(HI,xnγ) 1999Do02,2002Sc35

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)	1-Mar-2019

^{68}Zn(^{18}O,p3nγ), E=56 MeV (1999Do02). Measured Eγ, Iγ, γγ, γγ(θ)(DCO) using an array of eight Compton-suppressed HPGe detectors. Hartree-Fock-Bogoliubov shape calculations. Systematics of signature inversion In odd-odd Rb isotopes.

^{76}Ge(^{11}B,5nγ), E=50 MeV (1999Sc14,2000Sc17,2002Sc35) Measured Eγ, Iγ, γγ, γγ(θ)(DCO) using GASP spectrometer consisting of 40 Compton-suppressed HPGe detectors and inner ball of 80 BGO detectors, tilted-axis cranking model. Preliminary results by the same group: 1998ScZN, 1998ScZW.

^{60}Ni(^{27}Al,4pn), E=130 MeV (2010Yu03). Measured γ, γγ(θ), deduced g-factors for magnetic- rotational band states, using TMF-IMPAD method. Compared with calculated values. Other: 2009Yu10.

All data are from 1999Do02, unless otherwise noted.

^{82}Rb Levels

E(level)	J^{π}[†]	$T_{1/2}$[‡]	Comments
0.0	1^+	1.2575 min *2*	$T_{1/2}$: From Adopted Levels.
68.3	5^-	6.472 h *6*	$T_{1/2}$: From Adopted Levels. Additional information 1.
191.32 *9*	6^+		
209.14 *20*			
255.50 *13*	$7^{(+)}$		
301.10[@] *18*	$8^{(+)}$		
393.52[b] *10*	(6^-)		J^{π}: from 2000Sc17. $J^{\pi}=(6^-,7^-)$ In 1999Do02. Assignment of 5^+ by 1991Do05 is disputed by later work by 1999Do02 (some of the same authors As 1991Do05). This assignment, however, is not In agreement with lin pol measurement for 325γ by 1991Do05.
483.99 *9*	6^-		
538.50 *24*	(6)		
575.24 *20*	(5)		
690.60 *11*	7^-		
704.30 *23*	(6)		
734.01 *20*	(7)		
771.8 *4*			
863.74[&] *20*	$9^{(+)}$	0.19 ps *6*	
898.81 *23*	(7)		
1024.82 *22*	(8^+)		
1084.29 *20*	(8^-)		J^{π}: from 2002Sc35. $J^{\pi}=7^-$ in 1999Do02.
1210.81 *24*	(9^+)		
1281.49[@] *20*	$10^{(+)}$	0.68 ps *6*	
1356.49[b] *20*	(8^-)		J^{π}: from 2000Sc17. $J^{\pi}=(8^-,9^-)$ In 1999Do02.
1703.27 *24*	$10^{(+)}$		
1733.03 *24*	(9^-)		
1843.54 *24*	(9^-)		
1902.33[&] *25*	$11^{(+)}$	<0.38 ps	
1962.7 *3*	$10^{(+)}$		
2290.8 *4*	$11^{(+)}$		
2395.1[b] *3*	(10^-)		J^{π}: $(10^-,11^-)$ In 1999Do02.
2551.8[@] *3*	$12^{(+)}$	<0.62 ps	
2617.35[a] *24*	(11^-)		J^{π}: suggested As a 4-quasiparticle state with Configuration=$((\pi\ g_{9/2})^2(\pi\ p_{3/2})(\pi\ f_{5/2})(\nu\ g_{9/2}))$.
2709.9 *3*	(11^-)		
2960.4[#] *5*			
3027.9[a] *3*	(12^-)	0.40 ps *9*	g=1.12 *28* (2010Yu03)
3042.1[#] *10*			

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(HI,xnγ) 1999Do02,2002Sc35 (continued)

^{82}Rb Levels (continued)

E(level)	Jπ†	T1/2‡	Comments
3183.8& 4	13(+)		
3500.9a 4	(13−)	0.41 ps 8	g=1.03 26 (2010Yu03)
3519.5# 6			
3650.3# 9	(13−)		
3670.0# 4			
4016.0@ 6	14(+)		
4048.3a 4	(14−)		g=0.87 22 (2010Yu03)
4531.2#& 7	(15+)		
4716.6a 5	(15−)		g=0.82 20 (2010Yu03)
5485.1#a 6	(16−)		
5589.7#@ 6	(16+)		
6012.7#& 7	(17+)		

† The two π=+ bands, along with the 6+ and 7+ levels form the π=+ yrast sequence. The two bands are signature partners.
‡ For levels above 68 keV T1/2 are from 2002Sc35 measured by DSA method.
# Level from 2002Sc35.
@ Band(A): π=+ band-1.
& Band(B): π=+ band-2.
a Band(C): magnetic-rotational band.
b Band(D): π=− band.

γ(^{82}Rb)

DCO ratios are as deduced from ΔJ=1, 123γ (6+ to 5−) E1 gated spectra, unless otherwise stated. DCO ratio for 123γ in 984γ E2 gated spectra is 0.5 as expected for a stretched D. The dipole gated DCO ratios were renormalized by the authors by a factor of 0.5 for easy comparison with E2 gated ratios.

Eγ†	Iγ	Ei(level)	J_i^π	Ef	J_f^π	Mult.	α#	Comments
(17.8 2)		209.14		191.32	6+			Eγ: from unpublished coin data of 1991Do05 (1999Do02).
45.6 2	55 12	301.10	8(+)	255.50	7(+)	D		Mult.: expected M1.
64.2 1	65 4	255.50	7(+)	191.32	6+	D		DCO= 0.34 3. DCO= 0.22 6 (ΔJ=2 gated). Mult.: expected M1.
109.8‡ 2	1.4 9	1843.54	(9−)	1733.03	(9−)			
123.0 1	100 2	191.32	6+	68.3	5−	E1	0.0520	α(K)=0.0460 7; α(L)=0.00501 8; α(M)=0.000821 12 α(N)=9.13×10−5 13; α(O)=3.70×10−6 6 DCO= 0.48 5. DCO= 0.50 3 (ΔJ=2 gated). Mult.: From 1991Do05 in (α,nγ).
125.9 3	3 1	1024.82	(8+)	898.81	(7)			
129.0 3	≈1	704.30	(6)	575.24	(5)			
x132.5								
186.0 2	2 1	1210.81	(9+)	1024.82	(8+)	(M1+E2)	0.063 36	α(K)=0.055 32; α(L)=0.0068 42; α(M)=0.00112 68

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(HI,xnγ) 1999Do02,2002Sc35 (continued)

γ(^{82}Rb) (continued)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α#	Comments
								α(N)=1.22×10^{-4} *73*; α(O)=4.5×10^{-6} *24* DCO= 0.81 *13*.
194.4 *3*	2 *1*	898.81	(7)	704.30	(6)			
206.6 *1*	21 *2*	690.60	7$^-$	483.99	6$^-$	M1+E2	0.044 *24*	α(K)=0.039 *21*; α(L)=0.0047 *27*; α(M)=7.7×10^{-4} *44* α(N)=8.5×10^{-5} *47*; α(O)=3.2×10^{-6} *16* DCO= 0.58 *5*.
222.4 *2*	6 *1*	2617.35	(11$^-$)	2395.1	(10$^-$)	(M1+E2)	0.035 *18*	α(K)=0.030 *16*; α(L)=0.0036 *20*; α(M)=6.0×10^{-4} *32* α(N)=6.6×10^{-5} *35*; α(O)=2.5×10^{-6} *12* DCO= 0.69 *8*. DCO= 0.94 *12* (ΔJ=2 gated).
233.3 *3*	≈1	771.8		538.50	(6)			
261.1 *3*	≈1	2551.8	12$^{(+)}$	2290.8	11$^{(+)}$	[M1]	0.01146	α(K)=0.01014 *15*; α(L)=0.001116 *16*; α(M)=0.000184 *3* α(N)=2.09×10^{-5} *3*; α(O)=8.99×10^{-7} *13* Mult.: (M1) given by 1991Do02.
283.0 *2*	3 *1*	538.50	(6)	255.50	7$^{(+)}$			DCO= 0.81 *19*.
296.8 *3*	3 *1*	690.60	7$^-$	393.52	(6$^-$)	(M1+E2)	0.0136 *53*	α(K)=0.0119 *46*; α(L)=0.00137 *57*; α(M)=2.27×10^{-4} *94* α(N)=2.5×10^{-5} *10*; α(O)=1.01×10^{-6} *36* DCO= 1.05 *12* (ΔJ=2 gated).
318.0 *3*	≈1	3027.9	(12$^-$)	2709.9	(11$^-$)	(M1)	0.00702	α(K)=0.00621 *9*; α(L)=0.000680 *10*; α(M)=0.0001123 *16* α(N)=1.273×10^{-5} *18*; α(O)=5.49×10^{-7} *8*
325.2 *1*	20 *2*	393.52	(6$^-$)	68.3	5$^-$	(E2)	0.01375	α(K)=0.01209 *17*; α(L)=0.001406 *20*; α(M)=0.000232 *4* α(N)=2.56×10^{-5} *4*; α(O)=1.009×10^{-6} *15* DCO= 1.08 *15*. DCO= 0.97 *16* (ΔJ=2 gated).
^{x}344.8								
383.9 *2*	≈1	575.24	(5)	191.32	6$^+$			
393.8 *2*	5 *1*	1084.29	(8$^-$)	690.60	7$^-$	M1+E2	0.0057 *16*	α(K)=0.0051 *14*; α(L)=5.7×10^{-4} *17*; α(M)=9.3×10^{-5} *28* α(N)=1.05×10^{-5} *30*; α(O)=4.3×10^{-7} *11* DCO= 0.91 *8*.
410.6 *2*	14 *2*	3027.9	(12$^-$)	2617.35	(11$^-$)	M1	0.00378	α(K)=0.00334 *5*; α(L)=0.000364 *6*; α(M)=6.00×10^{-5} *9* α(N)=6.81×10^{-6} *10*; α(O)=2.95×10^{-7} *5* DCO= 0.53 *8*. DCO= 0.60 *10* (ΔJ=2 gated).
415.7 *1*	27 *3*	483.99	6$^-$	68.3	5$^-$	M1+E2	0.0049 *13*	α(K)=0.0043 *11*; α(L)=4.8×10^{-4} *13*; α(M)=8.0×10^{-5} *22* α(N)=8.9×10^{-6} *24*; α(O)=3.7×10^{-7} *9* DCO= 0.51 *4*.
417.7 *2*	4 *1*	1281.49	10$^{(+)}$	863.74	9$^{(+)}$	M1	0.00362	α(K)=0.00321 *5*; α(L)=0.000349 *5*; α(M)=5.76×10^{-5} *8* α(N)=6.54×10^{-6} *10*; α(O)=2.83×10^{-7} *4* DCO= 0.63 *8*.
433.1 *3*	2 *1*	734.01	(7)	301.10	8$^{(+)}$			
435.2 *3*	2 *1*	690.60	7$^-$	255.50	7$^{(+)}$	[E1]	1.48×10^{-3}	α(K)=0.001313 *19*; α(L)=0.0001408 *20*; α(M)=2.32×10^{-5} *4* α(N)=2.62×10^{-6} *4*; α(O)=1.121×10^{-7} *16* Mult.: (E1) given by 199Do02, but no data.

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(HI,xnγ) 1999Do02,2002Sc35 (continued)

γ(^{82}Rb) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[#]	Comments
473.1 *2*	11 *2*	3500.9	(13$^-$)	3027.9	(12$^-$)	M1	0.00270	α(K)=0.00239 *4*; α(L)=0.000259 *4*; α(M)=4.28×10^{-5} *6* α(N)=4.86×10^{-6} *7*; α(O)=2.11×10^{-7} *3* DCO= 0.49 *10*.
495.1 *3*	2 *1*	704.30	(6)	209.14				
499.2 *3*	2 *1*	690.60	7$^-$	191.32	6$^+$	D		DCO= 0.58 *15*. Mult.: (E1) in 1999Do02.
542.6 *2*	3 *1*	734.01	(7)	191.32	6$^+$			
547.7 *3*	8 *2*	4048.3	(14$^-$)	3500.9	(13$^-$)	D		DCO= 0.56 *8*. Mult.: M1 in 1999Do02.
559.1[‡] *3*		3519.5		2960.4				
562.6 *1*	25 *2*	863.74	9$^{(+)}$	301.10	8$^{(+)}$	M1	0.00181	α(K)=0.001602 *23*; α(L)=0.0001728 *25*; α(M)=2.85×10^{-5} *4* α(N)=3.24×10^{-6} *5*; α(O)=1.410×10^{-7} *20* DCO= 0.56 *4*.
587.7 *3*	3 *1*	2290.8	11$^{(+)}$	1703.27	10$^{(+)}$	M1+E2	0.00188 *25*	α(K)=0.00167 *22*; α(L)=0.00018 *3*; α(M)=3.0×10^{-5} *5* α(N)=3.4×10^{-6} *5*; α(O)=1.44×10^{-7} *17* DCO= 0.56 *13*.
600.9 *5*	4 *1*	1084.29	(8$^-$)	483.99	6$^-$	(E2)	0.00200	α(K)=0.00177 *3*; α(L)=0.000195 *3*; α(M)=3.22×10^{-5} *5* α(N)=3.62×10^{-6} *6*; α(O)=1.514×10^{-7} *22* DCO= 0.53 *10*. Mult.: from level placement; M1+E2 from DCO ratio.
620.9 *2*	12 *1*	1902.33	11$^{(+)}$	1281.49	10$^{(+)}$	M1+E2	0.00163 *19*	α(K)=0.00144 *17*; α(L)=0.000158 *21*; α(M)=2.6×10^{-5} *4* α(N)=2.9×10^{-6} *4*; α(O)=1.25×10^{-7} *13* DCO= 0.52 *7*. DCO= 0.54 *4* (ΔJ=2 gated).
622.5 *3*	≈1	690.60	7$^-$	68.3	5$^-$			Mult.: (E2) in 1999Do02, no supporting data.
632.0 *3*	4 *1*	3183.8	13$^{(+)}$	2551.8	12$^{(+)}$	M1+E2	0.00156 *18*	α(K)=0.00138 *16*; α(L)=0.000151 *19*; α(M)=2.5×10^{-5} *3* α(N)=2.8×10^{-6} *4*; α(O)=1.20×10^{-7} *12* DCO= 0.49 *12*.
649.5 *4*	<1	2551.8	12$^{(+)}$	1902.33	11$^{(+)}$			Mult.: (M1) in 1999Do02, no supporting data.
662.6[‡] *5*	6.4 *5*	2395.1	(10$^-$)	1733.03	(9$^-$)			
666[@] *1*	≈1	1356.49	(8$^-$)	690.60	7$^-$			
668.5 *4*	3 *1*	4716.6	(15$^-$)	4048.3	(14$^-$)			Mult.: (M1) in 1999Do02, no supporting data.
707.5 *3*	3 *1*	898.81	(7)	191.32	6$^+$			
759.7 *3*	7 *1*	1843.54	(9$^-$)	1084.29	(8$^-$)	(M1)	9.21×10^{-4}	α(K)=0.000817 *12*; α(L)=8.76×10^{-5} *13*; α(M)=1.445×10^{-5} *21* α(N)=1.643×10^{-6} *23*; α(O)=7.18×10^{-8} *10* Mult.: from 2002Sc35, DCO (gate Eγ=416, M1)=1.0 *1*. Mult=E2 in 1999Do02 DCO=0.82 *15*.
768.8[‡] *5*		5485.1	(16$^-$)	4716.6	(15$^-$)			
773.0 *3*	6 *1*	2617.35	(11$^-$)	1843.54	(9$^-$)	(E2)	1.01×10^{-3}	α(K)=0.000892 *13*; α(L)=9.74×10^{-5}

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(HI,xnγ) 1999Do02,2002Sc35 (continued)

γ(^{82}Rb) (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[#]	Comments
								14; α(M)=1.606×10^{-5} *23* α(N)=1.81×10^{-6} *3*; α(O)=7.71×10^{-8} *11* DCO= 1.15 *19*.
833.6 *3*	7 *1*	1024.82	(8$^+$)	191.32	6$^+$	(E2)	8.32×10^{-4}	α(K)=0.000737 *11*; α(L)=8.02×10^{-5} *12*; α(M)=1.321×10^{-5} *19* α(N)=1.493×10^{-6} *21*; α(O)=6.37×10^{-8} *9* DCO= 1.04 *16*.
839.5 *2*	10 *1*	1703.27	10$^{(+)}$	863.74	9$^{(+)}$	M1+E2	0.00078 *4*	α(K)=0.00069 *4*; α(L)=7.5×10^{-5} *5*; α(M)=1.23×10^{-5} *7* α(N)=1.39×10^{-6} *8*; α(O)=6.0×10^{-8} *3* DCO= 0.45 *12*.
865.6[‡] *5*	2.7 *3*	2709.9	(11$^-$)	1843.54	(9$^-$)			
883.5 *9*	1.9 *2*	3500.9	(13$^-$)	2617.35	(11$^-$)			
885.1 *3*	3 *1*	2617.35	(11$^-$)	1733.03	(9$^-$)			Mult.: (E2) in 1999Do02, no supporting data.
[x]892.2								
913.9 *3*	3 *1*	2617.35	(11$^-$)	1703.27	10$^{(+)}$	(E1)	2.75×10^{-4}	α(K)=0.000245 *4*; α(L)=2.59×10^{-5} *4*; α(M)=4.27×10^{-6} *6* α(N)=4.85×10^{-7} *7*; α(O)=2.11×10^{-8} *3* DCO= 0.50 *14*.
940.4[‡] *8*		3650.3	(13$^-$)	2709.9	(11$^-$)			
955.3 *3*	6 *1*	1210.81	(9$^+$)	255.50	7$^{(+)}$	(E2)	5.97×10^{-4}	α(K)=0.000529 *8*; α(L)=5.72×10^{-5} *8*; α(M)=9.43×10^{-6} *14* α(N)=1.067×10^{-6} *15*; α(O)=4.58×10^{-8} *7* DCO= 0.87 *15*.
963.0 *2*	18 *2*	1356.49	(8$^-$)	393.52	(6$^-$)	E2	5.86×10^{-4}	α(K)=0.000519 *8*; α(L)=5.61×10^{-5} *8*; α(M)=9.25×10^{-6} *13* α(N)=1.047×10^{-6} *15*; α(O)=4.50×10^{-8} *7* DCO= 1.12 *11* (ΔJ=2 gated).
977.1 *3*	4 *1*	2709.9	(11$^-$)	1733.03	(9$^-$)	(E2)	5.66×10^{-4}	α(K)=0.000502 *7*; α(L)=5.42×10^{-5} *8*; α(M)=8.93×10^{-6} *13* α(N)=1.011×10^{-6} *15*; α(O)=4.35×10^{-8} *6*
980.4 *1*	31 *2*	1281.49	10$^{(+)}$	301.10	8$^{(+)}$	E2	5.61×10^{-4}	α(K)=0.000498 *7*; α(L)=5.38×10^{-5} *8*; α(M)=8.86×10^{-6} *13* α(N)=1.003×10^{-6} *14*; α(O)=4.31×10^{-8} *6* DCO= 1.12 *8*.
1019.2[‡] *6*	2.6 *2*	4048.3	(14$^-$)	3027.9	(12$^-$)			
1038.4 *3*	5 *1*	1902.33	11$^{(+)}$	863.74	9$^{(+)}$	E2	4.91×10^{-4}	α(K)=0.000436 *7*; α(L)=4.70×10^{-5} *7*; α(M)=7.74×10^{-6} *11* α(N)=8.77×10^{-7} *13*; α(O)=3.78×10^{-8} *6* DCO= 0.98 *16*.
1038.6 *4*	16 *2*	2395.1	(10$^-$)	1356.49	(8$^-$)	E2	4.91×10^{-4}	α(K)=0.000435 *7*; α(L)=4.69×10^{-5} *7*; α(M)=7.74×10^{-6} *11* α(N)=8.76×10^{-7} *13*; α(O)=3.78×10^{-8} *6* DCO= 1.09 *11* (ΔJ=2 gated).
1041.8 *4*	13 *2*	1733.03	(9$^-$)	690.60	7$^-$	(E2)	4.88×10^{-4}	α(K)=0.000432 *6*; α(L)=4.66×10^{-5} *7*;

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(HI,xnγ) 1999Do02,2002Sc35 (continued)

γ(^{82}Rb) (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[#]	Comments
								α(M)=7.68×10^{-6} *11* α(N)=8.70×10^{-7} *13*; α(O)=3.75×10^{-8} *6* DCO= 0.78 *11*.
1055.2 *5*	2 *1*	1356.49	(8$^-$)	301.10	8$^{(+)}$			Mult.: (E1) in 1999Do02, no supporting data.
1058.1[‡] *4*		2960.4		1902.33	11$^{(+)}$			
1099.0 *2*	4 *1*	1962.7	10$^{(+)}$	863.74	9$^{(+)}$	(M1+E2)	4.25×10^{-4} *9*	α(K)=0.000377 *8*; α(L)=4.04×10^{-5} *10*; α(M)=6.66×10^{-6} *16* α(N)=7.57×10^{-7} *17*; α(O)=3.29×10^{-8} *6* DCO= 0.43 *10*.
1139.8[‡] *9*		3042.1		1902.33	11$^{(+)}$			
1215.8[‡] *5*	1.9 *1*	4716.6	(15$^-$)	3500.9	(13$^-$)			
1270.2 *3*	12 *2*	2551.8	12$^{(+)}$	1281.49	10$^{(+)}$	E2	3.36×10^{-4}	α(K)=0.000279 *4*; α(L)=2.99×10^{-5} *5*; α(M)=4.93×10^{-6} *7* α(N)=5.59×10^{-7} *8*; α(O)=2.43×10^{-8} *4*; α(IPF)=2.09×10^{-5} *3* DCO= 0.97 *13*. DCO= 0.95 *7* (ΔJ=2 gated).
1281.4 *4*	5 *1*	3183.8	13$^{(+)}$	1902.33	11$^{(+)}$	E2	3.32×10^{-4}	α(K)=0.000274 *4*; α(L)=2.94×10^{-5} *5*; α(M)=4.84×10^{-6} *7* α(N)=5.49×10^{-7} *8*; α(O)=2.38×10^{-8} *4*; α(IPF)=2.33×10^{-5} *4* DCO= 0.93 *19*.
[x]1346								
1347.4[‡] *6*		4531.2	(15$^+$)	3183.8	13$^{(+)}$			
1379.2[‡] *1*		3670.0		2290.8	11$^{(+)}$			
1436.2[‡] *6*		5485.1	(16$^-$)	4048.3	(14$^-$)			
1464.2 *5*	6 *1*	4016.0	14$^{(+)}$	2551.8	12$^{(+)}$	E2	3.06×10^{-4}	α(K)=0.000208 *3*; α(L)=2.22×10^{-5} *4*; α(M)=3.66×10^{-6} *6* α(N)=4.15×10^{-7} *6*; α(O)=1.81×10^{-8} *3*; α(IPF)=7.19×10^{-5} *11* DCO= 1.1 *2*.
1481.5[‡] *1*		6012.7	(17$^+$)	4531.2	(15$^+$)			
1543 *1*	2 *1*	1843.54	(9$^-$)	301.10	8$^{(+)}$			Mult.: (E1) in 1999Do02, no supporting data.
1573.7[‡] *1*		5589.7	(16$^+$)	4016.0	14$^{(+)}$			

[†] Unplaced transitions are seen In coin with 123γ.
[‡] Transition placement from 2002Sc35.
[#] Additional information 2.
[@] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

(HI,xnγ) 1999Do02,2002Sc35

Level Scheme

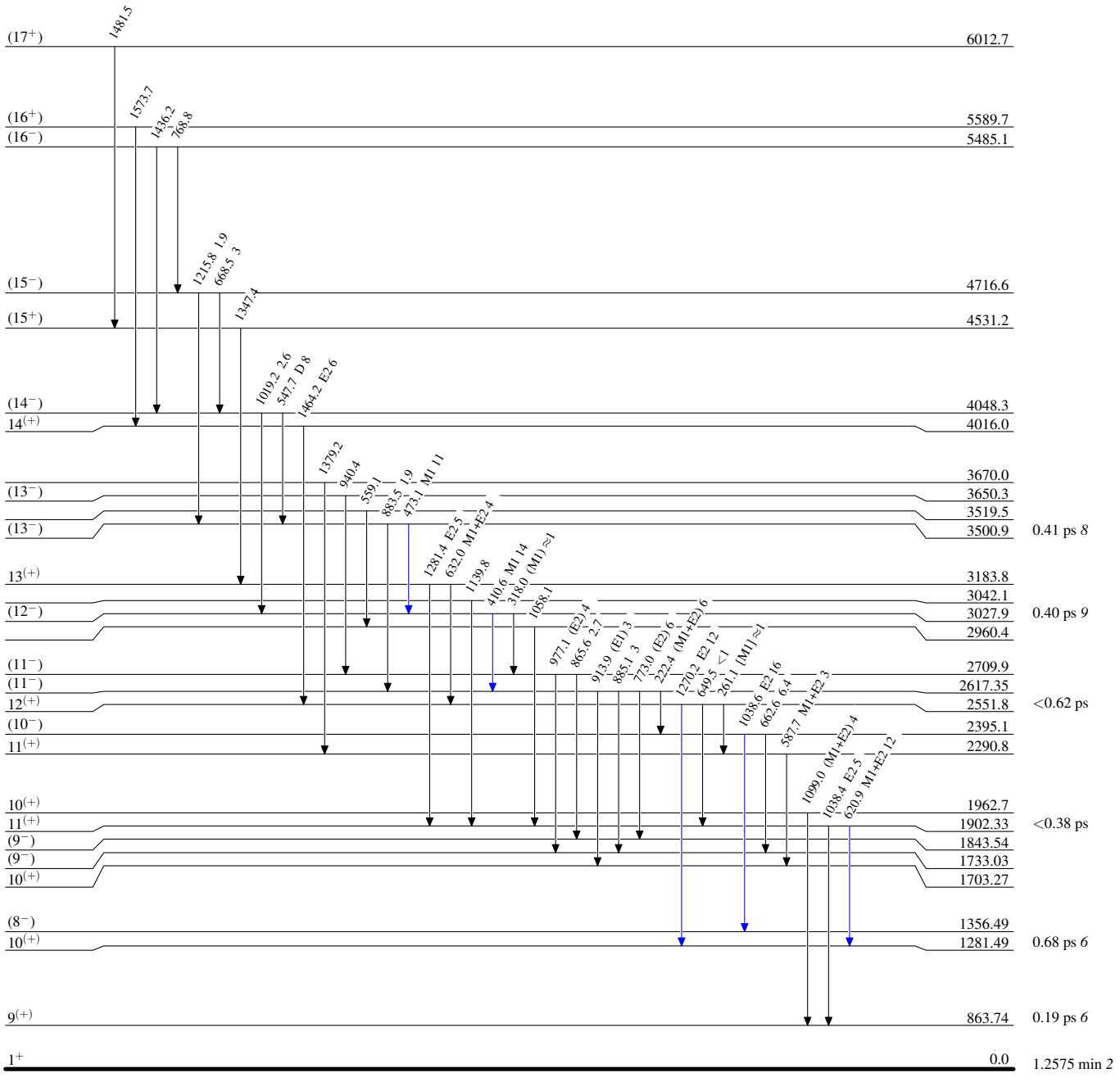
Intensities: Relative I_γ

Legend

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

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

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



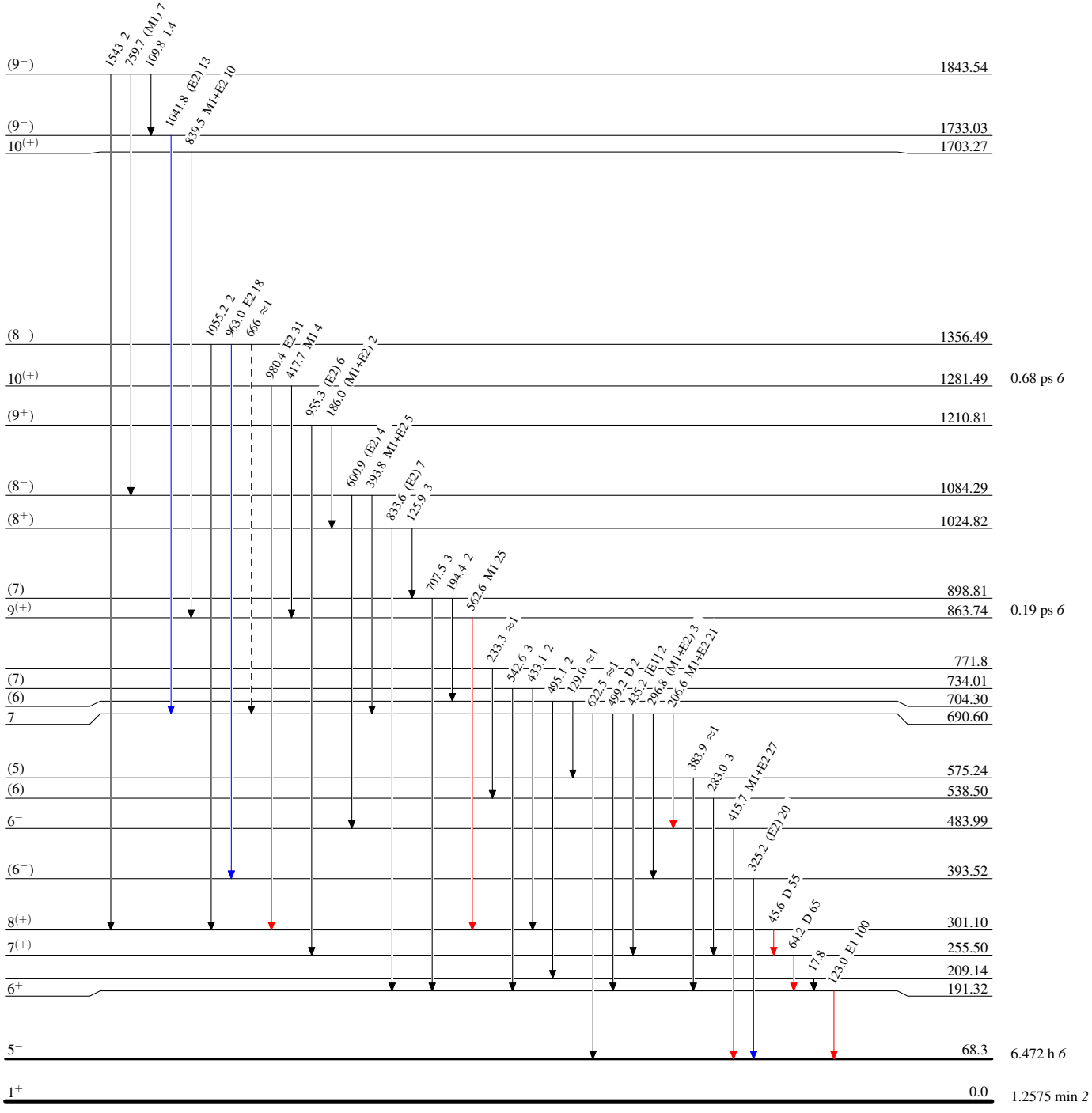
$^{82}_{37}Rb_{45}$

(HI,xnγ) 1999Do02,2002Sc35

Level Scheme (continued)

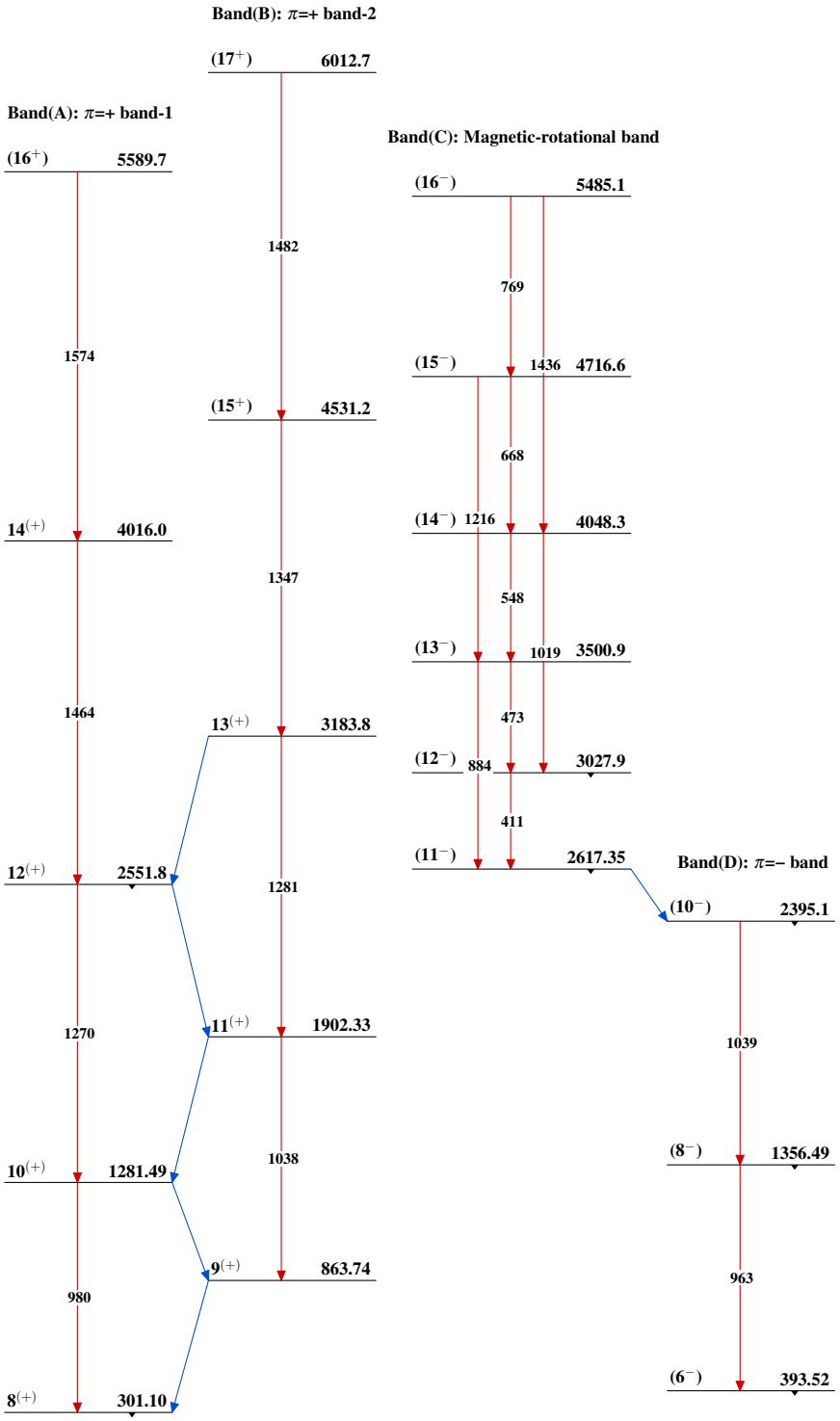
Intensities: Relative I_γ

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)



$^{82}_{37}Rb_{45}$

(HI,xnγ) 1999Do02,2002Sc35



$^{82}_{37}Rb_{45}$