05 *4*	1971Ke20
	+0.35 *4*	-0.15 *6*	1991Le16
662	-0.9 *2*		1998Wa18
671	+0.44 *7*		1998Wa18
677	+0.32 *5*	-0.12 *7*	1998Wa18
	+0.38 *5*	-0.17 *8*	1991Le16
688	+0.25 *2*	-0.17 *4*	1998Wa18
696	+0.82 *3*		1998Wa18
698	+0.15 *2*	-0.28 *3*	1998Wa18
	+0.33 *4*	-0.15 *6*	1991Le16
704	-0.22 *3*		1998Wa18
710	+0.23 *3*	-0.06 *4*	1998Wa18
	+0.04 *6*	-0.13 *8*	1991Le16
714	+0.08 *2*	+0.05 *4*	1998Wa18
	-0.09 *7*	-0.10 *10*	1991Le16
723	+0.25 *2*	-0.01 *3*	1998Wa18
	+0.34 *3*	-0.05 *7*	1971Ke20
	-0.10 *4*	-0.15 *7*	1991Le16
742	+0.22 *7*	-0.10 *9*	1998Wa18
745	-0.20 *2*		1998Wa18
	-0.09 *7*	-0.10 *9*	1991Le16
758	+0.21 *3*	-0.14 *5*	1998Wa18
779	-0.4 *2*		1998Wa18
791	+0.20 *4*	+0.02 *6*	1998Wa18
	+0.19 *7*	-0.02 *17*	1991Le16
815	+0.08 *2*	-0.16 *4*	1998Wa18
823	-0.19 *7*		1998Wa18
847	+0.5 *1*		1998Wa18
886	+0.23 *3*	-0.15 *5*	1998Wa18
	+0.13 *7*	-0.18 *10*	1991Le16
897	-1.4 *1*		1998Wa18
899	+0.3 *1*	-1 *2*	1998Wa18
917	+0.34 *1*	-0.16 *2*	1998Wa18
	+0.32 *3*	-0.06 *7*	1971Ke20
	+0.35 *2*	-0.19 *3*	1991Le16

927	-0.2 *3*		1998Wa18
	-0.26 *4*	0.00 *9*	1971Ke20
	-0.22 *2*	0	1991Le16
963	+0.4 *1*	-0.2 *1*	1998Wa18
967	-0.37 *9*		1998Wa18
976	+0.55 *3*	-0.02 *5*	1998Wa18
	+0.02 *9*	-0.24 *13*	1991Le16
991	+0.4 *1*		1998Wa18
1027	+0.3 *2*		1998Wa18
1055	+0.30 *4*	-0.5 *1*	1998Wa18
1086	-0.12 *1*		1998Wa18
	-0.22 *6*	+0.06 *7*	1971Ke20
	-0.20 *3*	0	1991Le16
1101	+0.44 *3*	-0.11 *5*	1998Wa18
	+0.34 *5*	-0.07 *8*	1991Le16
1111	+0.5 *1*	-0.4 *2*	1998Wa18
1127	-0.87 *2*		1998Wa18
	-0.90 *5*	+0.10 *6*	1991Le16
1133	+0.40 *3*		1998Wa18
1164	-0.18 *5*		1998Wa18
1172	-0.3 *1*		1998Wa18
1187	+0.34 *7*		1998Wa18
1220	+0.4 *1*		1998Wa18
1263	+0.4 *4*		1998Wa18
1291	+0.39 *2*	-0.17 *2*	1998Wa18
1301	-0.03 *12*	0.00 *17*	1991Le16
1323	+0.4 *1*		1998Wa18
1326	+0.37 *3*	-0.01 *4*	1998Wa18
	+0.15 *6*	0	1991Le16
1346	-0.61 *4*		1998Wa18
	-0.80 *11*	+0.11 *14*	1991Le16
1355	+0.46 *2*	-0.10 *2*	1998Wa18
	+0.16 *6*	-0.09 *8*	1991Le16
1370	-0.30 *2*		1998Wa18
1376	+0.20 *5*	-0.27 *8*	1998Wa18
1390	+0.30 *8*	-0.3 *1*	1998Wa18
1436	+0.46 *6*	0.1 *1*	1998Wa18
	+0.11 *6*	-0.11 *10*	1991Le16
1450	-0.11 *6*		1998Wa18
1489	+0.19 *2*	-0.13 *2*	1998Wa18
	+0.09 *7*	-0.21 *11*	1991Le16
1509	-0.1 *6*		1998Wa18
1526	+0.46 *3*	-0.15 *6*	1998Wa18
	+0.16 *16*	-0.11 *28*	1991Le16
1622	+0.46 *4*	-0.15 *6*	1998Wa18
1624	-0.55 *6*		1998Wa18
1654	-0.15 *4*		1998Wa18
1672	+0.71 *8*		1998Wa18
1691	-0.18 *13*	0	1991Le16
1729	-0.3 *1*		1998Wa18
1766	-0.36 *7*		1998Wa18
1807	-0.36 *6*		1998Wa18

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1851	+0.31 *9*							1998Wa18
2091	+0.12 *6*							1998Wa18

* For doublets.

E_γ †	I_γ #	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	δ @	Comments
121.656 *17*	2.50 *6*	3032.820	7	2911.162	$7^{(-)}$	D		
134.19 *4*	0.29 *5*	2973.24	(5,6)	2839.022	6	(D)		
189.97 *7*	1.37 *10*	3598.958	$9^{(-)}$	3409.02	9	(D)		
213.600 *15*	1.97 *12*	3367.96	9	3154.34	$10^{(+)}$	D		
253.337 *23*	1.67 *9*	4286.11		4032.78	$11^{(-)}$	D		
258.01 *9*	2.28 *18*	3290.73	$9^{(-)}$	3032.820	7			
280.49 *3*	0.74 *8*	2954.222	6	2673.753	$7^{(-)}$	D+Q	+0.13 *3*	
297.465 *13*	4.39 *10*	4286.11		3988.65	$11^{(-)}$	D		
299.52 *3*	2.55 *9*	2973.24	(5,6)	2673.753	$7^{(-)}$			
329.336 *12*	23.3 *4*	2664.354	6	2335.012	5^-	D+Q	−0.19 *2*	δ: Other: −2.1 *+6−4* (1991Le16).
331.86 *4*	1.75 *12*	3370.12	8	3038.26	$8^{(+)}$	D		
338.754 *11*	3.20 *12*	2673.753	$7^{(-)}$	2335.012	5^-			
352.51 *7*	1.61 *12*	3703.46	8	3350.943	$9^{(-)}$	D		
359.070 *15*	19.0 *6*	3032.820	7	2673.753	$7^{(-)}$	D+Q	−0.16 *7*	
361.135& *18*	5.74 *22*	2844.454	(5)	2483.318	4^+	D		
361.135& *18*	5.74 *22*	3272.28	8	2911.162	$7^{(-)}$	D		
368.38 *3*	1.07 *11*	3032.820	7	2664.41	8^+	(D)		
373.851 *13*	12.47 *21*	3038.26	$8^{(+)}$	2664.41	8^+	D+Q	−0.18 *2*	
377.18 *3*	3.16 *23*	2335.012	5^-	1957.883	4^+			
380.509 *15*	2.85 *12*	3260.84	(6)	2880.33	$5^{(+)}$			
387.855 *13*	4.21 *16*	4238.37		3850.52	11	(D)		
395.641 *14*	6.00 *17*	3549.98	$10^{(+)}$	3154.34	$10^{(+)}$	D+Q	−0.34 *3*	
402.86 *7*	1.40 *13*	2737.89	$6^{(+)}$	2335.012	5^-	D		
411.186 *24*	1.88 *16*	3444.01	(5,6)	3032.820	7			
412.76 *3*	3.22 *17*	3703.46	8	3290.73	$9^{(-)}$	D+Q	+1.9 *2*	
433.08 *15*	0.41 *16*	3272.28	8	2839.022	6			
435.458 *15*	4.03 *16*	4034.42	(10)	3598.958	$9^{(-)}$	D		
444.005 *13*	10.44 *22*	2483.318	4^+	2039.291	2^+ & 3^+	D+Q		Mult.: From $\gamma(\theta)$ in 1991Le16. δ: −10<δ<−0.1 (1991Le16).
468.40 *6*	1.7 *3*	3307.36	7	2839.022	6			
470.863 *22*	3.0 *4*	2954.222	6	2483.318	4^+			
472.333 *24*	9.1 *8*	3136.74	$8^{(+)}$	2664.41	8^+	D+Q	−0.12 *3*	
489.930 *11*	48.8 *6*	3154.34	$10^{(+)}$	2664.41	8^+	Q		
498.363 *15*	509 *6*	1746.951	6^+	1248.576	4^+	E2		Mult.: From α(K)exp and $\gamma(\theta)$. α(K)exp=0.008 *3*, K/L=7.7 *15*.
502.20 *11*	0.74 *17*	3475.53	(6,7)	2973.24	(5,6)			
504.007 *15*	12.53 *25*	2839.022	6	2335.012	5^-	D		
525.443 *15*	6.95 *12*	2483.318	4^+	1957.883	4^+	D		

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^{122}Sn(α,2nγ) 1998Wa18,1991Le16 (continued)

γ(^{124}Te) (continued)

E_γ [†]	I_γ [#]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [@]	Comments
530.231 *15*	3.87 *9*	2865.244	3^-	2335.012	5^-	Q		
557.35 *6*	0.90 *20*	1882.89	0^+	1325.538	2^+			
561.716 *11*	15.7 *4*	2911.162	$7^{(-)}$	2349.448	6^+	D		
576.147 *15*	15.6 *3*	2911.162	$7^{(-)}$	2335.012	5^-	Q		
580.608 *22*	1.68 *14*	3931.55	10	3350.943	$9^{(-)}$	D+Q	−0.51 *1*	
598.73 *6*	2.29 *23*	2933.83	6	2335.012	5^-	D		
602.70 *20*	38 *10*	2349.448	6^+	1746.951	6^+			
602.726 *10*	1000 *11*	602.727	2^+	0.0	0^+	E2		Mult.: From adopted gammas.
607.723‡ *23*	11.0 *4*	3272.28	8	2664.354	6	Q		
615.66 *4*	10.5 *5*	2965.16	(7^-)	2349.448	6^+	(D)		
617.03 *3*	43.4 *8*	3290.73	$9^{(-)}$	2673.753	$7^{(-)}$	Q		
619.230 *20*	4.95 *19*	2954.222	6	2335.012	5^-	D+Q	−0.15 *5*	
627.53 *4*	3.8 *6*	3365.42	(7)	2737.89	$6^{(+)}$	(D)		
630.18 *3*	7.63 *18*	2965.16	(7^-)	2335.012	5^-	(Q)		
632.11‡ *7*	1.74 *16*	1957.883	4^+	1325.538	2^+			
633.82 *9*	0.89 *16*	3984.76	(8)	3350.943	$9^{(-)}$			
636.58 *5*	2.59 *17*	2594.512	5	1957.883	4^+	(D)		
637.96‡ *3*	6.77 *21*	3988.65	$11^{(-)}$	3350.943	$9^{(-)}$			
640.84 *8*	1.59 *17*	3931.55	10	3290.73	$9^{(-)}$	(D)		
645.851 *10*	821 *9*	1248.576	4^+	602.727	2^+	E2		Mult.: From α(K)exp and $\gamma(\theta)$. α(K)exp=0.0034 *13*, K/L=6.3 *9*.
662.45 *3*	7.98 *19*	3336.21	8	2673.753	$7^{(-)}$	D+Q	−2.73 *4*	
670.628 *22*	7.86 *21*	3703.46	8	3032.820	7	D+Q	+0.40 *3*	
677.183 *10*	24.2 *4*	3350.943	$9^{(-)}$	2673.753	$7^{(-)}$	Q		
681.72 *4*	3.97 *23*	4032.78	$11^{(-)}$	3350.943	$9^{(-)}$			
687.792 *15*	11.3 *3*	3598.958	$9^{(-)}$	2911.162	$7^{(-)}$	Q		
696.17 *4*	17.5 *7*	3850.52	11	3154.34	$10^{(+)}$	D		
697.826‡ *15*	23.6 *5*	3988.65	$11^{(-)}$	3290.73	$9^{(-)}$	Q		
703.59 *3*	9.90 *21*	3367.96	9	2664.41	8^+	D		
709.30 *3*	26.8 *4*	1957.883	4^+	1248.576	4^+	D+Q	−0.26 *4*	
713.736 *11*	15.7 *4*	2039.291	2^+ & 3^+	1325.538	2^+			Mult.,δ: 1998Wa18 gives M and δ, but this transition is a doublet. δ: +0.23 *2*.
722.789 *15*	47.5 *6*	1325.538	2^+	602.727	2^+	D+Q		δ: −0.03 *2* or 2.4 *2*.
742.160‡ *14*	2.84 *13*	4032.78	$11^{(-)}$	3290.73	$9^{(-)}$	Q		
744.61 *3*	12.4 *6*	3409.02	9	2664.41	8^+	D		
758.16 *3*	3.13 *14*	3422.57	$6^{(+)}$	2664.41	8^+	Q		
778.59 *3*	1.8 *14*	3652.12	(7)	2873.53	7			
790.71 *3*	5.47 *16*	2039.291	2^+ & 3^+	1248.576	4^+			Mult.,δ: 1998Wa18 gives M and δ, but this transition is a doublet. δ: −0.30 *2* or −2.3 *2*.
812.38 *10*	1.64 *14*	3845.20	8	3032.820	7	D		
815.12 *3*	2.51 *16*	3479.53	$6^{(+)}$	2664.41	8^+	Q		

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^{122}Sn(α,2nγ) 1998Wa18,1991Le16 (continued)

$\gamma(^{124}Te)$ (continued)

E_γ [†]	I_γ [#]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [@]	Comments
822.72 *3*	2.62 *20*	4173.67		3350.943	$9^{(-)}$	(D)		
834.03 *4*	2.22 *16*	3872.30	(9,10)	3038.26	$8^{(+)}$			
842.65 *9*	3.04 *13*	2589.60	(6)	1746.951	6^+			
847.48 *5*	2.52 *13*	2594.512	5	1746.951	6^+			
852.918 *19*	4.20 *12*	3526.67	(7,8)	2673.753	$7^{(-)}$			
885.53 *3*	13.03 *23*	3549.98	$10^{(+)}$	2664.41	8^+	Q		
897.03 *4*	4.27 *19*	4051.38	11	3154.34	$10^{(+)}$	D		
899.49 *3*	2.21 *19*	2225.004	4^+	1325.538	2^+	(Q)		
917.44 *3*	179.4 *24*	2664.41	8^+	1746.951	6^+	E2		Mult.: From α(K)exp and $\gamma(\theta)$. α(K)exp=0.0023 *7*.
926.77 *5*	111.9 *15*	2673.753	$7^{(-)}$	1746.951	6^+	D		
962.78[‡] *8*	2.25 *17*	2710.63	4^+	1746.951	6^+	Q		
966.81 *12*	0.93 *17*	2713.76	(5,7)	1746.951	6^+	D		
976.42 *4*	9.1 *4*	2225.004	4^+	1248.576	4^+	D+Q	+0.27 *7*	
990.96 *7*	2.6 *3*	2737.89	$6^{(+)}$	1746.951	6^+	D+Q	−0.73 *7*	
1026.922 *25*	9.56 *3*	2773.88	$6^{(+)}$	1746.951	6^+	D		
1049.55 *6*	3.42 *15*	3713.97	(8,9)	2664.41	8^+			
1054.57 *5*	1.26 *12*	1657.30	0^+	602.727	2^+	Q		
1073.133 *19*	3.09 *15*	2321.714	(6^+)	1248.576	4^+	(Q)		
1086.440 *13*	90.8 *15*	2335.012	5^-	1248.576	4^+	D		
1100.84 *5*	29.6 *5*	2349.448	6^+	1248.576	4^+	Q		
1111.33 *10*	1.32 *15*	3069.25	$6^{(+)}$	1957.883	4^+	(Q)		
1117.653 *24*	2.19 *15*	3452.67	(6)	2335.012	5^-			
1126.57 *5*	25.5 *5*	2873.53	7	1746.951	6^+	D+Q		δ: −0.35 *3* or 0.56 *5*; Other: −1.1 *+5−9*(1991Le16).
1133.37 *5*	6.98 *25*	2880.33	$5^{(+)}$	1746.951	6^+	D+Q	−0.47 *3*	
1164.25 *5*	5.97 *20*	2911.162	$7^{(-)}$	1746.951	6^+	D		
1172.02 *9*	5.1 *7*	3836.44	(9)	2664.41	8^+	(D)		contaminated by a transition In another nucleus.
1186.93 *5*	6.9 *3*	2933.83	6	1746.951	6^+	D		
1207.69[‡] *14*	3.34 *17*	2954.222	6	1746.951	6^+			
1220.02 *5*	1.99 *22*	2966.98	(5,6)	1746.951	6^+	(D)		
1226.22 *5*	2.07 *15*	2973.24	(5,6)	1746.951	6^+			
1263.38 *5*	6.45 *21*	2511.96	4	1248.576	4^+	D		
1291.33 *10*	9.25 *25*	3038.26	$8^{(+)}$	1746.951	6^+	Q		
1301.38 *5*	5.90 *22*	2549.96	(4)	1248.576	4^+			
1322.59[‡] *9*	1.5 *3*	3069.25	$6^{(+)}$	1746.951	6^+	D		
1325.51 *5*	7.8 *3*	1325.538	2^+	0.0	0^+	(Q)		
1345.939 *15*	12.0 *3*	2594.512	5	1248.576	4^+	D		Mult.,δ: other: D+Q δ=−1.0 *9* (1991Le16).
1355.164 *14*	23.1 *5*	1957.883	4^+	602.727	2^+	Q		
1370.48 *10*	2.59 *23*	2619.06	(3)	1248.576	4^+	D		
1376.05 *7*	1.46 *15*	2701.60	2^-	1325.538	2^+	Q		
1385.08 *6*	1.34 *14*	2710.63	4^+	1325.538	2^+			

$^{124}_{52}Te_{72}$-8

^{122}Sn(α,2nγ) 1998Wa18,1991Le16 (continued)

$\gamma(^{124}Te)$ (continued)

E_γ [†]	I_γ [#]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [@]	Comments
1389.71 *10*	3.89 *17*	3136.74	$8^{(+)}$	1746.951	6^+	Q		
1436.47 *14*	14.6 *4*	2039.291	2^+ & 3^+	602.727	2^+			Mult.,δ: 1998Wa18 gives M and δ, but this transition is a doublet. δ: +0.52 *2*.
1449.639 *25*	2.77 *18*	4114.06	(9,10)	2664.41	8^+	(D)		
1488.96[‡] *10*	18.2 *4*	2737.89	$6^{(+)}$	1248.576	4^+	Q		
1509.35 *4*	2.14 *17*	2834.90	3^-	1325.538	2^+	D		
1526.25[‡] *19*	6.18 *21*	2773.88	$6^{(+)}$	1248.576	4^+	Q		
1560.25[‡] *3*	3.12 *16*	3307.36	7	1746.951	6^+			
1595.94 *19*	4.00 *18*	2844.454	(5)	1248.576	4^+			
1622.24 *3*	4.80 *21*	2225.004	4^+	602.727	2^+	Q		
1624.29 *5*	2.94 *24*	2872.88	3^+,4^+,5^+	1248.576	4^+	D		
1635.962 *14*	4.70 *19*	3382.924	(7)	1746.951	6^+			
1654.12 *3*	5.35 *20*	2902.71	(5)	1248.576	4^+	D		
1672.11 *4*	1.87 *15*	2920.70	(3,4)	1248.576	4^+	(D)		
1675.58 *6*	0.77 *14*	3001.13	2^+,3	1325.538	2^+			
1691.0 *3*	13.2 *4*	2293.7	3^-	602.727	2^+	D		Mult.: From $\gamma(\theta)$ in 1991Le16.
1720.11 *15*	2.72 *20*	2322.85	2^+	602.727	2^+			γ placement from table 6 in 1998Wa18, the placement of depopulation from 2321 level in table 1 may be a misprint.
1728.63 *10*	2.25 *18*	3475.53	(6,7)	1746.951	6^+	(D)		
1738.11 *19*	4.19 *22*	2986.70	(5,6)	1248.576	4^+			
1766.47 *10*	2.35 *14*	3513.43	5,6,7	1746.951	6^+	D		
1807.48 *10*	2.43 *18*	3554.44	7	1746.951	6^+	D		
1851.31 *13*	1.44 *15*	2454.05	2^+	602.727	2^+	D+Q	+0.039 *1*	
2039.31 *8*	3.19 *18*	2039.291	2^+ & 3^+	0.0	0^+			
2090.8 *4*	4.26 *20*	2693.5	3^-	602.727	2^+			

[†] From 1998Wa18.
[‡] The uncertainty of the energy seems to be too small comparing with the energy difference of corresponding levels as indicated in 1998Wa18. For least-squares fit, the uncertainty was increased by a factor of 3 to get an acceptable fit.
[#] From 1998Wa18; relative to I(602.726γ)=1000 *11* in ^{122}Sn(α,2nγ).
[@] From 1998Wa18, unless otherwise indicated.
[&] Multiply placed.

$^{124}_{52}Te_{72}$-9

^{122}Sn(α,2nγ) 1998Wa18,1991Le16

Level Scheme

Intensities: Relative I_γ

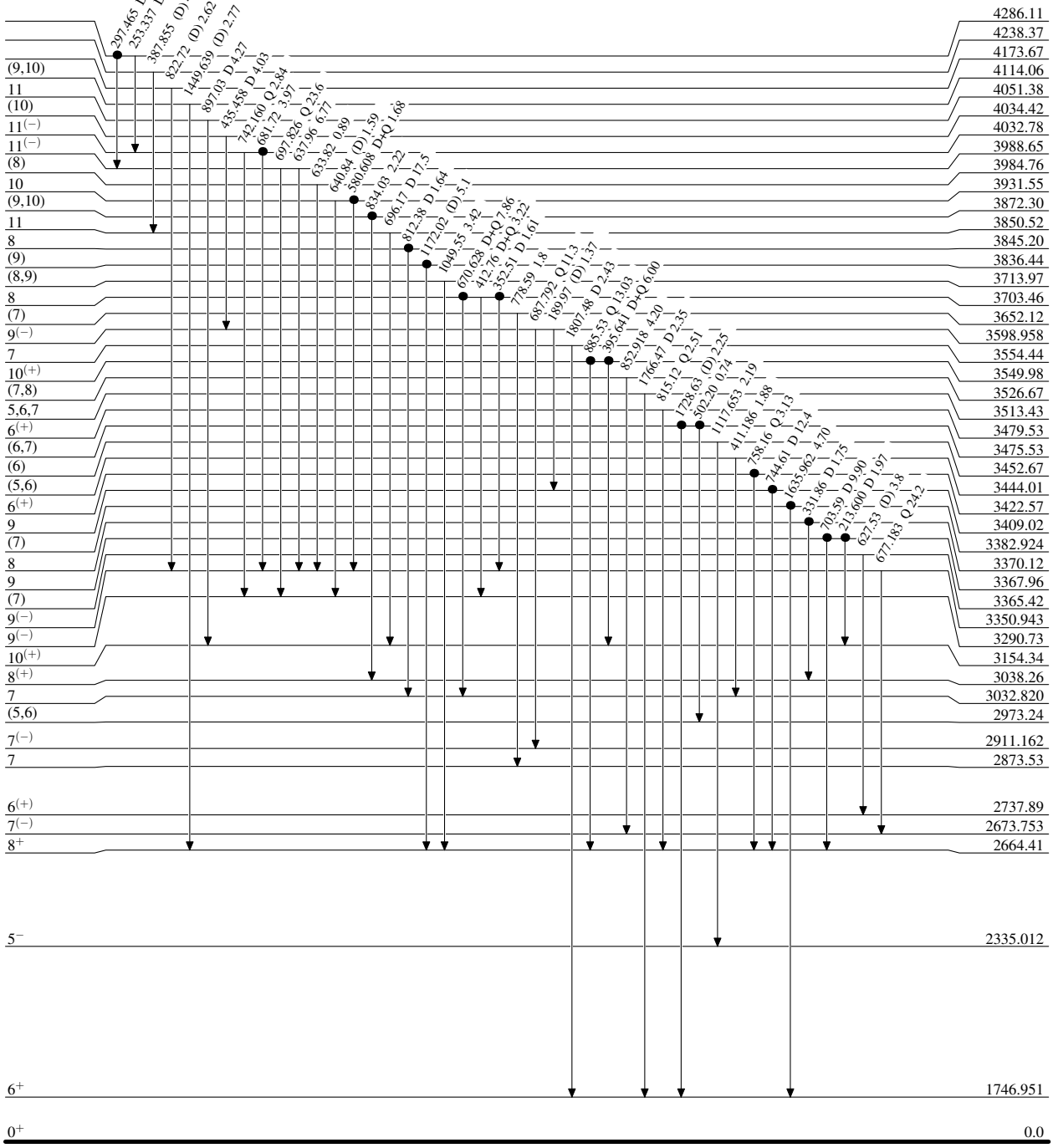
Legend

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

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

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

Coincidence



$^{124}_{52}Te_{72}$

^{122}Sn(α,2nγ) 1998Wa18,1991Le16

Level Scheme (continued)

Intensities: Relative I_γ

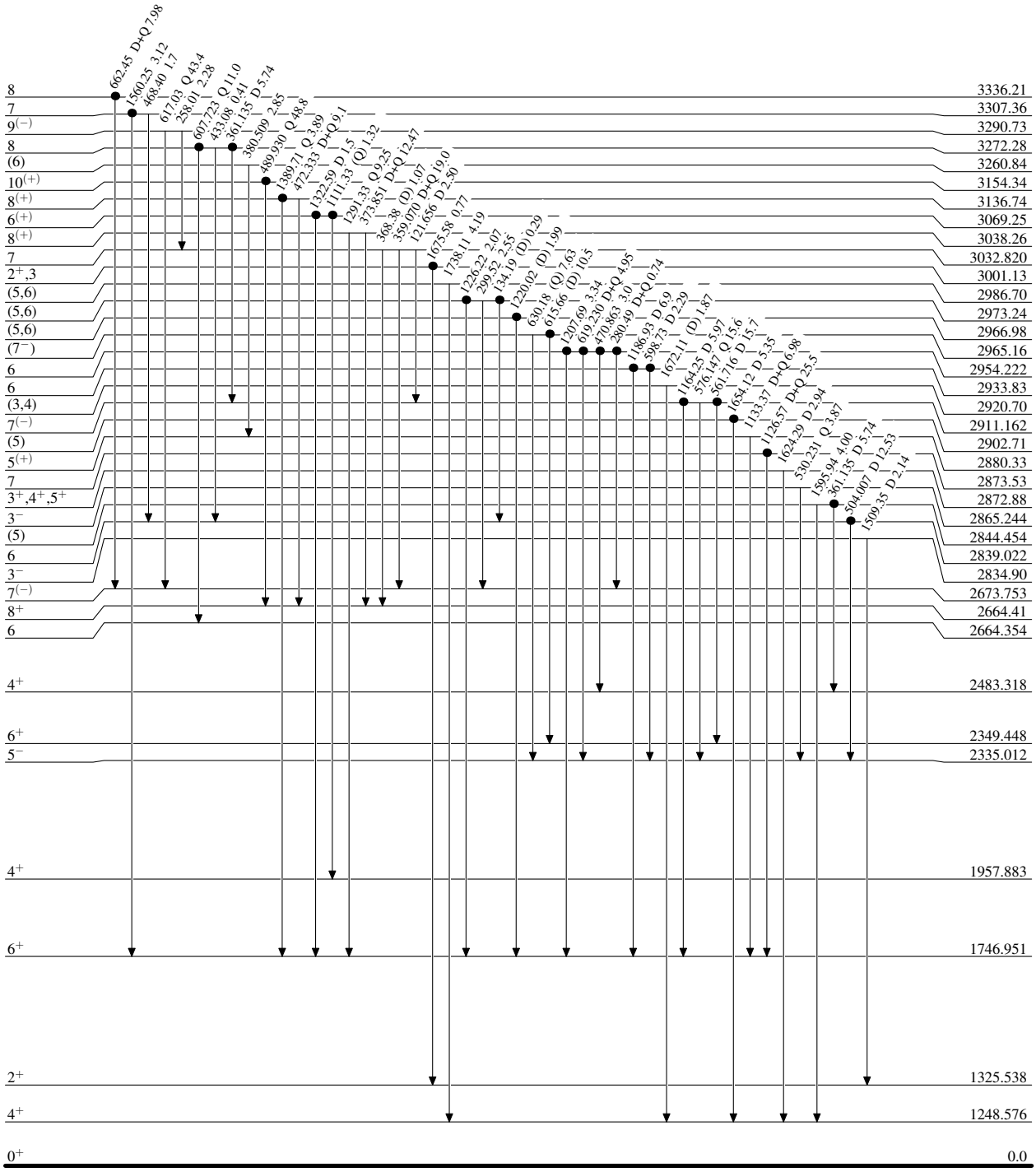
Legend

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

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

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

Coincidence



$^{124}_{52}Te_{72}$

^{122}Sn(α,2nγ) **1998Wa18,1991Le16**

Level Scheme (continued)

Intensities: Relative I_γ

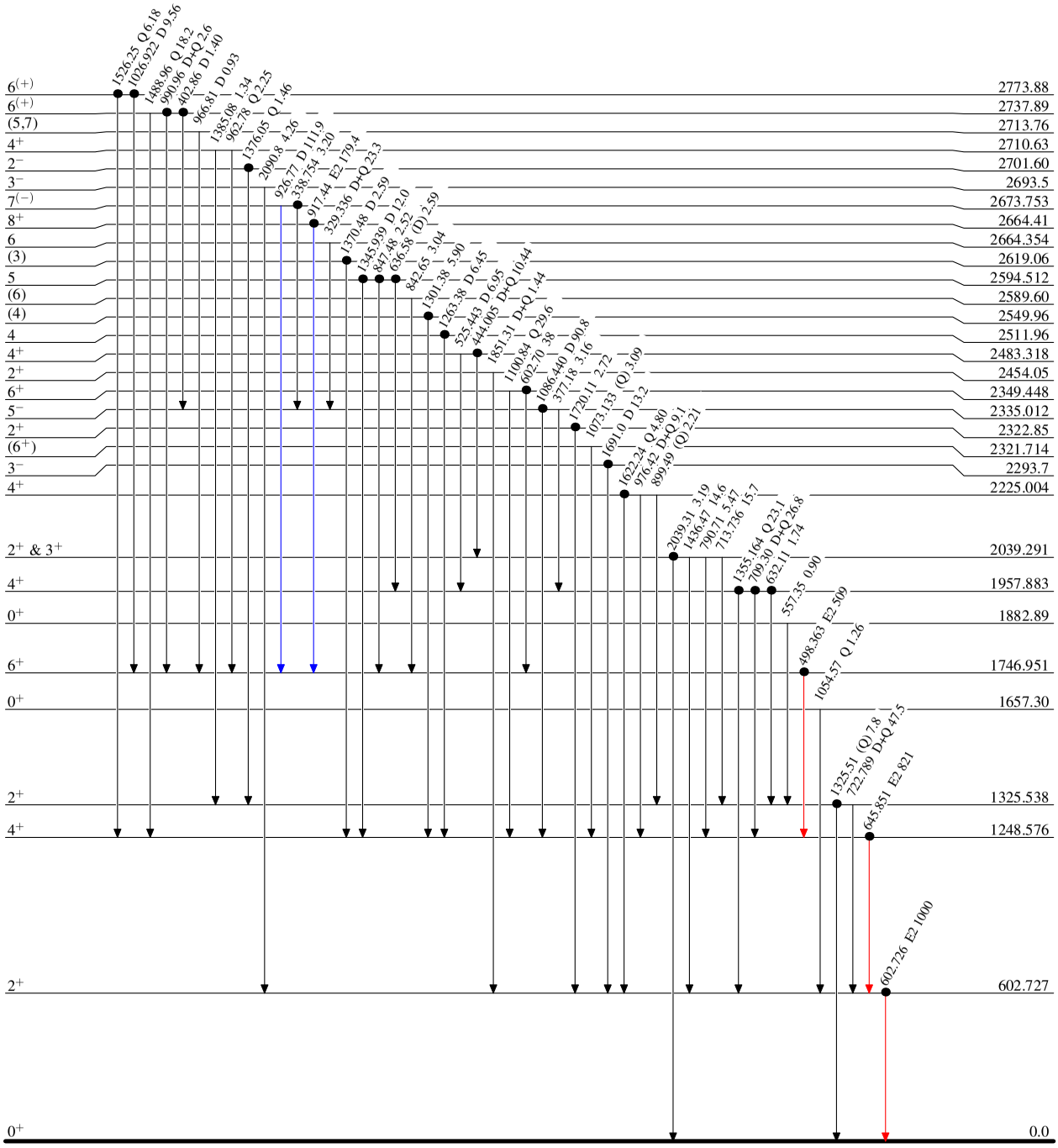
Legend

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

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

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

Coincidence



$^{124}_{52}Te_{72}$