^{121}Sb(n,γ) E=th: secondary 1978Al09,1977Va11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. Tamura	NDS 108, 455 (2007)	30-Sep-2006

J^π(^{121}Sb)=5/2$^+$.
1978Al09: ^{121}Sb(n,γ); bent crystal spectrometer γ, semi γ, magnetic spectrometer ce, semi-semi $\gamma\gamma$-coin.
1977Va11: ^{121}Sb(n,γ); semi γ, semi-scin $\gamma\gamma$-coin, $\gamma\gamma$(t).
Others: 1959Dr75, 1965Gr34, 1970Or05, 1970Bh01, 1972Sh02, 1974Iv02.
The level scheme is that proposed by 1978Al09, which generally agrees with 1977Va11, except for the levels at 264, 265, 271, 410, and 470 keV.

^{122}Sb Levels

E(level)†	J^π#	$T_{1/2}$‡	E(level)†	J^π#	$T_{1/2}$‡	E(level)†	J^π#	$T_{1/2}$‡
0.0	2^-		271.7626 *15*			483.6515 *8*	$(2,3,4)^+$	<0.14 ns
61.4130 *5*	3^+		282.6498 *8*	$(3)^-$	<0.14 ns	586.054 *3*	$+$	
78.0914 *6*	$(3)^-$	<0.14 ns	311.2612 *14*	$(4)^-$	<0.14 ns	631.82 *4*	$(1^-,2^-,3^-)$	
121.4966 *9*	$(1)^+$	6.3 ns *3*	323.0921 *12*	$(2)^+$	<0.14 ns	642.5646 *22*	(3,4)	
137.4724 *8*	$(5)^+$		333.6799 *8*	$(3)^+$		658.442 *5*		
163.5591 *17*	$(8)^-$		393.6991 *11*	$(3,4,5)^+$	<0.14 ns	667.553 *10*		
167.2292 *6*	$(2)^+$	<0.28 ns	396.9370 *10*	$(2,3)^+$	<0.11 ns	693.995 *4*	$(4^-,5,6^-)$	
192.9592 *10*	$(4)^-$	<0.11 ns	413.7652 *16*	$(6)^-$		702.727 *16*	$+$	
209.6506 *6*	$(4)^+$	<0.14 ns	425.1480 *14*	$(3,4,5)^-$	<0.14 ns	796.66 *4*	$(2^-,3^-)$	
255.4984 *8*	$(3)^+$	0.9 ns *2*	453.7476 *20*	$(1,2,3)^+$	<0.21 ns	824.953 *17*	$(2^-,3^-)$	
264.4259 *13*	$(5)^-$		480.435 *11*			868.58 *6*	$+$	
265.1108 *16*	$(7)^-$		481.339 *5*	$+$		920.57 *11*	$(2^-,3^-)$	

† E(levels) are based on a least-squares fit to the E(γ's) of 1978Al09 (evaluator).
‡ From $\gamma\gamma$(t) of 1977Va11.
# From Adopted Levels.

γ(^{122}Sb)

E_γ[†]	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[&]	$I_{(\gamma+ce)}$[@]	Comments
(7.3366 *22*)		271.7626		264.4259	(5)$^-$			>0.6	α(L1)=143; α(L2)=13.0; α(L3)=3.35; α(M1)=27.86; α(M2)=2.584 α(M3)=0.660; α(M4)=0.0695; α(M5)=0.0445 Expected transition; Eγ and I(γ+ce) are deduced from level scheme.
26.0867 *25*	2.5×10^{-5} *3*	163.5591	(8)$^-$	137.4724	(5)$^+$	(E3)	3.07×10^{4}	0.8	α(L)=2.357×10^{4}; α(M)= 5407 Eγ and I(γ+ce) are deduced from the level scheme; Eγ=26 *1* keV and possible E3 multipolarity were reported from approximate measurement of L- and M-conversion electrons by 1963De05 (see ^{122}Sb IT decay).
28.607 *4*		311.2612	(4)$^-$	282.6498	(3)$^-$			6.1 *18*	α(L1)=2.437; α(L2)=0.1973; α(L3)=0.0503; α(M1)=0.4776; α(M2)=0.0406 α(M3)=0.0102; α(M4)=0.00051; α(M5)=0.00036 Eγ from ce(L1); I(γ+ce) is deduced from the level scheme.
^{x}40.69 *8*	0.03 *1*								
45.7325 *9*	0.50 *6*	167.2292	(2)$^+$	121.4966	(1)$^+$	M1	6.02		α(K)= 5.17; α(L)= 0.671; α(M)= 0.1321 α(L1)exp=0.74 *11*, α(L2)exp=0.09 *3*, α(M1)exp=0.116 *19*.
45.847 *4*	0.14 *2*	255.4984	(3)$^+$	209.6506	(4)$^+$	(M1)	5.97		α(K)= 5.13; α(L)= 0.666; α(M)= 0.1311 Eγ from ce(L1), Iγ from Ice and α(M1 theory). ce(L1)/ce(M1)=0.098 *9*/0.025 *6*. Mult.: observation of ce(L1) and ce(M1) only, suggest mult=M1 or E1. From the level scheme $\Delta\pi$=no.
46.836 *6*	0.15 *3*	311.2612	(4)$^-$	264.4259	(5)$^-$	M1	5.61		α(K)= 4.82; α(L)= 0.625; α(M)= 0.1232 α(L1)exp=0.51 *14*. Eγ from ce(L1); I(γ+ce) is deduced from intensity balance; Iγ is from I(γ+ce) and α.
61.4127 *5*	14.2 *8*	61.4130	3$^+$	0.0	2$^-$	E1	0.743		α(K)= 0.638; α(L)= 0.0856; α(M)=0.01668; α(N+..)=0.00361 α(K)exp=0.64 *4*, α(L1)exp=0.065 *4*, α(L2)exp=0.0127 *7*, α(L3)exp=0.0218 *18*, α(M1)exp=0.0111 *10*, α(M2)exp+α(M3)exp=0.0049 *7*.
67.5952 *16*	0.15 *2*	323.0921	(2)$^+$	255.4984	(3)$^+$	M1	1.93		α(K)= 1.659; α(L)= 0.2139; α(M)= 0.0421; α(N+..)=0.00977 α(K)exp=1.8 *5*.
^{x}70.981 *4*	0.08 *2*								
^{x}71.043 *9*	0.045 *13*								
71.4664 *10*	1.75 *6*	264.4259	(5)$^-$	192.9592	(4)$^-$	M1	1.64		α(K)= 1.413; α(L)= 0.1820; α(M)= 0.0359; α(N+..)=0.00832 α(K)exp=1.28 *5*, α(L1)exp=0.162 *6*, α(M1)exp=0.053 *12*.
72.178 *8*	0.043 *11*	209.6506	(4)$^+$	137.4724	(5)$^+$	M1	1.593		α(K)= 1.373; α(L)= 0.1769; α(M)= 0.0348; α(N+..)=0.00808 α(K)exp=1.7 *7*.

γ(^{122}Sb) (continued)

E_γ †	I_γ ‡@	E_i(level)	J^π_i	E_f	J^π_f	Mult. #	δ #	α &	Comments
73.840 *12*	0.07 *2*	396.9370	(2,3)$^+$	323.0921	(2)$^+$				
^{x}75.937 *9*	0.050 *12*								
76.0595 *7*	0.71 *4*	137.4724	(5)$^+$	61.4130	3$^+$	E2		4.41	α(K)=2.191; α(L)=0.870; α(M)=0.1787; α(N+..)=0.0384 α(K)exp=2.22 *13*, α(L1)exp=0.26 *2*, α(L2)exp=0.39 *3*, α(L3)exp=0.52 *3*, α(N)exp=0.033 *7* other α(exp) data: α(K)exp=3.1 *5* (1962De20), 2.88 *16* (1963Ci02) indicate M1+E2, but level scheme is consistent with E2.
78.0918 *7*	8.8 *4*	78.0914	(3)$^-$	0.0	2$^-$	M1		1.27	α(K)= 1.093; α(L)= 0.1408; α(M)= 0.0278; α(N+..)=0.00644 α(K)exp=1.00 *5*, α(L1)exp=0.122 *7*, α(L2)exp=0.0082 *9*, α(L3)exp=0.0028 *8*, α(M1)exp=0.0252 *13*, α(N)exp=0.0066 *6*.
^{x}81.805 *9*	0.032 *9*								
86.7138 *8*	0.147 *6*	483.6515	(2,3,4)$^+$	396.9370	(2,3)$^+$	M1		0.938	α(K)= 0.809; α(L)= 0.1041; α(M)=0.02054; α(N+..)=0.00476 α(K)exp=0.98 *11*.
88.2689 *10*	1.53 *3*	255.4984	(3)$^+$	167.2292	(2)$^+$	M1		0.892	α(K)= 0.769; α(L)= 0.0989; α(M)=0.01952; α(N+..)=0.00453 α(K)exp=0.784 *24*, α(L1)exp=0.120 *7*.
89.1388 *18*	0.081 *5*	167.2292	(2)$^+$	78.0914	(3)$^-$	E1		0.262	α(K)= 0.2263; α(L)= 0.0291; α(M)= 0.00568; α(N+..)=0.00125 α(K)exp LT 0.4.
89.691 *4*	0.048 *4*	282.6498	(3)$^-$	192.9592	(4)$^-$	M1		0.852	α(K)= 0.734; α(L)= 0.0945; α(M)=0.01865; α(N+..)=0.00433 α(K)exp=0.90 *24*.
89.9514 *16*	0.052 *5*	483.6515	(2,3,4)$^+$	393.6991	(3,4,5)$^+$	M1+E2	0.73 *23*	1.39 *24*	α(K)=1.05 *14*; α(L)=0.27 *8*; α(M)=0.056 *16*; α(N+..)=0.012 *4* α(K)exp=1.04 *13*.
101.5516 *8*	0.51 *1*	265.1108	(7)$^-$	163.5591	(8)$^-$	M1+E2	0.57 *8*	0.84 *5*	α(K)=0.66 *4*; α(L)=0.138 *16*; α(M)=0.028 *4*; α(N+..)=0.0062 *7* α(K)exp=0.66 *3*, α(L1)exp=0.074 *10*.
^{x}102.648 *20*	0.014 *4*								
105.8160 *7*	3.80 *7*	167.2292	(2)$^+$	61.4130	3$^+$	M1		0.533	α(K)= 0.460; α(L)= 0.0590; α(M)=0.01163; α(N+..)=0.00270 α(K)exp=0.48 *3*, α(L1)exp=0.060 *2*, α(L2)exp=0.008 *2*, α(M1)exp=0.0108 *14*.
^{x}106.818 *6*	0.020 *3*								
113.8867 *5*	0.253 *5*	425.1480	(3,4,5)$^-$	311.2612	(4)$^-$	M1+(E2)	0.5 *2*	0.56 *8*	α(K)=0.45 *6*; α(L)=0.082 *23*; α(M)=0.017 *5*; α(N+..)=0.0037 *10* α(K)exp=0.45 *5*.
114.8674 *9*	5.72 *7*	192.9592	(4)$^-$	78.0914	(3)$^-$	M1+E2	0.30 *4*	0.472 *13*	α(K)=0.397 *9*; α(L)=0.060 *4*; α(M)=0.0120 *8*; α(N+..)=0.00273 *16* α(K)exp=0.399 *7*, α(L1)exp=0.0472 *15*, α(L2)exp=0.0059 *14*, α(M1)exp=0.0131 *13*.

From ENSDF

γ(^{122}Sb) (continued)

Eγ[†]	Iγ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
115.4203 *7*	0.202 *5*	282.6498	(3)⁻	167.2292	(2)⁺	E1		0.126	α(K)= 0.1093; α(L)= 0.01380; α(M)=0.00269; α(N+..)=0.00060 α(K)exp LT 0.15.
118.3014 *16*	0.103 *3*	311.2612	(4)⁻	192.9592	(4)⁻				
121.4958 *14*	7.3 *1*	121.4966	(1)⁺	0.0	2⁻	E1		0.109	α(K)= 0.0946; α(L)=0.01192; α(M)=0.00232; α(N+..)=0.00052 α(K)exp=0.101 *14*, α(L1)exp=0.0104 *16*, α(M)exp=0.0056 *22*.
124.0293 *10*	0.67 *2*	333.6799	(3)⁺	209.6506	(4)⁺	M1		0.341	α(K)= 0.294; α(L)= 0.0376; α(M)=0.00742; α(N+..)=0.00172 α(K)exp=0.319 *12*, α(L1)exp=0.021 *7*.
ˣ124.540 *7*	0.025 *5*								
ˣ127.4720 *19*	0.044 *3*								
132.3058 *22*	0.067 *3*	586.054	⁺	453.7476	(1,2,3)⁺	M1+E2	>1.25	0.37 *11*	α(K)=0.31 *8*; α(L)=0.05 *3*; α(M)=0.011 *6*; α(N+..)=0.0024 *12* α(K)exp=0.48 *10*.
ˣ133.928 *4*	0.030 *2*								
ˣ137.164 *20*	0.022 *3*								
138.201 *3*	0.138 *3*	393.6991	(3,4,5)⁺	255.4984	(3)⁺	M1+E2	1.1 *+20−4*	0.40 *10*	α(K)=0.32 *7*; α(L)=0.066 *25*; α(M)=0.013 *6*; α(N+..)=0.0029 *11* α(K)exp=0.32 *4*.
140.727 *15*	0.022 *3*	333.6799	(3)⁺	192.9592	(4)⁻				
141.4368 *13*	1.10 *2*	396.9370	(2,3)⁺	255.4984	(3)⁺	M1		0.236	α(K)= 0.2040; α(L)= 0.0260; α(M)=0.00513; α(N+..)=0.00119 α(K)exp=0.214 *12*, α(L1)exp=0.037 *7*.
148.2376 *4*	4.83 *6*	209.6506	(4)⁺	61.4130	3⁺	M1		0.207	α(K)= 0.1790; α(L)=0.02281; α(M)=0.00449; α(N+..)=0.00104 α(K)exp=0.170 *4*, α(L1)exp=0.0197 *6*, α(M)exp=0.0044 *13*; Iγ from Ice and α(M1 theory).
148.6543 *6*	0.30 *1*	413.7652	(6)⁻	265.1108	(7)⁻	M1		0.206	α(K)= 0.1776; α(L)=0.02263; α(M)=0.00446; α(N+..)=0.00104 α(K)exp=0.14 *2*.
149.3392 *13*	0.137 *4*	413.7652	(6)⁻	264.4259	(5)⁻	M1		0.203	α(K)= 0.1754; α(L)=0.02234; α(M)=0.00440; α(N+..)=0.00102 α(K)exp=0.21 *3*.
149.9717 *6*	0.240 *5*	483.6515	(2,3,4)⁺	333.6799	(3)⁺	M1		0.203	α(K)= 0.1733; α(L)=0.02208; α(M)=0.00435; α(N+..)=0.00101 α(K)exp=0.14 *2*.
153.3853 *8*	0.157 *4*	425.1480	(3,4,5)⁻	271.7626					
155.867 *5*	0.030 *3*	323.0921	(2)⁺	167.2292	(2)⁺				
ˣ158.932 *6*	0.025 *3*								
ˣ159.37 *4*	0.014 *3*								
ˣ160.3509 *19*	0.075 *5*								
160.560 *3*	0.054 *2*	483.6515	(2,3,4)⁺	323.0921	(2)⁺				

γ(^{122}Sb) (continued)

Eγ†	Iγ‡@	Ei(level)	J^π_i	E_f	J^π_f	Mult.#	α&	Comments
^{x}164.738 *3*	0.055 *5*							
166.4511 *11*	1.36 *2*	333.6799	$(3)^+$	167.2292	$(2)^+$	M1	0.151	α(K)= 0.1300; α(L)=0.01656; α(M)=0.00326; α(N+..)=0.00076 α(K)exp=0.125 *4*, α(L1)exp=0.019 *4*.
^{x}168.303 *17*	0.017 *4*							
173.83 *4*	0.043 *6*	311.2612	$(4)^-$	137.4724	$(5)^+$			
177.4073 *20*	0.156 *3*	255.4984	$(3)^+$	78.0914	$(3)^-$	E1	0.0377	α(K)= 0.03269; α(L)=0.00405; α(M)=0.00079; α(N+..)=0.00018 α(K)exp LT 0.06.
^{x}178.029 *7*	0.028 *2*							
182.388 *18*	0.019 *3*	824.953	$(2^-,3^-)$	642.5646	(3,4)			
184.0474 *14*	0.564 *8*	393.6991	$(3,4,5)^+$	209.6506	$(4)^+$	M1	0.115	α(K)= 0.0989; α(L)=0.01257; α(M)=0.00247; α(N+..)=0.00057 α(K)exp=0.099 *3*.
^{x}185.06 *4*	0.020 *5*							
186.336 *8*	0.028 *3*	264.4259	$(5)^-$	78.0914	$(3)^-$			
^{x}187.19 *3*	0.014 *4*							
^{x}188.629 *5*	0.044 *2*							
^{x}190.92 *14*	0.012 *3*							
193.15 *6*	0.05 *1*	824.953	$(2^-,3^-)$	631.82	$(1^-,2^-,3^-)$			
194.0820 *16*	0.98 *2*	255.4984	$(3)^+$	61.4130	3^+	M1	0.0992	α(K)= 0.0857; α(L)=0.01088; α(M)=0.00214; α(N+..)=0.00050 α(K)exp=0.083 *3*.
^{x}198.727 *7*	0.028 *2*							
201.5943 *15*	1.67 *2*	323.0921	$(2)^+$	121.4966	$(1)^+$	M1	0.0897	α(K)= 0.0775; α(L)=0.00981; α(M)=0.00193; α(N+..)=0.00045 α(K)exp=0.076 *2*, α(L)exp=0.019 *7*.
204.5591 *11*	0.65 *1*	282.6498	$(3)^-$	78.0914	$(3)^-$	M1	0.0862	α(K)= 0.0745; α(L)=0.00943; α(M)=0.00185; α(N+..)=0.00043 α(K)exp=0.071 *12*.
208.673 *12*	0.025 *2*	480.435		271.7626				
215.28 *5*	0.011 *3*	480.435		265.1108	$(7)^-$			
217.4171 *21*	0.216 *4*	642.5646	(3,4)	425.1480	$(3,4,5)^-$			
^{x}220.938 *8*	0.030 *3*							
221.244 *5*	0.056 *3*	282.6498	$(3)^-$	61.4130	3^+			
222.284 *21*	0.018 *3*	702.727	$^+$	480.435				
^{x}223.974 *9*	0.038 *4*							
228.153 *4*	0.067 *4*	483.6515	$(2,3,4)^+$	255.4984	$(3)^+$			
229.707 *3*	0.39 *1*	396.9370	$(2,3)^+$	167.2292	$(2)^+$			
232.189 *3*	0.712 *15*	425.1480	$(3,4,5)^-$	192.9592	$(4)^-$	M1	0.0617	α(K)= 0.0533; α(L)=0.00671; α(M)=0.00132; α(N+..)=0.00031 α(K)exp=0.050 *11*.
233.174 *4*	1.70 *3*	311.2612	$(4)^-$	78.0914	$(3)^-$	M1	0.0610	α(K)= 0.0527; α(L)=0.00663; α(M)=0.00130; α(N+..)=0.00030 α(K)exp=0.050 *2*.
^{x}236.055 *9*	0.032 *3*							
^{x}241.935 *6*	0.053 *4*							
249.857 *6*	0.076 *3*	311.2612	$(4)^-$	61.4130	3^+			
252.381 *11*	0.073 *5*	586.054	$^+$	333.6799	$(3)^+$			
255.5039 *22*	0.56 *1*	255.4984	$(3)^+$	0.0	2^-	[E1]	0.0138	α(K)= 0.01196; α(L)=0.00147; α(M)=0.00029; α(N+..)=0.00007 Mult.: α(K)exp=0.063 *23*; α(K)exp suggests M1 or E2 but decay scheme requires Δπ=yes.

$^{122}_{51}$Sb$_{71}$-5

γ(^{122}Sb) (continued)

E$_\gamma$[†]	I$_\gamma$[‡@]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[#]	δ[#]	α[&]	Comments
256.230 *4*	0.21 *2*	393.6991	(3,4,5)$^+$	137.4724	(5)$^+$				
261.674 *4*	0.160 *6*	323.0921	(2)$^+$	61.4130	3$^+$				
262.93 *3*	0.045 *5*	586.054	$^+$	323.0921	(2)$^+$				
264.746 *5*	0.082 *4*	658.442		393.6991	(3,4,5)$^+$				
268.847 *3*	0.036 *4*	693.995	(4$^-$,5,6$^-$)	425.1480	(3,4,5)$^-$				
^{x}271.775 *23*	0.035 *10*								
272.265 *3*	0.35 *1*	333.6799	(3)$^+$	61.4130	3$^+$	M1,E2		0.046 *5*	α(K)=0.0387; α(L)=0.00566; α(M)=0.00112; α(N+..)=0.00026 α(K)exp=0.063 *34*.
274.0030 *18*	0.56 *1*	483.6515	(2,3,4)$^+$	209.6506	(4)$^+$	E2(+M1)	>0.65	0.0407 *19*	α(K)=0.0351 *13*; α(L)=0.0045 *5*; α(M)=0.00089 *10*; α(N+..)=0.00021 α(K)exp=0.046 *9*.
^{x}274.940 *10*	0.057 *5*								
275.444 *4*	0.165 *5*	396.9370	(2,3)$^+$	121.4966	(1)$^+$				
280.22 *5*	0.019 *4*	693.995	(4$^-$,5,6$^-$)	413.7652	(6)$^-$				
282.642 *3*	4.80 *6*	282.6498	(3)$^-$	0.0	2$^-$	M1		0.0368	α(K)= 0.0318; α(L)=0.00398; α(M)=0.00078; α(N+..)=0.00018 α(K)exp=0.0323 *10*, α(L1)exp=0.0035 *6*.
286.5177 *21*	0.63 *1*	453.7476	(1,2,3)$^+$	167.2292	(2)$^+$	M1,E2		0.039 *4*	α(K)=0.0333; α(L)=0.00480; α(M)=0.00095; α(N+..)=0.00022 α(K)exp=0.035 *4*.
^{x}288.349 *7*	0.090 *6*								
288.93 *3*	0.033 *5*	702.727	$^+$	413.7652	(6)$^-$				
^{x}306.928 *9*	0.068 *4*								
311.291 *14*	0.110 *4*	311.2612	(4)$^-$	0.0	2$^-$				
^{x}315.98 *5*	0.029 *5*								
316.395 *21*	0.09 *2*	483.6515	(2,3,4)$^+$	167.2292	(2)$^+$				
324.718 *17*	0.074 *4*	658.442		333.6799	(3)$^+$				
330.555 *5*	0.56 *2*	586.054	$^+$	255.4984	(3)$^+$	M1,E2		0.0258 *13*	ce(K)/(γ+ce)=0.02144; ce(L)/(γ+ce)=0.00298; ce(M)/(γ+ce)=0.00059; ce(N)/(γ+ce)=0.00014 α(K)exp=0.023 *7*.
331.308 *7*	0.21 *2*	642.5646	(3,4)	311.2612	(4)$^-$				
332.284 *4*	1.18 *2*	393.6991	(3,4,5)$^+$	61.4130	3$^+$	M1,E2		0.0254 *12*	α(K)=0.02167; α(L)=0.00301; α(M)=0.00060; α(N+..)=0.00014 α(K)exp=0.0203 *24*.
^{x}334.853 *21*	0.065 *7*								
335.497 *19*	0.12 *1*	396.9370	(2,3)$^+$	61.4130	3$^+$				
344.462 *10*	0.117 *5*	667.553		323.0921	(2)$^+$				
^{x}356.67 *13*	0.027 *6*								
^{x}370.922 *17*	0.110 *8*								
^{x}374.37 *15*	0.042 *9*								
^{x}376.10 *3*	0.24 *3*								
378.134 *4*	0.83 *3*	642.5646	(3,4)	264.4259	(5)$^-$	M1,E2		0.0176 *2*	α(K)= 0.0151; α(L)=0.00260; α(M)=0.00037;

$^{122}_{51}$Sb$_{71}$-6

γ(^{122}Sb) (continued)

E_γ †	I_γ ‡@	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	α&	Comments
								α(N+..)=0.00009 α(K)exp=0.021 *4*.
^x381.82 *15*	0.037 *8*							
382.68 *6*	0.052 *7*	693.995	(4⁻,5,6⁻)	311.2612	(4)⁻			
^x384.64 *6*	0.045 *10*							
^x390.15 *3*	0.082 *10*							
392.340 *11*	0.20 *1*	453.7476	(1,2,3)⁺	61.4130	3⁺			
^x400.28 *15*	0.078 *24*							
^x401.07 *10*	0.092 *17*							
418.76 *4*	0.21 *3*	586.054	⁺	167.2292	(2)⁺			
419.925 *5*	1.16 *3*	481.339	⁺	61.4130	3⁺	M1,E2	0.0132 *2*	α(K)=0.0116; α(L)=0.00143; α(M)=0.00028; α(N+..)=0.00007 α(K)exp=0.0121 *26*.
422.222 *10*	0.40 *2*	693.995	(4⁻,5,6⁻)	271.7626				
^x436.38 *16*	0.12 *2*							
437.66 *3*	0.23 *2*	702.727	⁺	265.1108	(7)⁻			
^x448.70 *17*	0.46 *10*							
449.64 *6*	0.13 *3*	642.5646	(3,4)	192.9592	(4)⁻			
453.77 *4*	0.21 *2*	453.7476	(1,2,3)⁺	0.0	2⁻			
471.67 *10*	0.140 *16*	868.58	⁺	396.9370	(2,3)⁺			
474.86 *7*	0.12 *3*	868.58	⁺	393.6991	(3,4,5)⁺			
^x481.04 *25*	0.063 *17*							
^x484.07 *25*	0.077 *16*							
485.43 *9*	0.30 *2*	796.66	(2⁻,3⁻)	311.2612	(4)⁻			
^x489.69 *25*	0.074 *16*							
491.224 *22*	0.59 *4*	658.442		167.2292	(2)⁺			
501.16 *7*	0.14 *2*	693.995	(4⁻,5,6⁻)	192.9592	(4)⁻			
514.12 *8*	0.48 *6*	796.66	(2⁻,3⁻)	282.6498	(3)⁻			
^x520.89 *9*	0.26 *2*							
542.29 *8*	0.47 *7*	824.953	(2⁻,3⁻)	282.6498	(3)⁻			
546.01 *6*	0.40 *5*	667.553		121.4966	(1)⁺			
^x556.30 *16*	0.23 *6*							
564.2^a *20*		642.5646	(3,4)	78.0914	(3)⁻			
^x579.9 *5*	0.039 *14*							
^x583.9 *5*	0.054 *18*							
^x586.40 *24*	0.110 *18*							
^x593.72 *22*	0.115 *19*							
^x600.58 *19*	0.100 *14*							
603.60 *6*	0.32 *6*	796.66	(2⁻,3⁻)	192.9592	(4)⁻			
^x612.59 *16*	0.154 *15*							
^x615.3 *4*	0.15 *5*							
^x616.8 *3*	0.15 *5*							
631.83 *4*	1.18 *11*	631.82	(1⁻,2⁻,3⁻)	0.0	2⁻			
^x637.1 *3*	0.060 *14*							
^x644.38 *25*	0.070 *15*							

γ(^{122}Sb) (continued)

E_γ[†]	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	E_γ[†]	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f
^{x}648.23 *7*	0.45 *6*					^{x}853.0 *5*	0.090 *20*				
^{x}674.7 *3*	0.065 *20*					^{x}858.1 *3*	0.13 *3*				
^{x}678.02 *23*	0.10 *2*					^{x}863.7 *4*	0.091 *20*				
^{x}681.6 *3*	0.068 *20*					^{x}868.84 *21*	0.21 *4*				
^{x}687.3 *3*	0.10 *2*					^{x}875.87 *22*	0.19 *4*				
^{x}689.7 *4*	0.085 *22*					^{x}882.6 *6*	0.051 *10*				
^{x}703.8 *3*	0.17 *3*					^{x}886.26 *19*	0.22 *5*				
^{x}714.1 *6*	0.11 *3*					^{x}894.34 *20*	0.13 *3*				
719.04 *20*	0.28 *8*	796.66	(2$^-$,3$^-$)	78.0914	(3)$^-$	^{x}903.9 *3*	0.14 *3*				
^{x}722.19 *16*	0.22 *7*					^{x}910.1 *8*	0.060 *20*				
^{x}732.99 *16*	0.26 *2*					^{x}915.4 *5*	0.109 *20*				
^{x}736.11 *20*	0.18 *2*					920.77 *12*	1.04 *21*	920.57	(2$^-$,3$^-$)	0.0	2$^-$
747.00 *12*	0.546 *23*	824.953	(2$^-$,3$^-$)	78.0914	(3)$^-$	^{x}927.29 *20*	0.29 *6*				
^{x}757.0 *3*	0.15 *3*					^{x}930.6 *4*	0.11 *3*				
^{x}759.15 *22*	0.24 *3*					^{x}935.90 *19*	0.28 *6*				
^{x}764.1 *5*	0.086 *22*					^{x}940.4 *6*	0.061 *20*				
^{x}776.17 *23*	0.135 *25*					^{x}948.02 *23*	0.20 *4*				
^{x}781.9 *3*	0.17 *4*					^{x}952.43 *18*	0.28 *6*				
^{x}785.0 *3*	0.27 *6*					^{x}960.31 *17*	0.35 *7*				
^{x}788.16 *23*	0.28 *6*					^{x}968.94 *16*	0.19 *4*				
^{x}792.6 *4*	0.082 *20*					^{x}977.2 *4*	0.113 *20*				
796.52 *22*	0.24 *5*	796.66	(2$^-$,3$^-$)	0.0	2$^-$	^{x}983.0 *4*	0.108 *20*				
^{x}801.6 *4*	0.15 *3*					^{x}990.2 *18*	0.08 *4*				
^{x}806.47 *21*	0.32 *7*					^{x}992.8 *7*	0.09 *3*				
^{x}812.03 *16*	0.36 *7*					^{x}1002.32 *25*	0.075 *20*				
^{x}815.3 *8*	0.09 *3*					^{x}1011.0 *5*	0.10 *3*				
^{x}821.4 *4*	0.13 *3*					^{x}1014.2 *7*	0.059 *20*				
824.54 *19*	0.41 *8*	824.953	(2$^-$,3$^-$)	0.0	2$^-$	^{x}1018.53 *15*	0.53 *11*				
^{x}830.3 *4*	0.107 *20*					^{x}1029.7 *3*	0.23 *5*				
^{x}837.5 *7*	0.062 *20*					^{x}1037.99 *24*	0.35 *7*				
841.85 *21*	0.34 *7*	920.57	(2$^-$,3$^-$)	78.0914	(3)$^-$	^{x}1043.20 *18*	0.14 *3*				
^{x}848 *3*	0.009 *8*					^{x}1049.93 *18*	0.13 *3*				

† γ-rays<780 keV are from 1978Al09 and those>780 keV are from 1972Sh02.

‡ Relative to I(282.642γ)=4.80 which is per 100 thermal-neutron captures.

\# Deduced from α(K)exp, α(L)exp, and α(N)exp of 1978Al09.

@ Intensity per 100 neutron captures.

& 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.

a Placement of transition in the level scheme is uncertain.

x γ ray not placed in level scheme.

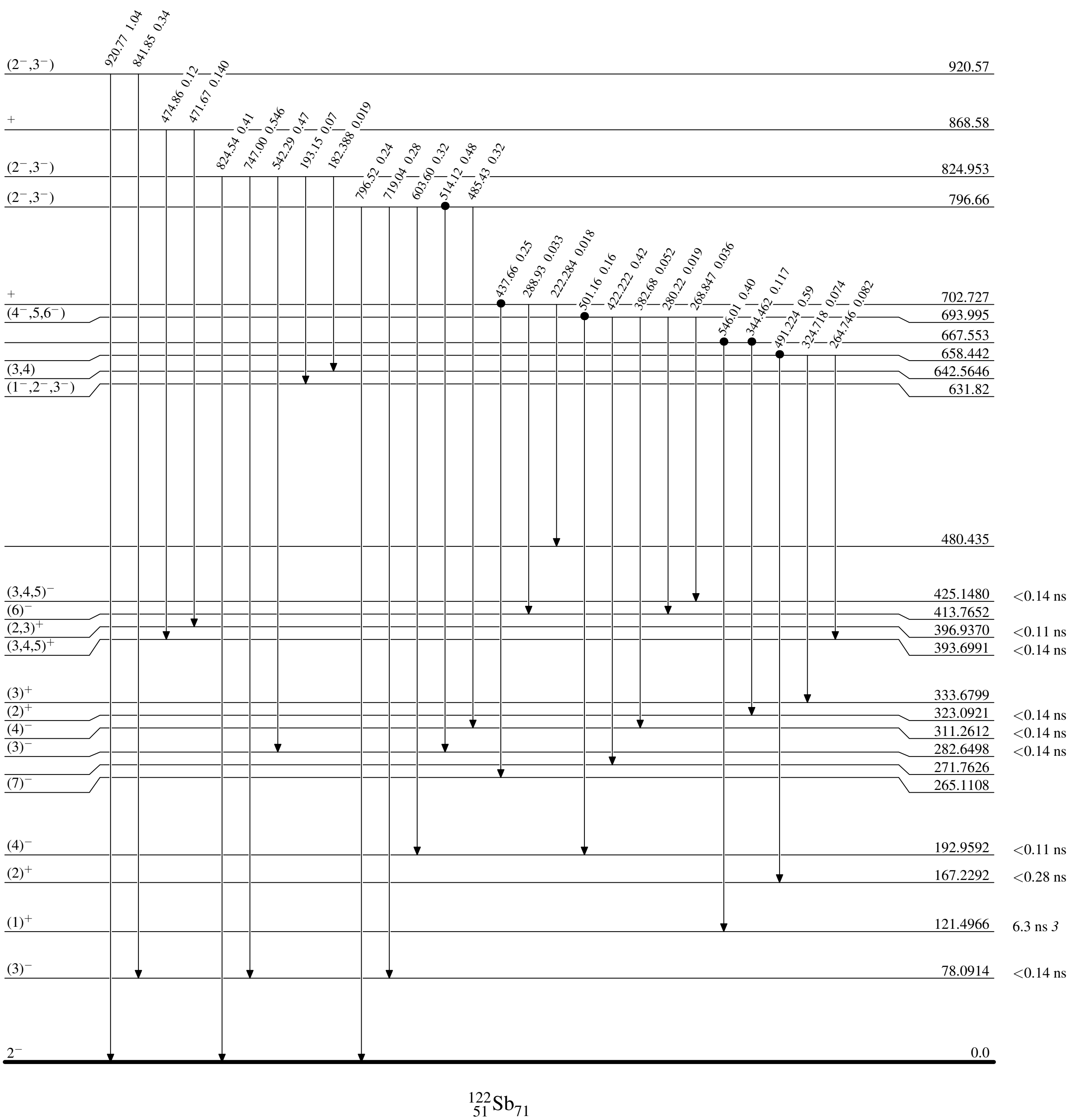
$^{121}Sb(n,\gamma)$ E=th: secondary 1978Al09,1977Va11

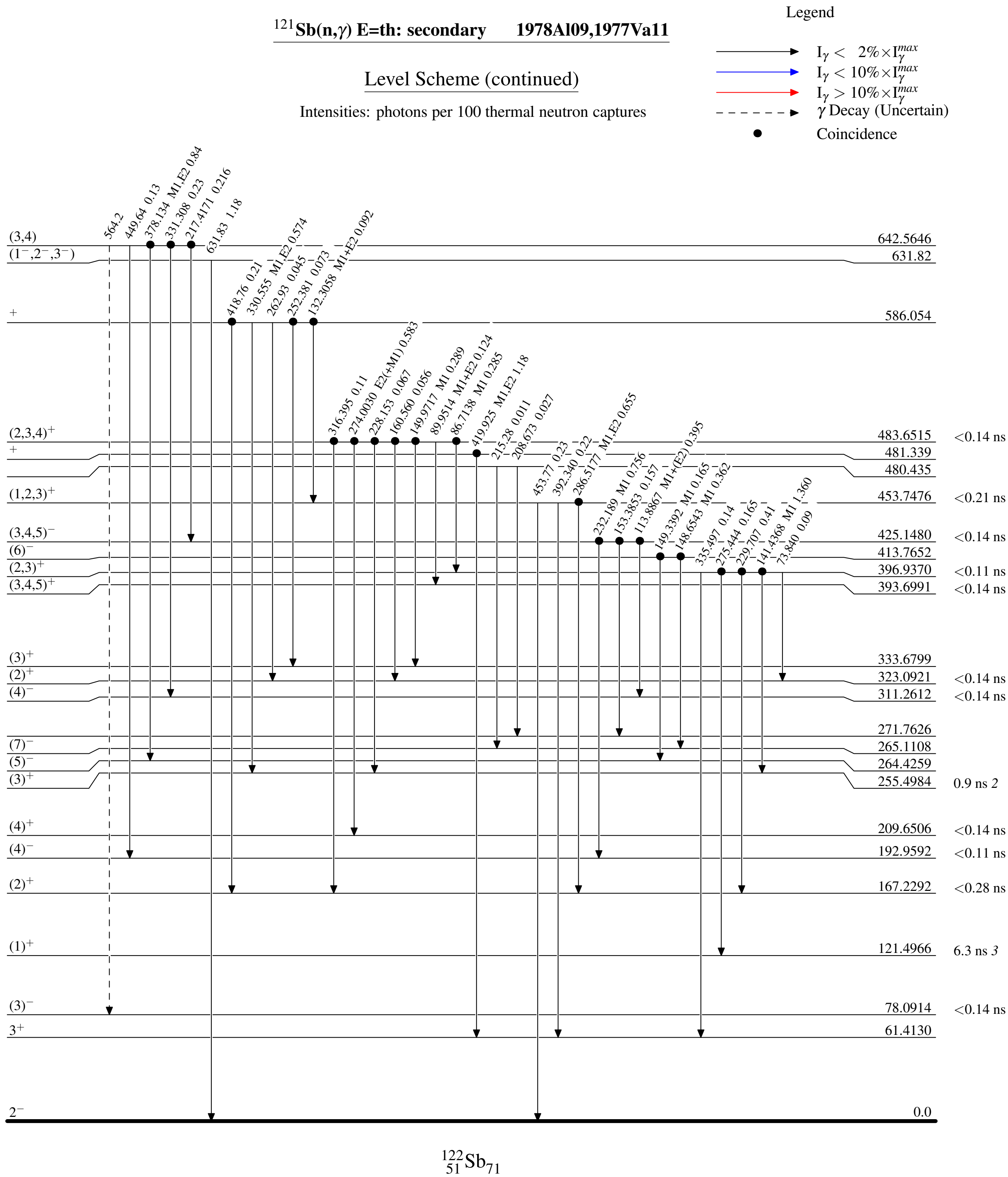
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
● Coincidence

Level Scheme

Intensities: photons per 100 thermal neutron captures




^{121}Sb(n,γ) E=th: secondary 1978Al09,1977Va11
Level Scheme (continued)
Intensities: photons per 100 thermal neutron captures
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
(3,4) 642.5646
(1⁻,2⁻,3⁻) 631.82
+ 586.054
(2,3,4)⁺ 483.6515 <0.14 ns
+ 481.339
480.435
(1,2,3)⁺ 453.7476 <0.21 ns
(3,4,5)⁻ 425.1480 <0.14 ns
(6)⁻ 413.7652
(2,3)⁺ 396.9370 <0.11 ns
(3,4,5)⁺ 393.6991 <0.14 ns
(3)⁺ 333.6799
(2)⁺ 323.0921 <0.14 ns
(4)⁻ 311.2612 <0.14 ns
271.7626
(7)⁻ 265.1108
(5)⁻ 264.4259
(3)⁺ 255.4984 0.9 ns 2
(4)⁺ 209.6506 <0.14 ns
(4)⁻ 192.9592 <0.11 ns
(2)⁺ 167.2292 <0.28 ns
(1)⁺ 121.4966 6.3 ns 3
(3)⁻ 78.0914 <0.14 ns
3⁺ 61.4130
2⁻ 0.0
564.2
449.64 0.13
378.134 M1,E2 0.84
331.308 0.23
217.4171 0.216
631.83 1.18
418.76 0.21
330.555 M1,E2 0.574
262.93 0.045
252.381 0.073
132.3058 M1+E2 0.092
316.395 0.11
274.0030 E2(+M1) 0.583
228.153 0.067
160.560 0.056
149.9717 M1 0.289
89.9514 M1+E2 0.124
86.7138 M1 0.285
419.925 M1,E2 1.18
215.28 0.011
208.673 0.027
453.77 0.23
392.340 0.22
286.5177 M1,E2 0.655
232.189 M1 0.756
153.3853 0.157
113.8867 M1+(E2) 0.395
149.3392 M1 0.165
148.6543 M1 0.362
335.497 0.14
275.444 0.165
229.707 0.41
141.4368 M1 1.360
73.840 0.09
$^{122}_{51}Sb_{71}$

^{121}Sb(n,γ) E=th: secondary 1978Al09,1977Va11

Level Scheme (continued)

Intensities: photons per 100 thermal neutron captures

Legend

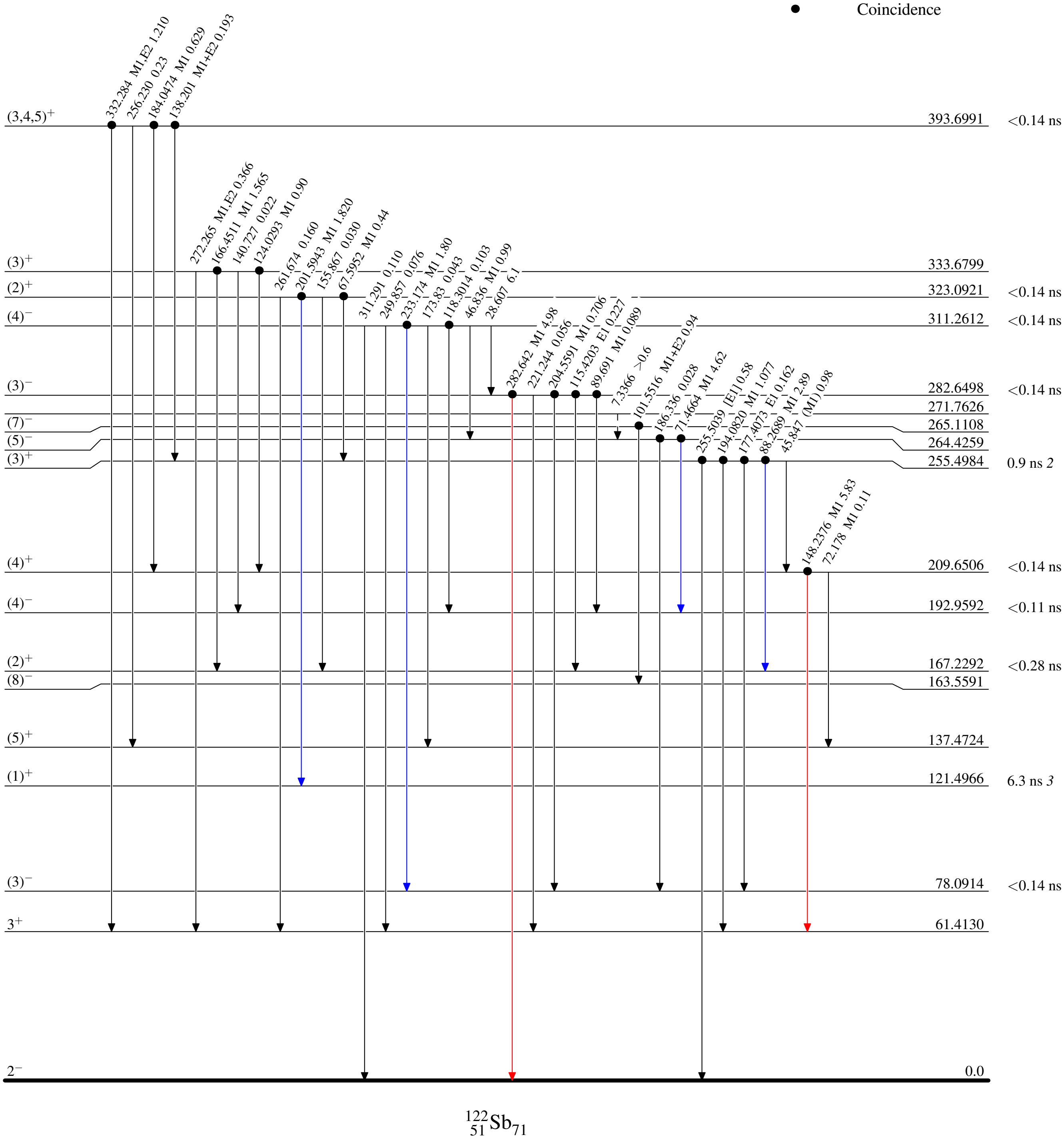
$I_\gamma < 2\% \times I_\gamma^{max}$

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

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

γ Decay (Uncertain)

Coincidence



^{121}Sb(n,γ) E=th: secondary 1978Al09,1977Va11

Level Scheme (continued)

Intensities: photons per 100 thermal neutron captures