(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

1992Sc05: ^{100}Mo(^{18}O,4n), E=70 MeV, ^{112}Cd(α,2n), E=28 MeV. OSIRIS cube.
1991Sc03: ^{100}Mo(^{18}O,4n), E=70 MeV, ^{112}Cd(α,2n), E=28 MeV. OSIRIS cube. Preliminary data, full paper in 1992Sc05.
1991BeZL: ^{70}Zn(^{48}Ca,4n), E=175 MeV. Tessa3 spectrometer.
1989Ha01: ^{100}Mo(^{18}O,4n), E=65 MeV. 6 BGO with Ge(Li) detectors.
Measured: γ, $\alpha\gamma$(t), ce, σ(E,θ), $\gamma\gamma(\theta)$, linear polarization of γ semi. Anti-Compton spectrometer.

^{114}Sn Levels

E(level)	J^{π}‡	$T_{1/2}$†	Comments
0#	0^+	stable	
1299.9# *2*	2^+		
1953.9@	0^+		
2187.6# *4*	4^+		
2239.2@ *6*	2^+		
2275.4 *4*	3^-		
2614.0@ *4*	4^+		
2765.1 *4*	4^+		
2815.8 *5*	5^-		
3087.1 *5*	7^-	733 ns *14*	$T_{1/2}$: from 1980Va13.
3188.5@ *4*	6^+		
3191.1 *6*	8^-	0.35 ns *20*	$T_{1/2}$: from 1980Va13.
3244.5			
3363.1 *2*			
3511.4 *5*	9^-		
3566.1			
3870.8@ *5*	8^+		
3971.4	8^-		
4046.9&	5^-		
4140.4 *7*	10^+		
4141.9			
4221.6&	(6^-)		
4430.5&	(7^-)		
4669.2&	8^-		
4672.5@ *6*	10^+		
4919.4	9^-		
4923.9&	9^-		
4963.9 *7*	11^-		
5182.7 *7*	12^+		
5222.0			
5233.8&	10^-		
5548.0@ *6*	12^+		
5554.3&	11^-		
5776.1	12^+		
5887.3			
5922.1 *7*	13^+		
5922.2&	12^-		
6046.3 *7*	$14^{(+)}$		
6134.2			

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(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL (continued)

^{114}Sn Levels (continued)

E(level)	Jπ‡	E(level)	Jπ‡	E(level)	Jπ‡	E(level)	Jπ‡
6267.0 *7*	14^+	6925.5 *8*	16^+	8142.6[@] *8*	18^+	11175.0[&]	(23^-)
6279.3[&]	13^-	7115.4[&]	15^-	8193.8		11609[@]	(24^+)
6341.2[@] *7*	14^+	7205.1[@] *7*	16^+	8356.9		12312[&]	(25^-)
6460.5	$(13)^-$	7205.6		8587.4[&]	18^-	12943[@]	(26^+)
6495.7		7369.5		8643.6		13517[&]	(27^-)
6496.1		7376.3		9061.0[&]	19^-	14406[@]	(28^+)
6550.5 *6*		7607.8	16^-	9195.8[@] *11*	(20^+)	14802[&]	(29)
6550.7		7708.6		9647.3[&]	(20^-)	15997[@]	(30^+)
6690.6		7868.7		10114.2[&]	21^-	16237[&]	(31^-)
6698.4		8049.6[&]	17^-	10359.8[@] *15*	(22^+)	17871[&]	(33^-)
6716.2[&]	14^-	8130.4		10778.1[&]	(22^-)		

† From Adopted Levels.
‡ From measured multipolarity, see Adopted Levels.
# Band(A): Yrast Band.
@ Band(B): $K^\pi=0$ Band.
& Band(C): Negative Parity Band with K=5.

γ(^{114}Sn)

Angular correlation ratio R(θ) is from 1989Ha01.
DCO values are from 1992Sc05 for four geometries with angles θ_1, θ_2, ϕ_1 and ϕ_2 as follows: 90°,45°, 90°, 90°; 45°, 90°, 0°, 90°; 45°, 90°, 0°, 90°; 45°, 90°, 180°, 90°. Four respective values are given under comments corresponding to these geometries. For gating transitions, consult table 4 in 1992Sc05.

E_γ‡	I_γ#	E_i(level)	J_i^π	E_f	J_f^π	Mult.†	Comments
103.0 *2*	14.4 *4*	3191.1	8^-	3087.1	7^-	D+Q	R(θ)=1.26 *6*.
124.7 *2*	<1	6046.3	$14^{(+)}$	5922.1	13^+		
174.1 *2*		4221.6	(6^-)	4046.9	5^-		
200.5 *2*		2815.8	5^-	2614.0	4^+		
209.5 *2*		4430.5	(7^-)	4221.6	(6^-)		
239.1 *2*		4669.2	8^-	4430.5	(7^-)		
254.7 *2*		4923.9	9^-	4669.2	8^-		
272.3 *2*	54.8 *17*	3087.1	7^-	2815.8	5^-	E2	B(E2)(W.u.)=0.0157 *3* R(θ)=0.78 *2*. DCO=1.05 *2*, 1.03 *2*, 1.12 *3*, 1.29 *4*.
284.9 *2*	0.7 *1*	6550.5		6267.0	14^+		R(θ)=1.10 *20*.
285.3 *2*		2239.2	2^+	1953.9	0^+		
309.9 *2*		5233.8	10^-	4923.9	9^-		
314.4 *2*		5233.8	10^-	4919.4	9^-		
320.4 *2*	28.2 *11*	3511.4	9^-	3191.1	8^-		R(θ)=0.93 *2*.
320.5 *2*		5554.3	11^-	5233.8	10^-		
322.1 *2*		3566.1		3244.5			
345.2 *2*	1.5 *1*	6267.0	14^+	5922.2	12^-		R(θ)=1.08 *17*.
357.1 *2*		6279.3	13^-	5922.2	12^-	D+Q	
367.9 *2*		5922.2	12^-	5554.3	11^-		
374.2 *2*	2.2 *2*	6925.5	16^+	6550.7			R(θ)=1.05 *15*.

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(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL (continued)

γ(^{114}Sn) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
375.3 *2*	1.2 *2*	2614.0	4^+	2239.2	2^+	E2	R(θ)=0.94 *19*.
376.2 *2*		3566.1		3191.1	8^-		
383.6 *2*		4430.5	(7^-)	4046.9	5^-		
399.1 *2*		7115.4	15^-	6716.2	14^-		
404.9 *2*		3971.4	8^-	3566.1			
423.6 *2*	1.5 *2*	3188.5	6^+	2765.1	4^+	E2	R(θ)=0.53 *18*.
426.9 *2*		2614.0	4^+	2187.6	4^+		
429.3 *2*		3244.5		2815.8	5^-		
436.9 *2*		6716.2	14^-	6279.3	13^-	D+Q	DCO=0.6 *1*, 0.7 *1*, 0.6 *1*, 0.5 *2*.
451.0 *2*		6496.1		6046.3	$14^{(+)}$		
460.2 *2*		3971.4	8^-	3511.4	9^-		
492.5 *2*		7607.8	16^-	7115.4	15^-		
493.5 *2*		4923.9	9^-	4430.5	(7^-)		
505.4 *2*	6.4 *3*	6550.5		6046.3	$14^{(+)}$	&	R(θ)=0.90 *6*. DCO=0.78 *2*, 1.06 *3*, 0.93 *3*, 0.89 *4*.
540.3 *2*	9.6 *8*	2815.8	5^-	2275.4	3^-	E2	
547.9 *2*		3363.1		2815.8	5^-		
564.6 *2*		5233.8	10^-	4669.2	8^-	E2	
574.5 *2*	16.4 *4*	3188.5	6^+	2614.0	4^+	E2	R(θ)=0.87 *4*. DCO=1.07 *2*, 1.52 *2*, 1.28 *3*, 1.01 *4*.
627.6 *2*	50.8 *22*	2815.8	5^-	2187.6	4^+	D	R(θ)=1.33 *4*. DCO=0.899 *7*, 0.901 *7*, 0.73 *1*, 0.90 *1*.
629.0 *2*	20.0 *22*	4140.4	10^+	3511.4	9^-	D	R(θ)=1.38 *4*.
630.4 *2*		5554.3	11^-	4923.9	9^-	E2	
634.9 *2*		5554.3	11^-	4919.4	9^-	E2	
654.0 *2*		1953.9	0^+	1299.9	2^+		
682.4 *2*	17.6 *4*	3870.8	8^+	3188.5	6^+	E2	R(θ)=0.77 *2*. DCO=1.04 *2*, 1.49 *2*, 1.28 *3*, 1.06 *3*.
688.4 *2*		5922.2	12^-	5233.8	10^-	E2	DCO=1.0 *1*, 1.6 *1*, 1.3 *2*, 1.0 *2*.
725.0 *2*		6279.3	13^-	5554.3	11^-	E2	DCO=1.00 *7*, 1.52 *9*, 1.2 *1*, 0.8 *1*. Additional information 1.
730.8 *2*		6279.3	13^-	5548.0	12^+	D	DCO=0.7 *1*, 1.2 *2*, 1.0 *2*, 0.6 *2*.
739.1 *2*	4.0 *3*	5922.1	13^+	5182.7	12^+	E2	R(θ)=0.62 *8*. DCO=1.01 *6*, 1.61 *7*, 1.40 *9*, 1.0 *1*.
744.6 *2*		7205.6		6460.5	$(13)^-$		
751.3 *2*		3566.1		2815.8	5^-		
780.8 *2*		3971.4	8^-	3191.1	8^-		
783.9 *2*		7708.6		6925.5	16^+		
793.3 *2*	4.4 *4*	6341.2	14^+	5548.0	12^+	E2	R(θ)=0.68 *5*. DCO=1.09 *3*, 1.57 *4*, 1.22 *5*, 1.00 *6*.
794.0 *2*		6716.2	14^-	5922.2	12^-	E2	DCO=0.95 *5*, 1.60 *7*, 1.27 *8*, 0.97 *9*.
801.5 *2*	13.8 *5*	4672.5	10^+	3870.8	8^+	E2	R(θ)=0.82 *4*. DCO=0.96 *2*, 1.48 *2*, 1.29 *3*, 0.98 *3*.
818.6 *2*		7369.5		6550.7			
836.1 *2*		7115.4	15^-	6279.3	13^-	E2	DCO=0.98 *5*, 1.54 *6*, 1.31 *8*, 1.04 *9*. Additional information 2.
862.9 *2*	4.0 *4*	7205.1	16^+	6341.2	14^+	E2	R(θ)=0.68 *6*. DCO=1.01 *4*, 1.52 *6*, 1.28 *6*, 0.98 *7*.
863.8 *3*	10.6 *4*	6046.3	$14^{(+)}$	5182.7	12^+	E2	R(θ)=0.70 *4*. DCO=1.04 *2*, 1.58 *2*, 1.15 *3*, 0.92 *4*.
875.5 *2*	7.6 *4*	5548.0	12^+	4672.5	10^+	E2	R(θ)=0.88 *4*. DCO=0.96 *2*, 1.48 *3*, 1.11 *3*, 0.94 *4*.
879.6 *2*	<1	6925.5	16^+	6046.3	$14^{(+)}$	E2	DCO=1.0 *1*, 1.3 *1*, 1.2 *2*, 1.0 *2*.
880.6 *2*		7376.3		6495.7			
881.3 *2*		5554.3	11^-	4672.5	10^+	D	DCO=0.72 *5*, 1.10 *6*, 0.94 *7*, 0.61 *7*.

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(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL (continued)

γ(^{114}Sn) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
883.9 *2*		3971.4	8^-	3087.1	7^-		
887.7 *2*	69.2 *22*	2187.6	4^+	1299.9	2^+	E2	R(θ)=0.91 *1*.
891.6 *2*		7607.8	16^-	6716.2	14^-	E2	DCO=1.00 *6*, 1.68 *8*, 1.33 *9*, 1.0 *1*.
915.5 *2*		7376.3		6460.5	$(13)^-$		
926.3 *2*		7205.6		6279.3	13^-		
934.2 *2*		8049.6	17^-	7115.4	15^-	E2	DCO=1.00 *5*, 1.53 *6*, 1.31 *8*, 0.96 *9*.
938.0 *2*	2.7 *3*	8142.6	18^+	7205.1	16^+	E2	R(θ)=0.91 *12*. DCO=1.00 *3*, 1.57 *5*, 1.14 *5*, 0.86 *6*.
944.0 *2*		7868.7		6925.5	16^+		
947.2 *2*		6495.7		5548.0	12^+		
951.3 *2*		4141.9		3191.1	8^-		
952.2 *2*		4923.9	9^-	3971.4	8^-		
952.9 *2*		6134.2		5182.7	12^+		
975.0 *2*	7.5 *12*	2275.4	3^-	1299.9	2^+	D	R(θ)=1.20 *11*. DCO=0.97 *4*, 1.0 *2*, 0.79 *4*, 0.79 *5*.
979.6 *2*		8587.4	18^-	7607.8	16^-	E2	
980.6 *2*		8356.9		7376.3			DCO=1.00 *8*, 1.3 *1*, 1.2 *2*, 0.9 *2*.
1001.4 *2*	4.3 *4*	3188.5	6^+	2187.6	4^+		R(θ)=0.89 *11*.
1011.4 *2*		9061.0	19^-	8049.6	17^-	E2	DCO=1.00 *9*, 1.34 *6*, 1.09 *7*, 0.8 *1*.
1042.1 *2*	18.8 *4*	5182.7	12^+	4140.4	10^+	E2	R(θ)=0.75 *2*.
1047.9 *2*		4919.4	9^-	3870.8	8^+		
1052.2 *2*	1.3 *1*	9195.8	(20^+)	8142.6	18^+	E2	DCO=0.98 *6*, 1.27 *8*, 1.2 *1*, 1.0 *1*.
1052.4 *2*		4923.9	9^-	3870.8	8^+		
1053.2 *2*		10114.2	21^-	9061.0	19^-	E2	DCO=1.2 *1*, 1.4 *1*, 1.0 *1*, 0.9 *1*.
1054.4 *2*		4141.9		3087.1	7^-		
1059.9 *2*		9647.3	(20^-)	8587.4	18^-		
1060.8 *2*		11175.0	(23^-)	10114.2	21^-		
1067.3 *2*		4430.5	(7^-)	3363.1			
1084.2 *2*		6267.0	14^+	5182.7	12^+	E2	DCO=1.1 *1*, 1.8 *1*, 1.3 *1*, 1.0 *2*.
1091.9 *2*		5233.8	10^-	4141.9			
1103.4 *2*		5776.1	12^+	4672.5	10^+		
1130.8 *2*		10778.1	(22^-)	9647.3	(20^-)		
1137[@]		12312	(25^-)	11175.0	(23^-)		
1142.1 *2*		6690.6		5548.0	12^+		
1149.9 *2*		6698.4		5548.0	12^+		
1158.2 *2*		4669.2	8^-	3511.4	9^-		
1159.3 *2*	6.3 *4*	7205.1	16^+	6046.3	$14^{(+)}$		R(θ)=0.89 *7*.
1164.1 *2*	1.0 *1*	10359.8	(22^+)	9195.8	(20^+)		
1205[@]		13517	(27^-)	12312	(25^-)		
1205.7 *2*		8130.4		6925.5	16^+		
1241.4 *2*		4430.5	(7^-)	3188.5	6^+		
1250[@]		11609	(24^+)	10359.8	(22^+)		
1262.4 *2*		5233.8	10^-	3971.4	8^-		
1285[@]		14802	(29)	13517	(27^-)		
1299.9 *2*	100	1299.9	2^+	0	0^+	E2	R(θ)=0.86 *3*.
1314.5 *2*	19.6 *7*	2614.0	4^+	1299.9	2^+	E2	R(θ)=0.94 *4*. DCO=1.00 *2*, 1.47 *3*, 1.12 *3*, 0.94 *4*.
1315.6 *2*		6279.3	13^-	4963.9	11^-		
1324.4 *2*		7369.5		6046.3	$14^{(+)}$		
1334[@]		12943	(26^+)	11609	(24^+)		
1353.0 *2*		4919.4	9^-	3566.1			
1369.4 *2*		6550.7		5182.7	12^+		
1408.4 *2*		4919.4	9^-	3511.4	9^-		
1413.0 *2*		4923.9	9^-	3511.4	9^-		

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(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL (continued)

γ(^{114}Sn) (continued)

E_γ ‡	I_γ #	E_i(level)	J_i^π	E_f	J_f^π	E_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
1424.7 *2*		4669.2	8^-	3244.5		1643.3 *2*	8193.8		6550.5	
1435 @		16237	(31^-)	14802	(29)	1711.0 *2*	5222.0		3511.4	9^-
1452.7 *2*	4.8 *3*	4963.9	11^-	3511.4	9^-	1718.9 *2*	8643.6		6925.5	16^+
1463 @		14406	(28^+)	12943	(26^+)	1722.8 *2*	5233.8	10^-	3511.4	9^-
1465.5 *2*	1.2 *3*	2765.1	4^+	1299.9	2^+	1729.0 *2*	4919.4	9^-	3191.1	8^-
1478.6 *2*		4669.2	8^-	3191.1	8^-	1733.3 *2*	4923.9	9^-	3191.1	8^-
1496.8 *2*		6460.5	$(13)^-$	4963.9	11^-	1747.3 *2*	5887.3		4140.4	10^+
1581.7 *2*		4669.2	8^-	3087.1	7^-	1832.0 *2*	4919.4	9^-	3087.1	7^-
1591 @		15997	(30^+)	14406	(28^+)	1836.4 *2*	4923.9	9^-	3087.1	7^-
1615.4 *2*		4430.5	(7^-)	2815.8	5^-	1859.3 *2*	4046.9	5^-	2187.6	4^+
1634 @		17871	(33^-)	16237	(31^-)	2239.2 *2*	2239.2	2^+	0	0^+
1636.1 *2*		5776.1	12^+	4140.4	10^+					

† DCO ratios (1992Sc05,1989Ha01).
‡ From 1992Sc05, except where noted otherwise. ΔEγ=0.1-0.2 according to 1992Sc05. The evaluator assigns ΔEγ=0.2.
# From 1989Ha01.
@ From 1991BeZL.
& ΔJ=0 or 1 (1992Sc05).

(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL

Level Scheme

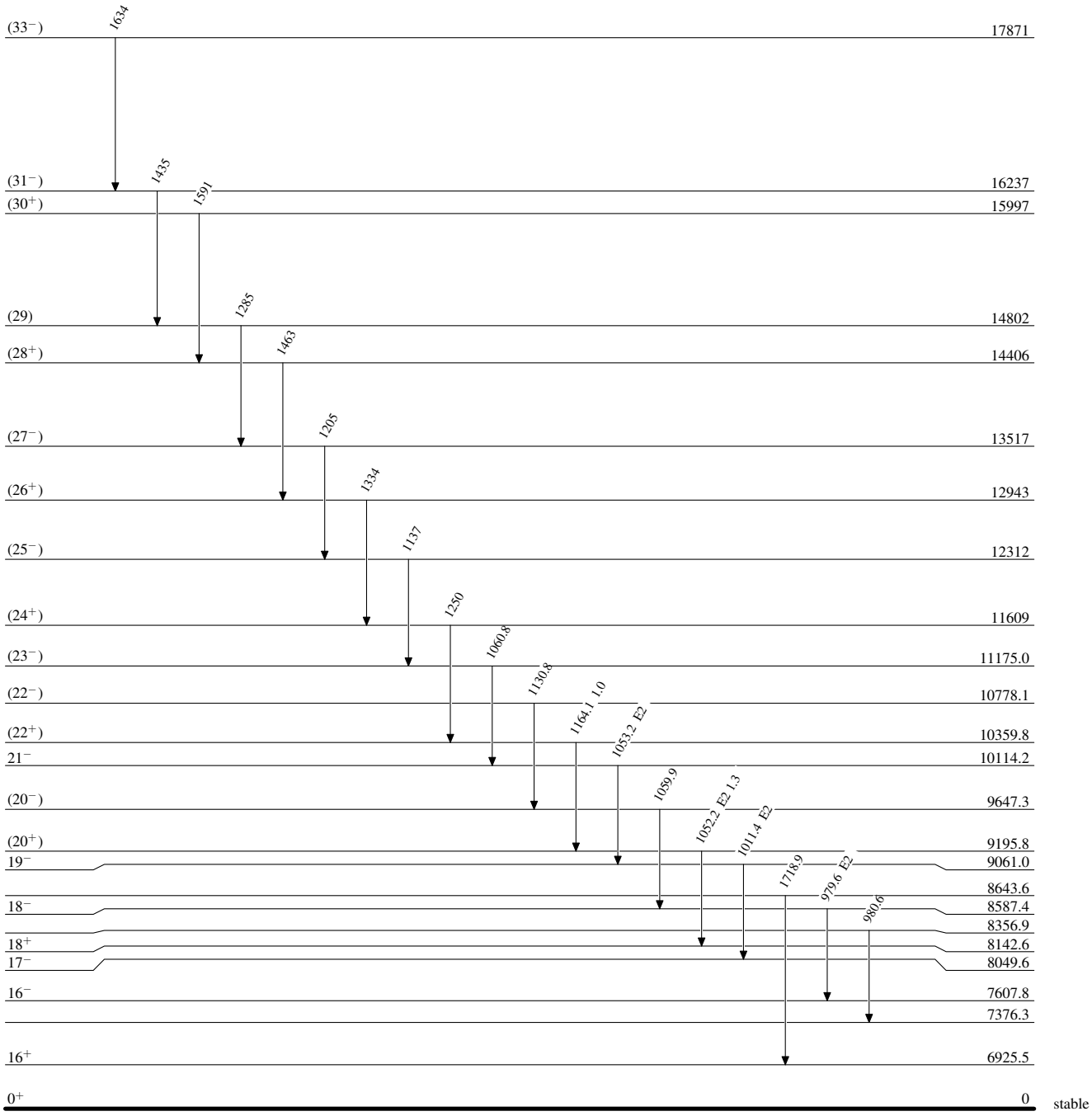
Intensities: Relative I_γ

Legend

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

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

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

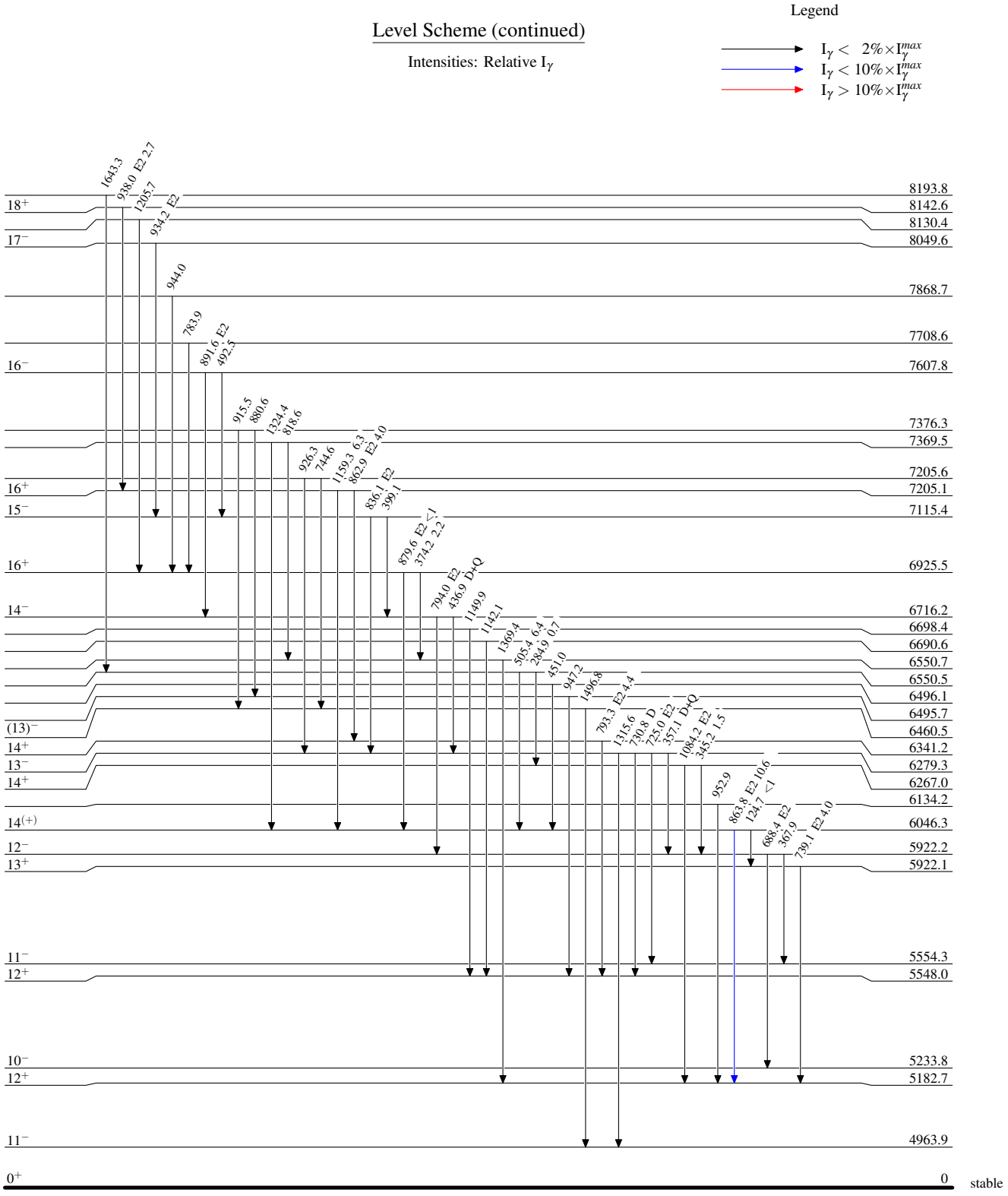


$^{114}_{50}Sn_{64}$

(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL

Level Scheme (continued)

Intensities: Relative I_γ



$^{114}_{50}Sn_{64}$

(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL

Level Scheme (continued)

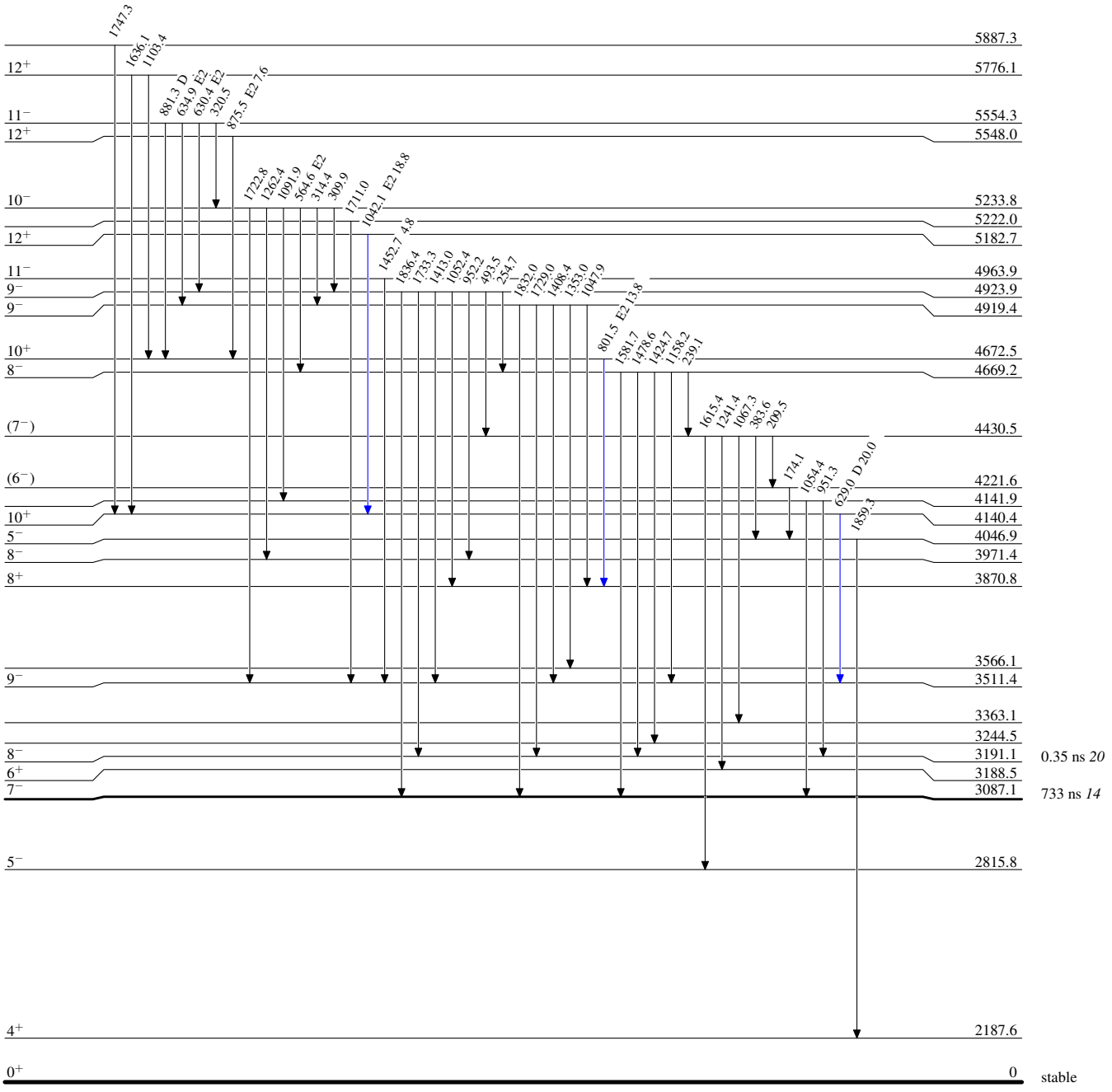
Intensities: Relative I_γ

Legend

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

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

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

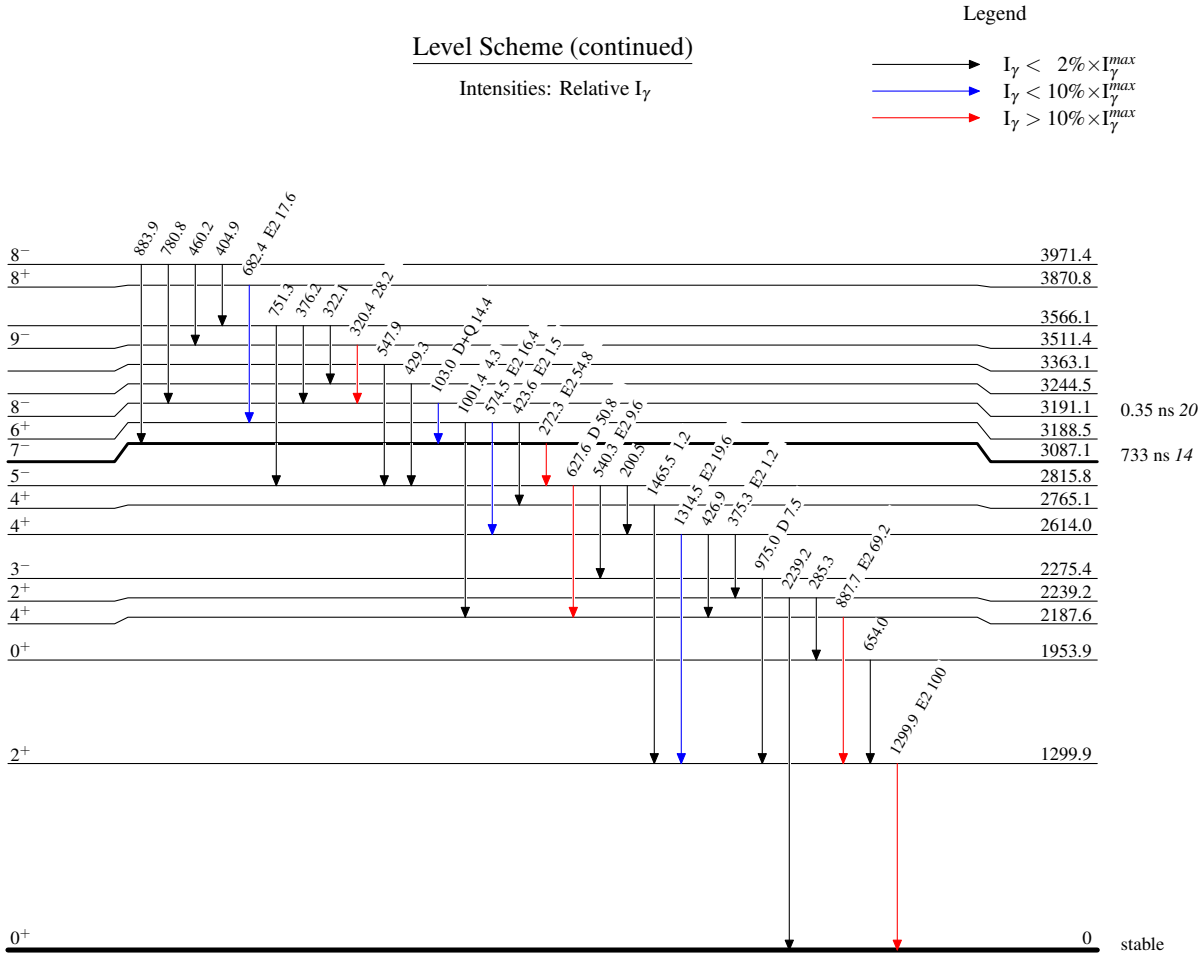


$^{114}_{50}Sn_{64}$

(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL

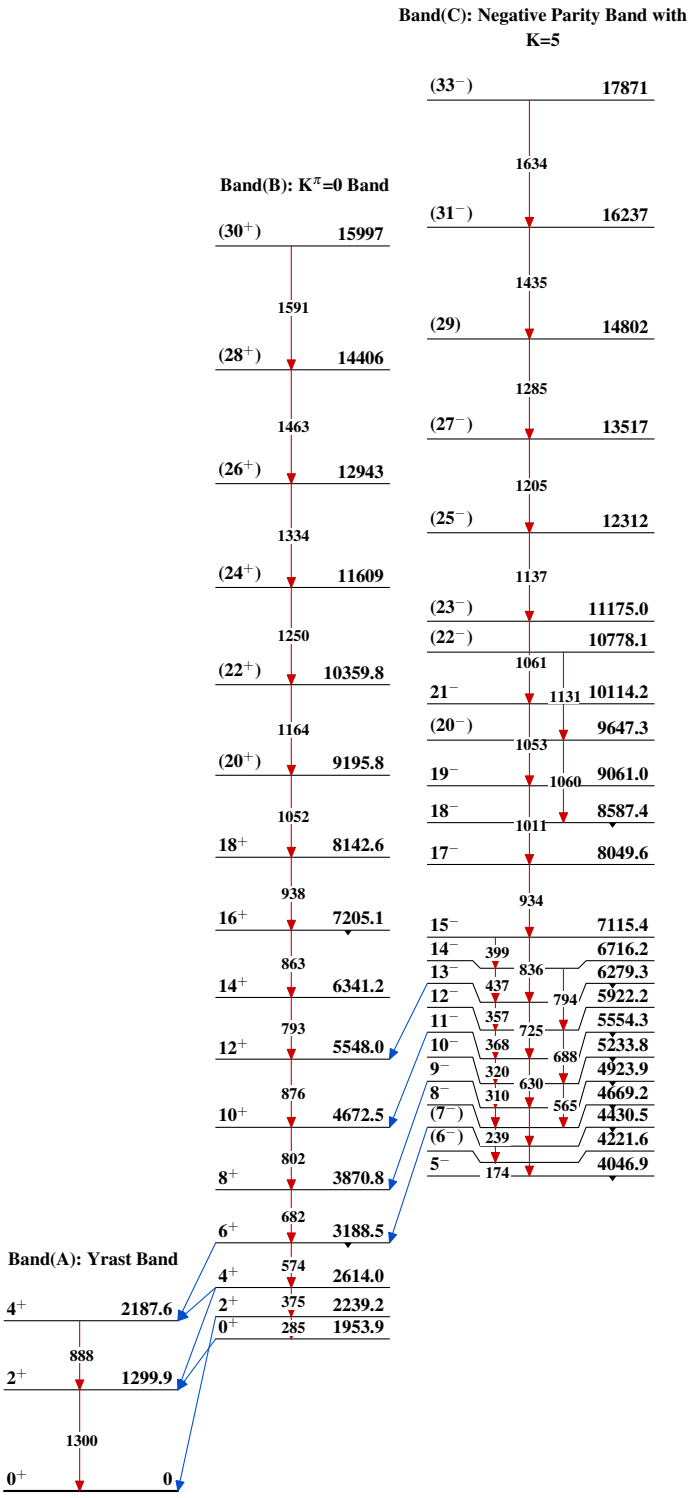
Level Scheme (continued)

Intensities: Relative I_γ



$^{114}_{50}Sn_{64}$

(HI,xnγ) 1992Sc05,1989Ha01,1991BeZL



$^{114}_{50}Sn_{64}$