^{123}Sb(^{13}C,4nγ) 2002St13,2001St04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104, 497 (2005)	10-Feb-2005

2002St13: E=64 MeV. Measured Eγ, Iγ, $\gamma\gamma$, Iγ, $\gamma\gamma(\theta)$ using six Compton-suppressed Ge detectors, 14-element BGO multiplicity filter. More precise γ rays energies and added intensities.
2001St04: E=64 MeV. Measured Eγ and $\gamma\gamma$ using three suppressed Ge detectors.

^{132}La Levels

E(level)[†]	J$^\pi$	T$_{1/2}$	Comments
188.20 *11*	6$^-$	24.3 min *5*	E(level),J$^\pi$,T$_{1/2}$: from Adopted Levels.
670.0 *3*	(7$^+$)		J$^\pi$: from adopted level; (8$^+$) proposed by 2002St13.
737.6[‡] *4*	(9$^+$)		
898.7[‡] *5*	(10$^+$)		
1192.2[#] *5*	(11$^+$)		
1486.0[‡] *5*	(12$^+$)		
1520.7[&] *5*	(11$^+$)		
1878.2[#] *5*	(13$^+$)		
1880.8[@] *5*	(12$^+$)		
2260.9[&] *5*	(13$^+$)		
2263.7[‡] *5*	(14$^+$)		
2663.8[@] *5*	(14$^+$)		
2717.4[#] *6*	(15$^+$)		
3090.7[&] *5*	(15$^+$)		
3169.5[‡] *6*	(16$^+$)		
3579.5[@] *6*	(16$^+$)		
3676.0[#] *6*	(17$^+$)		
4163.8[‡] *6*	(18$^+$)		
4722.1[#] *6*	(19$^+$)		
5179.4[‡] *7*	(20$^+$)		

[†] From least-squares fit to Eγ's. The energies of all levels above 670.0 level should be adjusted upward by 38 keV as proposed by the level scheme of 2003Ti02 in which the 67.6-161.3-293.6–.. cascade feeds a level decaying by 38-keV and-350 keV transitions.
[‡] Band(A): $\pi h_{11/2}\nu h^{-1}_{11/2}$, α=0.
[#] Band(a): $\pi h_{11/2}\nu h^{-1}_{11/2}$, α=1.
[@] Band(B): Chiral doublet structure of $\pi h_{11/2}\nu h^{-1}_{11/2}$, α=0.
[&] Band(b): Chiral doublet structure of $\pi h_{11/2}\nu h^{-1}_{11/2}$, α=1.

γ(^{132}La)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[†]	Comments
67.6 *3*		737.6	(9$^+$)	670.0	(7$^+$)		E$_\gamma$: in "Adopted Levels, gammas" this transition with mult=(M1) feeds an (8$^+$) level, not the 670.0, (7$^+$) level.
161.3 *3*	100 *3*	898.7	(10$^+$)	737.6	(9$^+$)	D+Q	DCO=0.64 *6*.
293.5 *3*	≈50	1486.0	(12$^+$)	1192.2	(11$^+$)	D+Q	DCO=0.46 *6* (for 293.6+293.5).
293.6 *3*	90 *4*	1192.2	(11$^+$)	898.7	(10$^+$)	D+Q	I$_\gamma$: 140 *4* for 293.6+293.5. Intensity divided by the evaluators based on intensity balances. DCO=0.46 *6* (for 293.6+293.5).

Continued on next page (footnotes at end of table)

^{123}Sb(^{13}C,4nγ) 2002St13,2001St04 (continued)

γ(^{132}La) (continued)

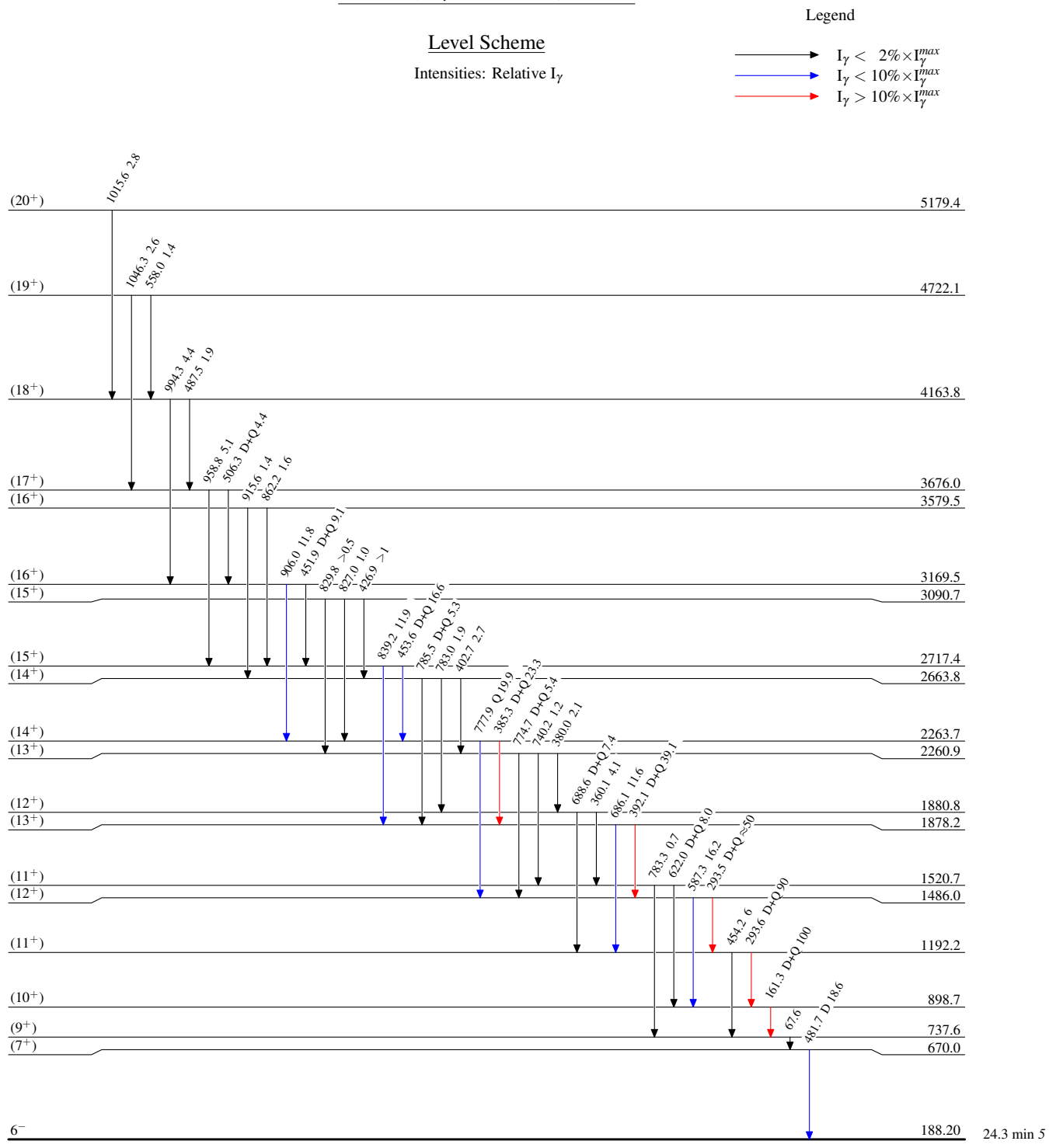
E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
360.1 *3*	4.1 *1*	1880.8	(12^+)	1520.7	(11^+)		
380.0 *3*	2.1 *1*	2260.9	(13^+)	1880.8	(12^+)		
385.3 *3*	23.3 *7*	2263.7	(14^+)	1878.2	(13^+)	D+Q	DCO=0.42 *5*.
392.1 *3*	39.1 *12*	1878.2	(13^+)	1486.0	(12^+)	D+Q	DCO=0.58 *5*.
402.7 *3*	2.7 *1*	2663.8	(14^+)	2260.9	(13^+)		
426.9 *3*	>1	3090.7	(15^+)	2663.8	(14^+)		
451.9 *3*	9.1 *3*	3169.5	(16^+)	2717.4	(15^+)	D+Q	DCO=0.35 *6* (for 451.9+453.6).
453.6 *3*	16.6 *5*	2717.4	(15^+)	2263.7	(14^+)	D+Q	DCO=0.35 *6* (for 451.9+453.6).
454.2 *4*	6 *2*	1192.2	(11^+)	737.6	(9^+)		
481.7 *2*	18.6 *6*	670.0	(7^+)	188.20	6^-	D	DCO=0.57 *9*.
487.5 *3*	1.9 *1*	4163.8	(18^+)	3676.0	(17^+)		
506.3 *3*	4.4 *1*	3676.0	(17^+)	3169.5	(16^+)	D+Q	DCO=0.5 *2*.
558.0 *3*	1.4 *1*	4722.1	(19^+)	4163.8	(18^+)		
587.3 *3*	16.2 *5*	1486.0	(12^+)	898.7	(10^+)		
622.0 *3*	8.0 *3*	1520.7	(11^+)	898.7	(10^+)	D+Q	DCO=1.7 *3* (ΔJ=1 gated).
686.1 *3*	11.6 *4*	1878.2	(13^+)	1192.2	(11^+)		
688.6 *3*	7.4 *2*	1880.8	(12^+)	1192.2	(11^+)	D+Q	DCO=1.4 *2* (ΔJ=1 gated).
740.2 *3*	1.2 *1*	2260.9	(13^+)	1520.7	(11^+)		
774.7 *3*	5.4 *2*	2260.9	(13^+)	1486.0	(12^+)	D+Q	DCO=1.5 *2* (ΔJ=1 gated).
777.9 *3*	19.9 *6*	2263.7	(14^+)	1486.0	(12^+)	Q	DCO=0.97 *15*.
783.0 *3*	1.9 *1*	2663.8	(14^+)	1880.8	(12^+)		
783.3 *3*	0.7 *4*	1520.7	(11^+)	737.6	(9^+)		
785.5 *3*	5.3 *2*	2663.8	(14^+)	1878.2	(13^+)	D+Q	DCO=1.8 *3* (ΔJ=1 gated).
827.0 *3*	1.0 *1*	3090.7	(15^+)	2263.7	(14^+)		
829.8 *3*	>0.5	3090.7	(15^+)	2260.9	(13^+)		
839.2 *3*	11.9 *4*	2717.4	(15^+)	1878.2	(13^+)		
862.2 *3*	1.6 *1*	3579.5	(16^+)	2717.4	(15^+)		
906.0 *3*	11.8 *4*	3169.5	(16^+)	2263.7	(14^+)		
915.6 *3*	1.4 *1*	3579.5	(16^+)	2663.8	(14^+)		
958.8 *3*	5.1 *2*	3676.0	(17^+)	2717.4	(15^+)		
994.3 *3*	4.4 *2*	4163.8	(18^+)	3169.5	(16^+)		
1015.6 *3*	2.8 *1*	5179.4	(20^+)	4163.8	(18^+)		
1046.3 *3*	2.6 *1*	4722.1	(19^+)	3676.0	(17^+)		

[†] From $\gamma\gamma(\theta)$(DCO) data. The mixing ratios for ΔJ=1 transitions are deduced by 2002St13 As$\approx$0.1 for intraband and≈-0.3 for interband transitions.

$^{123}Sb(^{13}C,4n\gamma)$ 2002St13,2001St04

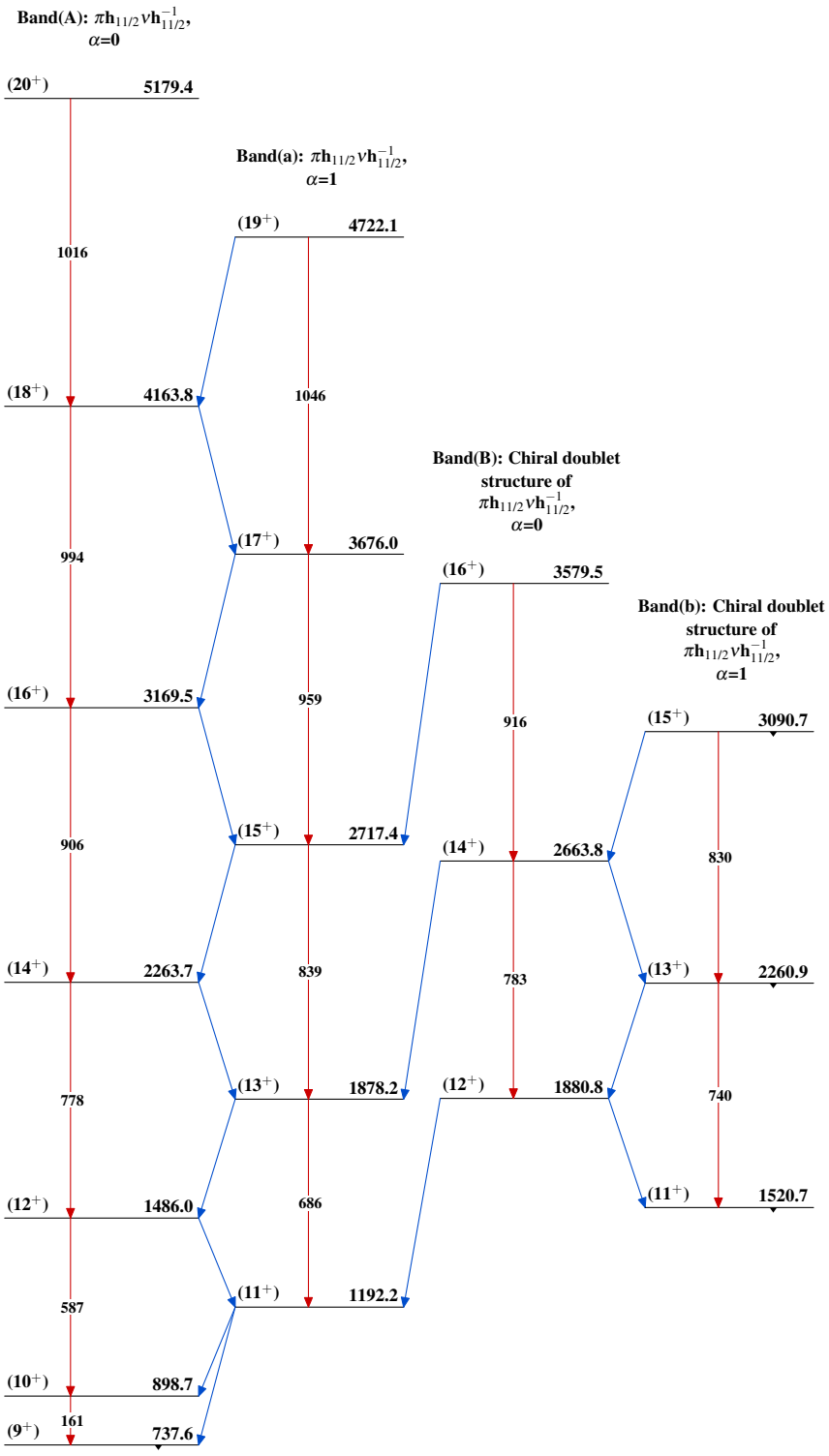
Level Scheme

Intensities: Relative I_γ



$^{132}_{57}La_{75}$

$^{123}Sb(^{13}C,4n\gamma)$ 2002St13,2001St04



$^{132}_{57}La_{75}$