^{132}Ba(p,t):XUNDL-1 2008Su14

Compiled (unevaluated) dataset from 2008Su14: Eur Phys J A 36, 243 (2008).

Compiled by S. Geraedts and B. Singh (McMaster); Jun 16, 2008.

E=25.0 MeV beam provided by MP-Tandem accelerator at the Maier-Leibnitz Laboratory. Enriched target. Measured triton spectra, angular distributions using Munich Q3D spectrograph and a focal-plane detector. Resolution (FHWM)=8 keV. Comparisons with interacting boson model calculations and O(6) symmetry.

S: LABEL=Relative transfer intensity

^{130}Ba Levels

E(level)	J^π	L†	S	Comments
0	0^+	0	100	dσ/dΩ=4.30 mb/sr *4*.
357.4 *1*	2^+	2	100	dσ/dΩ=264 μb/sr *4*.
908.0 *1*	2^+	2	22	dσ/dΩ=62.2 μb/sr *17*.
1179.5 *1*	0^+	0	1.1	dσ/dΩ=60.8 μb/sr *27*.
1422.6 *7*				dσ/dΩ=2.0 μb/sr *2*.
1560.4 *21*				dσ/dΩ=0.5 μb/sr *1*.
1815.0 *3*	3^-	3		dσ/dΩ=27.9 μb/sr *10*.
1842.7 *3*	4^+	4		dσ/dΩ=14.9 μb/sr *7*.
1884.3 *4*	2^+	2	2.4	dσ/dΩ=7.1 μb/sr *4*.
1922.3 *2*	3^-	3		dσ/dΩ=22.6 μb/sr *9*.
2063.4 *7*	4^+	4		dσ/dΩ=3.1 μb/sr *3*.
2181.5 *5*				dσ/dΩ=4.7 μb/sr *3*.
2211.2 *3*	2^+	2	4.2	dσ/dΩ=12.5 μb/sr *5*.
2230.1 *7*	0^+	0	0.10	dσ/dΩ=6.4 μb/sr *5*.
2259.8 *4*				dσ/dΩ=4.0 μb/sr *3*.
2280.8‡ *4*	$(3^-,2^+)$	(3,2)‡		dσ/dΩ=34.1 μb/sr *13*.
2287.5‡ *4*	0^+	0‡	1.1	dσ/dΩ=55 μb/sr *3*.
2312.0 *6*				dσ/dΩ=3.1 μb/sr *3*.
2328.4 *3*	4^+	4		dσ/dΩ=25.6 μb/sr *7*.
2361.3 *4*	2^+	2	3.4	dσ/dΩ=9.3 μb/sr *4*.
2380.6 *2*	0^+&2^+	0+2	3.6,3.4	E(level): possible doublet. dσ/dΩ=138 μb/sr *5*.
2438.9 *5*				dσ/dΩ=1.1 μb/sr *3*.
2469.6 *5*	(2^+)	(2)	1.3	dσ/dΩ=3.8 μb/sr *5*.
2507.6 *4*	(6^+)	(6)		dσ/dΩ=17.0 μb/sr *5*.
2526.0 *5*	0^+	0	0.5	dσ/dΩ=15.2 μb/sr *8*.
2555.5 *5*	2^+	2	2.4	dσ/dΩ=7.4 μb/sr *5*.
2596.3 *8*	2^+	2	1.3	dσ/dΩ=4.0 μb/sr *5*.
2614.0 *7*	2^+	2	1.8	dσ/dΩ=4.7 μb/sr *5*.

† From comparison of measured angular distributions with DWBA calculations.

‡ The 2280.8 and 2287.5 peaks are not well separated. While L=0 is fairly certain for 2287.5 peak, L assignment is not certain for 2280.8 peak; L=3 fit is somewhat better than L=2.

^{122}Sn(^{12}C,4nγ):ce:XUNDL-2 2012Pe02

Compiled (unevaluated) dataset from 2012Pe02: Acta Phys Pol B43, 273 (2012).

Compiled by E. Thiagalingam and B. Singh (McMaster); May 29, 2012.

^{12}Li beam at E(lab)=68 MeV provided by the U-200P cyclotron of the Heavy Ion Laboratory, University of Warsaw. Target=3.5 mg/cm^2 ^{122}Sn (enriched to 99%). The γ and ce measurements were made by EAGLE array consisting of 12 HPGe ACS detectors coupled to the electron spectrometer. Measured reaction products, Eγ, Iγ, ce, (ce)γ-, $\gamma\gamma$-coin, isomer half-life. Deduced J, π, decay of the isomeric state, internal conversion coefficients.

^{130}Ba Levels

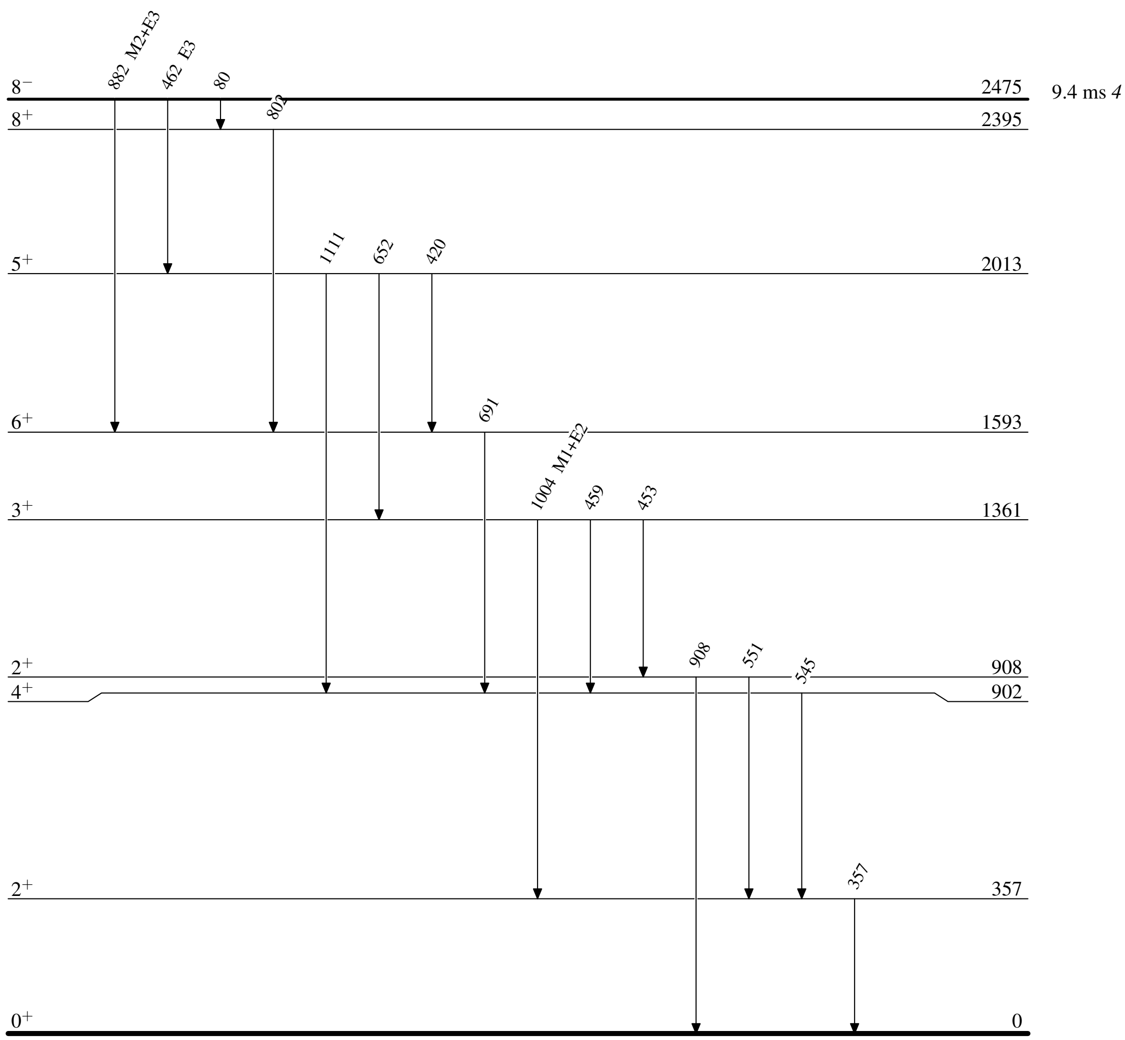
E(level)	J$^\pi$	T$_{1/2}$	Comments
0	0$^+$		
357	2$^+$		
902	4$^+$		
908	2$^+$		
1361	3$^+$		
1593	6$^+$		
2013	5$^+$		
2395	8$^+$		
2475	8$^-$	9.4 ms *4*	%IT=100 T$_{1/2}$: from Adopted dataset for ^{130}Ba in ENSDF database. Configuration=ν7/2[404]⊗ν9/2[514].

γ(^{130}Ba)

E$_\gamma$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.	δ	Comments
80	2475	8$^-$	2395	8$^+$			
357	357	2$^+$	0	0$^+$			
420	2013	5$^+$	1593	6$^+$			
453	1361	3$^+$	908	2$^+$			
459	1361	3$^+$	902	4$^+$			
462	2475	8$^-$	2013	5$^+$	E3		α(K)exp=0.022 *6*; α(L)exp+α(M)exp=0.008 *2*
545	902	4$^+$	357	2$^+$			
551	908	2$^+$	357	2$^+$			
652	2013	5$^+$	1361	3$^+$			
691	1593	6$^+$	902	4$^+$			
802	2395	8$^+$	1593	6$^+$			
882	2475	8$^-$	1593	6$^+$	M2+E3	0.5 *4*	α(K)exp=0.0062 *5*; α(L)exp+α(M)exp=0.0123 *15* Mult.: 34% E3 + 66% M2.
908	908	2$^+$	0	0$^+$			
1004	1361	3$^+$	357	2$^+$	M1+E2		α(K)exp=0.0020 *9*
1111	2013	5$^+$	902	4$^+$			

^{122}Sn(^{12}C,4nγ):ce:XUNDL-2 2012Pe02

Level Scheme



$^{130}_{56}Ba_{74}$

^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07

Compiled (unevaluated) dataset from 2014Ka07: Eur Phys J A 50, 5 (2014).

Compiled by B. Singh (McMaster), Jan 30, 2014.

Edited by B. Singh, Feb 7, 2014 in response to e-mail reply of Feb 4, 2014 from first author (N. Kaur) of 2014Ka07 with some data details provided.

Edited by B. Singh, Feb 17, 2014 in response to e-mail reply of Feb 16, 2014 from first author (N. Kaur) of 2014Ka07 with some data details provided; more current version of intensity table.

E=65 MeV from 15 UD Pelletron facility at IUAC, New Delhi. Measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma\gamma(\theta)$(DCO). Only a level scheme is provided in the paper with no details about precise Eγ, Iγ data and angular correlation and polarization results. Discussed staggering in negative-parity band. Comparison with TRS calculations.

A large part of the level scheme and band structure agrees with earlier data, as presented in Adopted Levels of ^{130}Ba in ENSDF database.

^{130}Ba Levels

E(level)[†c]	J$^\pi$	Comments
0.0[‡]	0$^+$	
357.0[‡] *4*	2$^+$	
888.8 *7*		
901.1[‡] *5*	4$^+$	
907.4[b] *4*	2$^+$	
1359.8[b] *5*	3$^+$	
1476.8[b] *5*	4$^+$	
1544.3 *8*		
1592.3[‡] *6*	6$^+$	
2011.4[b] *6*	5$^+$	
2100.5[b] *6*	6$^+$	
2167.8[&] *6*	5$^-$	
2182.4 *8*		
2229.8 *10*		
2275.7 *7*		
2394.4[‡] *7*	8$^+$	
2473.7[b] *8*	7$^+$	E(level),J$^\pi$: see comment for 2475 level. In e-mail communication, no J^π value is cited.
2474.6 *8*	8$^+$	E(level),J$^\pi$: in Adopted Levels for ^{130}Ba in ENSDF database, this level is an isomer with J^π=8$^-$ and T$_{1/2}$=9.4 ms; decaying by three γ rays: 80.3, 462.3, and 882.3 keV. But in 2014Ka07, 462γ is placed from a 7$^+$ level and 882γ from an 8$^+$ level, both levels near the same energy, with no comparisons made with previous results. In figure 3 of 2014Ka07, no DCO data are shown for 462γ and 882γ. In the opinion of the compiler, there is not enough evidence in 2014Ka07 for two separate levels at 2474, 7$^+$ and 2475, 8$^+$. In e-mail communication, J^π=8$^-$.
2567.7[&] *6*	7$^-$	
2799.1[b] *7*	8$^+$	
2927.6 *9*		
2928.1[a] *7*	8$^-$	
3066.0[&] *7*	9$^-$	
3259.2[‡] *8*	10$^+$	
3289.4 *9*		
3422.2[#] *8*	10$^+$	
3434.0[a] *7*	10$^-$	
3601.9[b] *7*	10$^+$	
3658.0[&] *8*	11$^-$	
3788.9[@] *9*	10$^+$	
3961.8 *9*	(11$^+$)	
3988.9[#] *8*	12$^+$	

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07 (continued)

^{130}Ba Levels (continued)

E(level)[†c]	J^π	E(level)[†c]	J^π	E(level)[†c]	J^π	E(level)[†c]	J^π
4077.0[a] *8*	12⁻	4782.6[#] *10*	14⁺	5728.6[#] *11*	16⁺	6755.9[#] *12*	18⁺
4221.6[‡] *9*	12⁺	4878.3[a] *9*	14⁻	5765.4[a] *9*	16⁻	6972.2[&] *12*	19⁻
4255.2[@] *9*	12⁺	4884.4[@] *10*	14⁺	6036.2[&] *10*	17⁻	7491.6[@] *14*	20⁺
4353.1[&] *8*	13⁻	5154.4[&] *9*	15⁻	6563.6[@] *13*	18⁺	7795.9[#] *13*	20⁺
4403.6 *9*		5678.6[@] *11*	16⁺	6716.4[a] *11*	18⁻		

[†] From least-squares fit to Eγ data, assuming 0.5 keV uncertainty for each γ ray.
[‡] Band(A): g.s. band.
[#] Band(B): Band based on 10$^+$, 3423.
[@] Band(C): Band based on 10$^+$, 3790.
[&] Band(D): Band based on 5$^-$,α=1.
[a] Band(d): Band based on 8$^-$,α=0.
[b] Band(E): γ band.
[c] If ΔEγ not given, ±0.50 keV assumed for least-squares fitting.

γ(^{130}Ba)

DCO ratios (gated on ΔJ=2, E2 transition) for selected γ rays are given in figure 3 of 2014Ka07; DCO≥1 for 400, 499, 506, 624, 643, 699, 801 and 887 γ rays; DCO≈0.5 for 224, 276, 361, 453, 1120, and 1267 γ rays; former being stretched quadrupoles, and the latter stretched dipoles or dipole with some quadrupole admixture. Values are from e-mail reply of Feb. 4, 2014 from the first author N. Kaur.

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Comments
138[‡]	0.11 *5*	3066.0	9⁻	2928.1	8⁻	
163	0.51 *14*	3422.2	10⁺	3259.2	10⁺	
224[‡]	0.13 *7*	3658.0	11⁻	3434.0	10⁻	DCO=0.35 *6*
276[#‡]	0.12 *10*	4353.1	13⁻	4077.0	12⁻	DCO=0.54 *9*
276[#‡]		5154.4	15⁻	4878.3	14⁻	
357	100.0	357.0	2⁺	0.0	0⁺	
360.6	5.7 *6*	2928.1	8⁻	2567.7	7⁻	DCO=0.57 *2*
368	2.4 *3*	3434.0	10⁻	3066.0	9⁻	
399.8	8.5 *6*	2567.7	7⁻	2167.8	5⁻	DCO=1.17 *3*
419[#]		2011.4	5⁺	1592.3	6⁺	
419[#]	1.6 *3*	4077.0	12⁻	3658.0	11⁻	
442[‡]	0.58 *28*	4403.6		3961.8	(11⁺)	
452	2.4 *3*	1359.8	3⁺	907.4	2⁺	DCO=0.36 *5* E_γ: 453 in 2014Ka07.
462.3	1.0 *3*	2473.7	7⁺	2011.4	5⁺	
466.1	0.9 *2*	4255.2	12⁺	3788.9	10⁺	
467.1	0.8 *2*	2567.7	7⁻	2100.5	6⁺	
498	17.4 *11*	3066.0	9⁻	2567.7	7⁻	DCO=0.95 *17* Additional information 1.
506	4.6 *7*	3434.0	10⁻	2928.1	8⁻	DCO=1.30 *5*
525[‡]		4878.3	14⁻	4353.1	13⁻	
529.5	1.2 *4*	3788.9	10⁺	3259.2	10⁺	
531.8	2.6 *4*	888.8		357.0	2⁺	

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07 (continued)

γ(^{130}Ba) (continued)

E_γ †	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Comments
539.7	1.2 *6*	3961.8	(11$^+$)	3422.2	10$^+$	
544	77.5 *22*	901.1	4$^+$	357.0	2$^+$	
550.3	2.5 *6*	907.4	2$^+$	357.0	2$^+$	
566.7	2.1 *5*	3988.9	12$^+$	3422.2	10$^+$	
569.5	2.4 *5*	1476.8	4$^+$	907.4	2$^+$	
575.5	3.2 *5*	1476.8	4$^+$	901.1	4$^+$	
575.5	1.2 *2*	2167.8	5$^-$	1592.3	6$^+$	
590.1	2.7 *5*	2182.4		1592.3	6$^+$	
592	14.3 *5*	3658.0	11$^-$	3066.0	9$^-$	
611‡		5765.4	16$^-$	5154.4	15$^-$	
623.8	3.3 *7*	2100.5	6$^+$	1476.8	4$^+$	DCO=1.08 *5*
629.2	4.1 *7*	4884.4	14$^+$	4255.2	12$^+$	
643	4.5 *6*	4077.0	12$^-$	3434.0	10$^-$	DCO=0.97 *3*
651.5	2.1 *5*	2011.4	5$^+$	1359.8	3$^+$	
655.5	2.7 *4*	1544.3		888.8		
671.8	1.7 *3*	3066.0	9$^-$	2394.4	8$^+$	
685.5	1.7 *3*	2229.8		1544.3		
691.1	67.7 *22*	1592.3	6$^+$	901.1	4$^+$	
695.1	12.4 *7*	4353.1	13$^-$	3658.0	11$^-$	
698.7	4.6 *7*	2799.1	8$^+$	2100.5	6$^+$	DCO=1.07 *5*
729.7	5.2 *8*	3988.9	12$^+$	3259.2	10$^+$	
745.2	0.8 *4*	2927.6		2182.4		
793.7	4.0 *9*	4782.6	14$^+$	3988.9	12$^+$	
794.2	2.0 *4*	5678.6	16$^+$	4884.4	14$^+$	
801.4@	3.5@ *4*	4878.3	14$^-$	4077.0	12$^-$	DCO=0.98 *4*
801.4@	5.4@ *8*	5154.4	15$^-$	4353.1	13$^-$	
802.3	28.0 *6*	2394.4	8$^+$	1592.3	6$^+$	
802.8	2.5 *5*	3601.9	10$^+$	2799.1	8$^+$	
864.8	20.6 *14*	3259.2	10$^+$	2394.4	8$^+$	
881.8	1.00 *22*	6036.2	17$^-$	5154.4	15$^-$	
882.3	10.5 *8*	2474.6	8$^+$	1592.3	6$^+$	
885‡	3.0 *7*	6563.6	18$^+$	5678.6	16$^+$	
887		5765.4	16$^-$	4878.3	14$^-$	DCO=1.07 *6*
907.4	2.1 *8*	907.4	2$^+$	0.0	0$^+$	
928‡	1.2 *4*	7491.6	20$^+$	6563.6	18$^+$	
936	3.6 *5*	6972.2	19$^-$	6036.2	17$^-$	
946	1.8 *6*	5728.6	16$^+$	4782.6	14$^+$	E_γ: 947 in 2014Ka07.
951‡	0.4 *4*	6716.4	18$^-$	5765.4	16$^-$	
962.4	3.9 *7*	4221.6	12$^+$	3259.2	10$^+$	
975.3	17.2 *13*	2567.7	7$^-$	1592.3	6$^+$	
981.2	1.4 *4*	4403.6		3422.2	10$^+$	
996.2	4.6 *7*	4255.2	12$^+$	3259.2	10$^+$	
1003.2	2.3 *5*	1359.8	3$^+$	357.0	2$^+$	
1027.3	0.7 *3*	6755.9	18$^+$	5728.6	16$^+$	
1027.8	4.3 *5*	3422.2	10$^+$	2394.4	8$^+$	
1040‡	2.5 *5*	7795.9	20$^+$	6755.9	18$^+$	
1107	1.4 *5*	3289.4		2182.4		
1110.4	1.8 *7*	2011.4	5$^+$	901.1	4$^+$	
1119.8	3.9 *5*	1476.8	4$^+$	357.0	2$^+$	DCO=0.77 *6*
1199.3	1.7 *7*	2100.5	6$^+$	901.1	4$^+$	
1207.4	2.4 *6*	3601.9	10$^+$	2394.4	8$^+$	
1266.6	4.5 *8*	2167.8	5$^-$	901.1	4$^+$	DCO=0.469 *24*
1374.6	1.8 *5*	2275.7		901.1	4$^+$	

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07 (continued)

γ(^{130}Ba) (continued)

† From e-mail reply of Feb. 4, 2014 from the first author N. Kaur. Compiler's note: it appears that Eγ values have been taken by 2014Ka07 mostly from Adopted Gammas of ^{130}Ba in ENSDF database.

‡ New γ reported in 2014Ka07.

Multiply placed.

@ Multiply placed with intensity suitably divided.

^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07

Level Scheme

Intensities: Relative I_γ

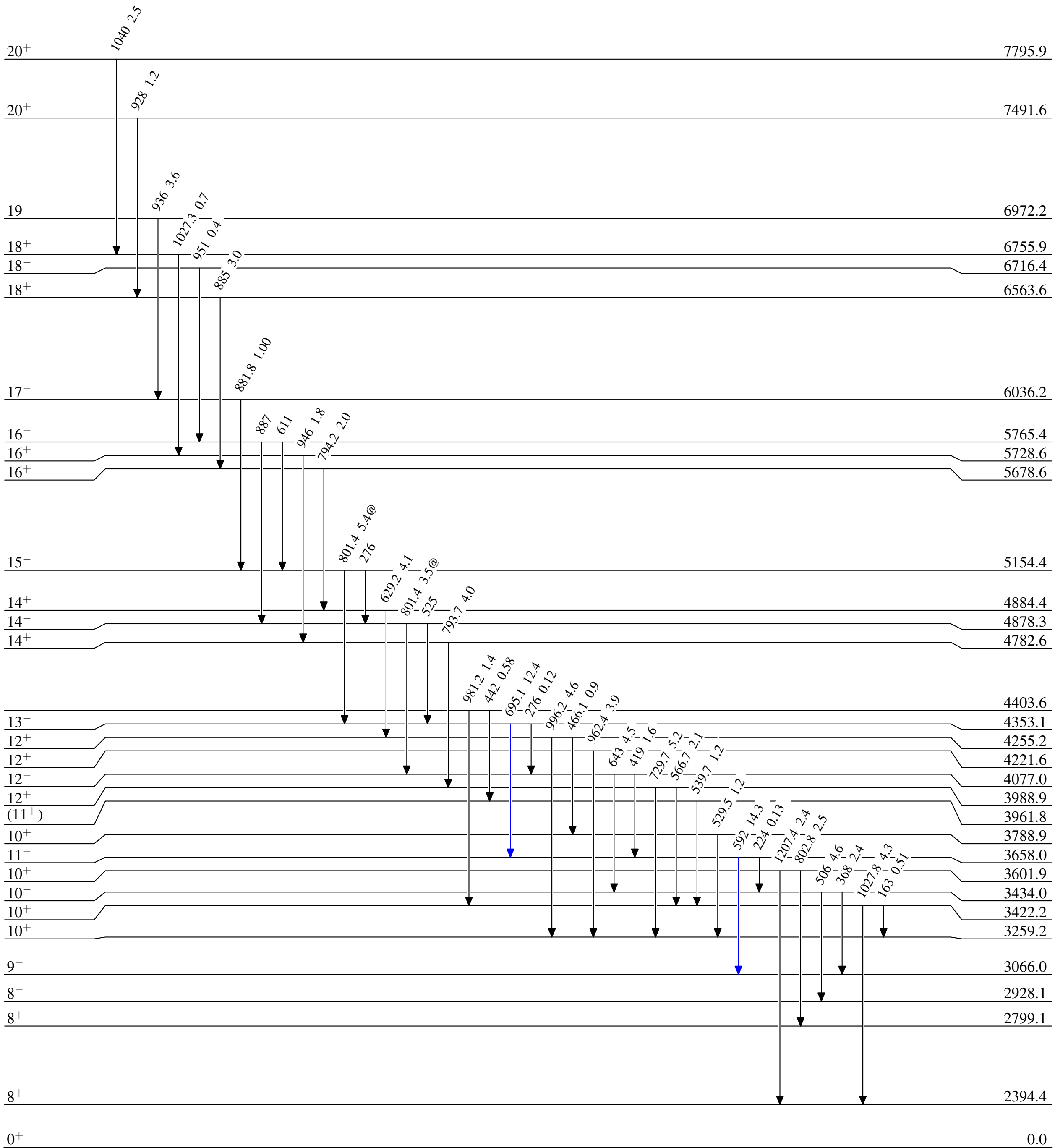
@ Multiply placed: intensity suitably divided

Legend

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

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

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



$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-3 2014Ka07

Level Scheme (continued)

Intensities: Relative I_γ

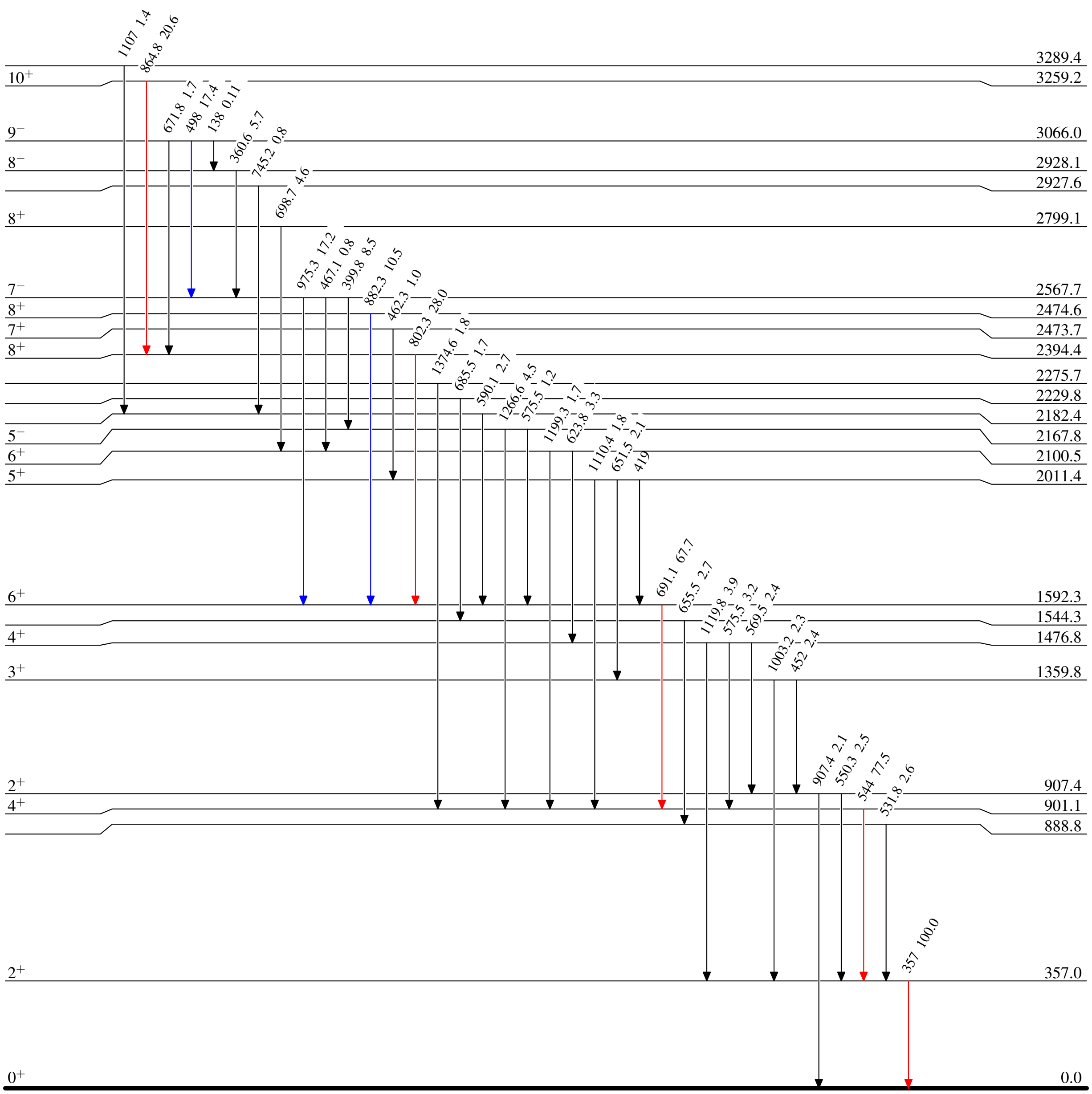
@ Multiply placed: intensity suitably divided

Legend

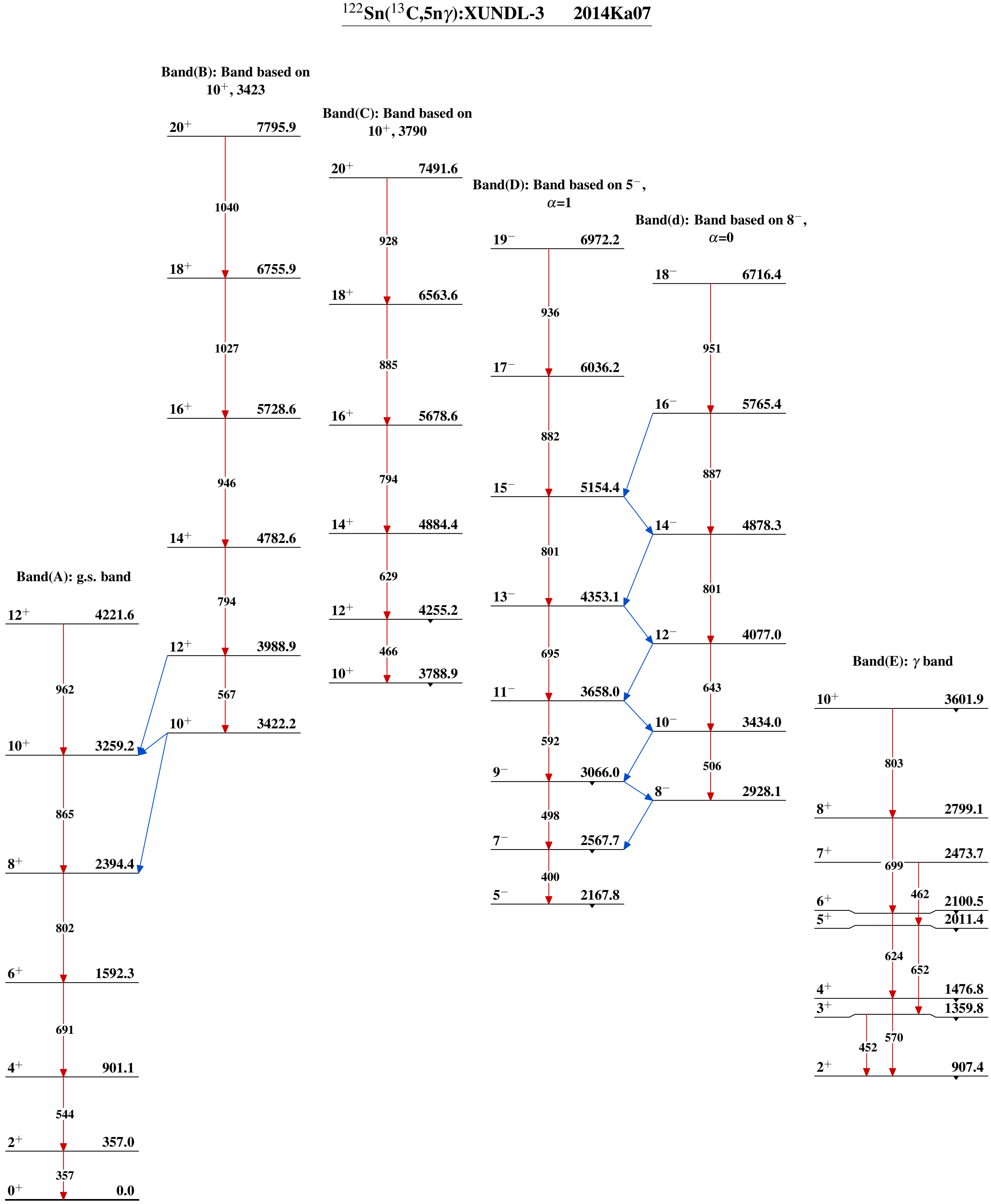
$I_\gamma < 2\% \times I_\gamma^{max}$

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

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



$^{130}_{56}Ba_{74}$


^{122}Sn(^{13}C,5nγ):XUNDL-3 2014Ka07
Band(A): g.s. band
Band(B): Band based on 10+, 3423
Band(C): Band based on 10+, 3790
Band(D): Band based on 5−, α=1
Band(d): Band based on 8−, α=0
Band(E): γ band
0+ 0.0
2+ 357.0
4+ 901.1
6+ 1592.3
8+ 2394.4
10+ 3259.2
12+ 4221.6
10+ 3422.2
12+ 3988.9
14+ 4782.6
16+ 5728.6
18+ 6755.9
20+ 7795.9
10+ 3788.9
12+ 4255.2
14+ 4884.4
16+ 5678.6
18+ 6563.6
20+ 7491.6
5− 2167.8
7− 2567.7
9− 3066.0
11− 3658.0
13− 4353.1
15− 5154.4
17− 6036.2
19− 6972.2
8− 2928.1
10− 3434.0
12− 4077.0
14− 4878.3
16− 5765.4
18− 6716.4
2+ 907.4
3+ 1359.8
4+ 1476.8
5+ 2011.4
6+ 2100.5
7+ 2473.7
8+ 2799.1
10+ 3601.9
357
544
691
802
865
962
567
794
946
1027
1040
466
629
794
885
928
400
498
592
695
801
882
936
506
643
801
887
951
452
570
624
652
462
699
803

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-4 2019Qi01

Compiled (unevaluated) dataset from 2019Qi01: Phys Rev C 99, 014307 (2019): also supplementary data for band built on the isomer, received Oct 5, 2018.
Compiled by B. Singh (McMaster), January 10, 2019.
2019Qi01: E(^{13}C)=65 MeV from XTU Tandem accelerator of LNL-Legnaro. Measured Eγ, Iγ, two-point angular correlation ratios, $\gamma\gamma$- and nγ-coin using GALILEO array of 25 Compton-suppressed Ge detectors placed on four rings: ten detectors at 90°, and five each at 119°, 129° and 152°. Neutrons were detected using Neutron Wall array and EUCLIDES silicon arrangement. Deduced high-spin levels, J^π, K^π=8$^-$ band built on a known 9.4-ms isomer, g_K and g_R gyromagnetic factors, B(E2) ratios, and Nilsson configuration. Comparison with particle-rotor model calculations, and comparison with K isomers of N=74 isotones.

^{130}Ba Levels

Compiler′s note: for (g_K-g_R)/Q_0 values, it appears that authors have used δ(E2/M1) values deduced from equation 2, and that only the sign of δ has been used from Table I, not its magnitude.

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	Comments
0.0[#]	0$^+$		
357.3[#] *9*	2$^+$		
901.6[#] *9*	4$^+$		
1592.8[#] *8*	6$^+$		
2168.8[@] *10*	5$^-$		
2394.8[#] *11*	8$^+$		
2475.1[a] *2*	8$^-$	9.54 ms *14*	%IT=100 Additional information 1. E(level): from ^{130}Ba Adopted Levels in the ENSDF database (May 2001 update). T$_{1/2}$: from 2002Mo31.
2568.8[@] *10*	7$^-$		
2866.9[b] *5*	9$^-$		
2929.8[&] *11*	8$^-$		
3067.8[@] *10*	9$^-$		
3259.8[#] *15*	10$^+$		
3317.6[a] *5*	10$^-$		(g_K-g_R)/Q_0=−0.080 (eb)$^{-1}$ *+17−11* (2019Qi01). From equation 3 in 2019Qi01, compiler obtains −0.070 *+24−14* using δ=−0.60 *15* as in authors′ Table I, with upper and lower limits of δ.
3435.9[&] *10*	10$^-$		
3659.9[@] *10*	11$^-$		
3782.3[b] *5*	11$^-$		(g_K-g_R)/Q_0=−0.093 (eb)$^{-1}$ *4* (2019Qi01). From equation 3 in 2019Qi01, compiler obtains −0.106 *+22−14* using δ=−0.37 *6* as in authors′ Table I, with upper and lower limits of δ.
4078.9[&] *10*	12$^-$		
4222.8[#] *18*	12$^+$		
4300.1[a] *6*	12$^-$		(g_K-g_R)/Q_0=−0.101 (eb)$^{-1}$ *9* (2019Qi01). From equation 3 in 2019Qi01, compiler obtains −0.104 *+22−16* using δ=−0.39 *7* as in authors′ Table I, with upper and lower limits of δ.
4354.9[@] *10*	13$^-$		
4615.7 *7*	12$^-$		
4772.0[b] *6*	13$^-$		(g_K-g_R)/Q_0=−0.084 (eb)$^{-1}$ *14* (2019Qi01). From equation 3 in 2019Qi01, compiler obtains −0.092 *+49−24* using δ=−0.37 *13* as in authors′ Table I, with upper and lower limits of δ.
4879.9[&] *9*	14$^-$		
5155.9[@] *10*	15$^-$		
5409.2 *7*	14$^-$		
5453.2[a] *7*	14$^-$		
5768.0[&] *9*	16$^-$		
6037.9[@] *14*	17$^-$		

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-4 2019Qi01 (continued)

^{130}Ba Levels (continued)

E(level)[†]	J$^{\pi}$[‡]
6090.8[a] *9*	16⁻
6718.0[&] *14*	18⁻
6903.7[a] *10*	18⁻
6972.9[@] *18*	19⁻
7926.8[a] *11*	20⁻

[†] Deduced from least-squares fit to Eγ data, assuming ΔEγ=0.5 keV when Eγ is quoted in the paper to tenth of a keV, and 1 keV otherwise. Energy of the 8⁻ isomer at 2475.1 keV *2*, taken from ^{130}Ba Adopted Levels in the ENSDF database (May 2001 update), was kept fixed in the fitting procedure.

[‡] As given in level-scheme Fig. 1 in 2019Qi01, based on previous assignments for the g.s. band, and bands based on 5⁻ and 8⁻ levels. The assignments for K^{π}=8⁻ band are from the present work, based on 8⁻ for the bandhead, multipolarities from angular correlation ratios, and observation of γ cascades.

[#] Band(A): g.s. band.

[@] Band(B): Band based on 5⁻,α=1.

[&] Band(b): Band based on 8⁻,α=0.

[a] Band(C): K^{π}=8⁻ band,α=0. Configuration=ν7/2[404]⊗ν9/2[514]. Deduced g_K=−0.040 *5*, g_R=0.278 *15* (2019Qi01).

[b] Band(c): K^{π}=8⁻ band,α=1. Configuration=ν7/2[404]⊗ν9/2[514].

γ(^{130}Ba)

R_{ac} is two-point angular correlation ratio.

Eγ	Iγ	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Mult.[‡]	δ[#]	Comments
138		3067.8	9⁻	2929.8	8⁻			
224		3659.9	11⁻	3435.9	10⁻			
264[†]		4879.9	14⁻	4615.7	12⁻			
276		4354.9	13⁻	4078.9	12⁻			
276		5155.9	15⁻	4879.9	14⁻			
357		357.3	2⁺	0.0	0⁺			
359[†@]		5768.0	16⁻	5409.2	14⁻			
361		2929.8	8⁻	2568.8	7⁻			
368		3435.9	10⁻	3067.8	9⁻			
391.8[†]	≥159	2866.9	9⁻	2475.1	8⁻	(M1+E2)	−0.81 *48*	R_{ac}=0.27 *3*.
400		2568.8	7⁻	2168.8	5⁻			
419		4078.9	12⁻	3659.9	11⁻			
450.5[†]	100 *6*	3317.6	10⁻	2866.9	9⁻	(M1+E2)	−0.60 *15*	R_{ac}=0.31 *3*. B(E2)(450γ, 10−→9⁻)/B(E2)(843γ, 10−→8⁻)=16.1 *85* (2019Qi01).
464.5[†]	83 *5*	3782.3	11⁻	3317.6	10⁻	(M1+E2)	−0.37 *6*	R_{ac}=0.41 *2*. B(E2)(464.5γ, 11−→10⁻)/B(E2)(916γ, 11−→9⁻)=5.2 *19* (2019Qi01).
471.7[†]	36 *10*	4772.0	13⁻	4300.1	12⁻	(M1+E2)	−0.37 *13*	R_{ac}=0.41 *5*. B(E2)(471.7γ, 13−→12⁻)/B(E2)(990γ, 13−→11⁻)=2.4 *17* (2019Qi01).
499		3067.8	9⁻	2568.8	7⁻			
506		3435.9	10⁻	2929.8	8⁻			

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-4 2019Qi01 (continued)

γ(^{130}Ba) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	δ#	Comments
517.7†	69 *9*	4300.1	12⁻	3782.3	11⁻	(M1+E2)	−0.39 *7*	R_{ac}=0.42 *3*. B(E2)(517.7γ, 12−→11⁻)/B(E2)(983γ, 12−→10⁻)=3.7 *21* (2019Qi01).
525		4879.9	14⁻	4354.9	13⁻			
544		901.6	4⁺	357.3	2⁺			
576		2168.8	5⁻	1592.8	6⁺			
592		3659.9	11⁻	3067.8	9⁻			
612		5768.0	16⁻	5155.9	15⁻			
637.6†	25 *4*	6090.8	16⁻	5453.2	14⁻			R_{ac}=1.55 *22*.
643		4078.9	12⁻	3435.9	10⁻			
673		3067.8	9⁻	2394.8	8⁺			
681.1†	15 *2*	5453.2	14⁻	4772.0	13⁻			R_{ac}=0.86 *21*.
691		1592.8	6⁺	901.6	4⁺			
695		4354.9	13⁻	3659.9	11⁻			
801		4879.9	14⁻	4078.9	12⁻			
801		5155.9	15⁻	4354.9	13⁻			
802		2394.8	8⁺	1592.8	6⁺			
812.9†	20 *4*	6903.7	18⁻	6090.8	16⁻			R_{ac}=1.93 *29*.
842.6†	38 *10*	3317.6	10⁻	2475.1	8⁻			R_{ac}=1.16 *16*.
865		3259.8	10⁺	2394.8	8⁺			
882@		2475.1	8⁻	1592.8	6⁺			
882		6037.9	17⁻	5155.9	15⁻			
888		5768.0	16⁻	4879.9	14⁻			
915.5†	60 *3*	3782.3	11⁻	2866.9	9⁻			R_{ac}=1.54 *17*.
935		6972.9	19⁻	6037.9	17⁻			
950		6718.0	18⁻	5768.0	16⁻			
963		4222.8	12⁺	3259.8	10⁺			
976		2568.8	7⁻	1592.8	6⁺			
982.5†	59 *5*	4300.1	12⁻	3317.6	10⁻			R_{ac}=1.53 *10*.
989.8†	71 *5*	4772.0	13⁻	3782.3	11⁻			R_{ac}=1.48 *8*.
1023.1†	15 *2*	7926.8	20⁻	6903.7	18⁻			
1109.2†	24 *4*	5409.2	14⁻	4300.1	12⁻			R_{ac}=1.52 *27*.
1153.2†	20 *4*	5453.2	14⁻	4300.1	12⁻			R_{ac}=1.19 *18*.
1267		2168.8	5⁻	901.6	4⁺			
1298.0†	7 *2*	4615.7	12⁻	3317.6	10⁻			

† New gamma ray in 2019Qi01.
‡ Implied by measured δ(Q/D) and band structure.
# From angular correlation ratios (2019Qi01).
@ Placement of transition in the level scheme is uncertain.

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-4 2019Qi01

Level Scheme

Intensities: Relative I_γ

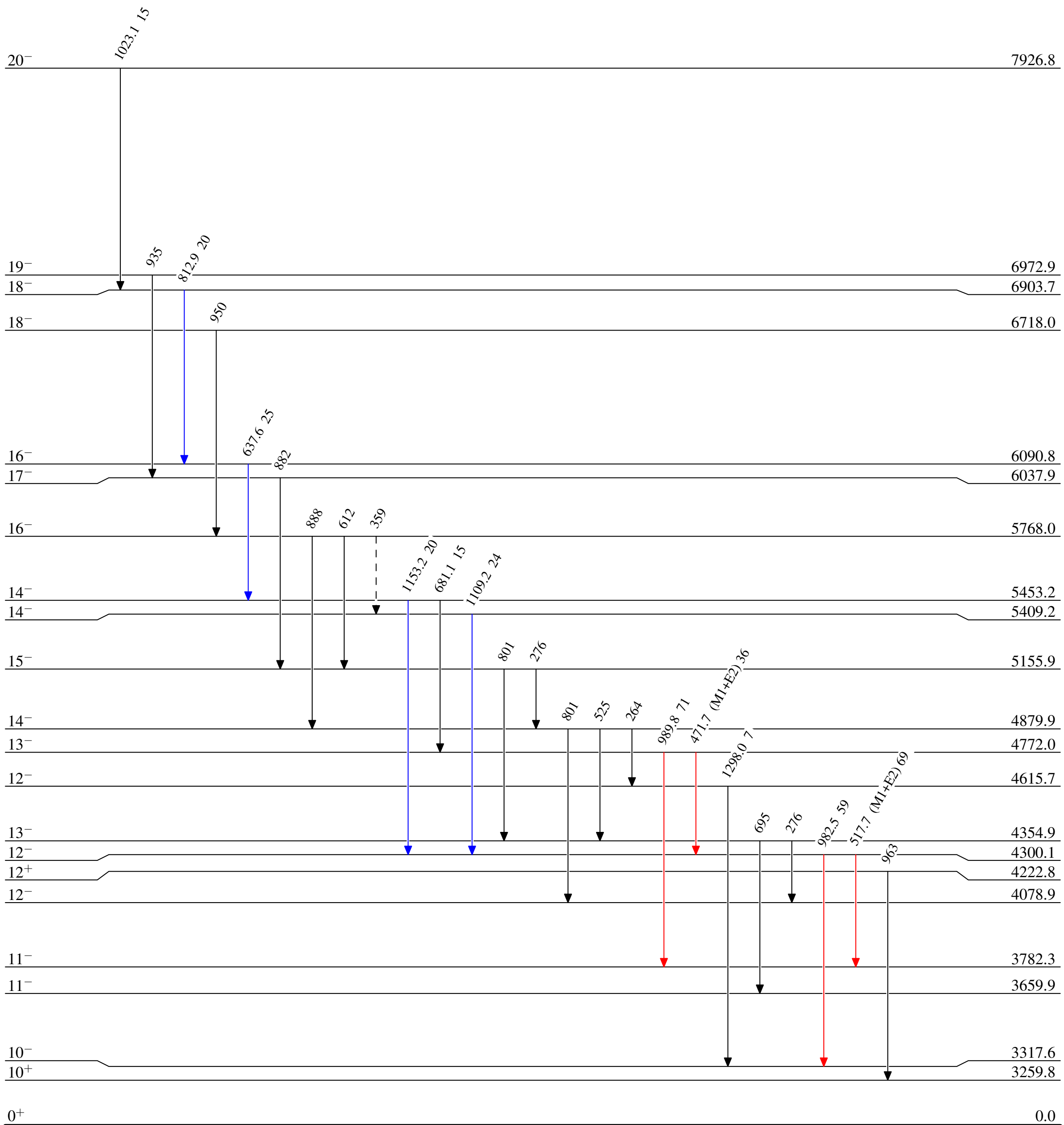
Legend

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

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

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

γ Decay (Uncertain)



$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-4 2019Qi01

Level Scheme (continued)

Intensities: Relative I_γ

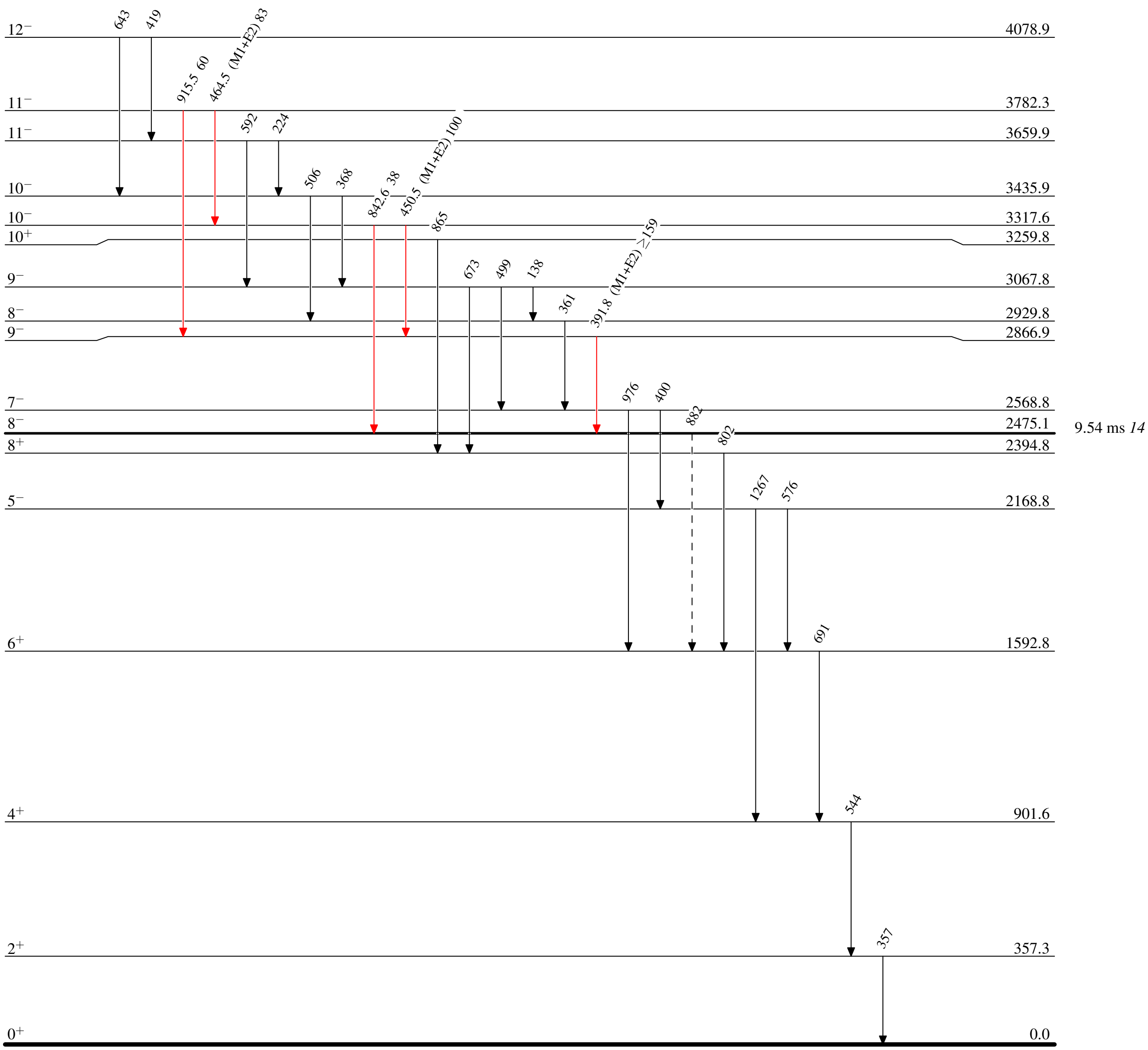
Legend

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

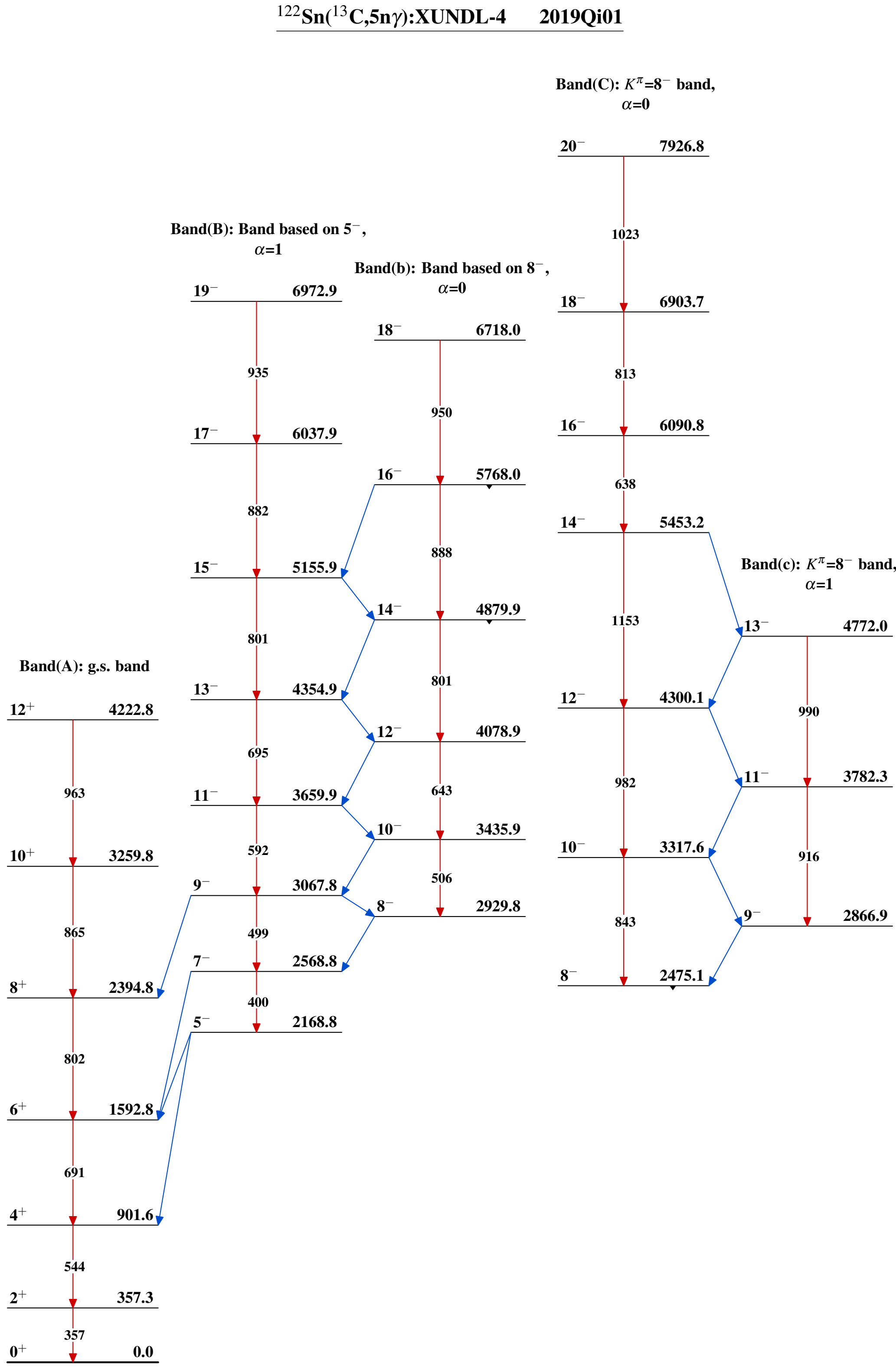
$I_\gamma < 10\% \times I_\gamma^{max}$

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

γ Decay (Uncertain)



$^{130}_{56}Ba_{74}$


^{122}Sn(^{13}C,5nγ):XUNDL-4 2019Qi01
Band(C): K^π=8$^-$ band, α=0
Band(B): Band based on 5$^-$, α=1
Band(b): Band based on 8$^-$, α=0
Band(c): K^π=8$^-$ band, α=1
Band(A): g.s. band
20$^-$ 7926.8
1023
18$^-$ 6903.7
813
16$^-$ 6090.8
638
14$^-$ 5453.2
1153
12$^-$ 4300.1
982
10$^-$ 3317.6
843
8$^-$ 2475.1
19$^-$ 6972.9
935
17$^-$ 6037.9
882
15$^-$ 5155.9
801
13$^-$ 4354.9
695
11$^-$ 3659.9
592
9$^-$ 3067.8
499
7$^-$ 2568.8
400
5$^-$ 2168.8
18$^-$ 6718.0
950
16$^-$ 5768.0
888
14$^-$ 4879.9
801
12$^-$ 4078.9
643
10$^-$ 3435.9
506
8$^-$ 2929.8
13$^-$ 4772.0
990
11$^-$ 3782.3
916
9$^-$ 2866.9
12$^+$ 4222.8
963
10$^+$ 3259.8
865
8$^+$ 2394.8
802
6$^+$ 1592.8
691
4$^+$ 901.6
544
2$^+$ 357.3
357
0$^+$ 0.0

$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-5 2019Pe12

Compiled (unevaluated) dataset from 2019Pe12: Phys Lett B795, 241 (2019); and supplementary data. See also 2019Qi01 (Phys. Rev. C 99, 014317) from the same authors with results for $K^{\pi}=8^{-}$ band from the same experiment as in 2019Pe12. 2019Pe12 mention, in their reference 23, that a detailed paper of this work is forthcoming. In 2019Ch49 (Phys. Rev. C 100, 061301(R)), authors discuss theoretical aspects of transverse wobbling in ^{130}Ba.

Compiled by B. Singh (McMaster), Feb 11, 2020.

2019Pe12: E(^{13}C)=65 MeV from XTU Tandem accelerator of LNL-Legnaro. Measured Eγ, Iγ, $\gamma\gamma$- and nγ-coin using GALILEO array of 25 Compton-suppressed Ge detectors placed on four rings: ten detectors at 90°, and five each at 119°, 129° and 152°. Neutrons and charged particles were detected using Neutron Wall array and EUCLIDES silicon detectors, respectively. Deduced high-spin levels, bands, B(M1)/B(E2), B(E2,in)/B(E2,out) ratios, alignments, experimental Routhians, and Nilsson configuration. Comparison with total Routhians surfaces (TRS), tilted axis cranking (TAC), particle rotor model (PRM) and projected shell model (PSM) calculations.

^{130}Ba Levels

Note that mixing ratios for transitions, used by the authors for B(M1)/B(E2) and B(E2,in)/B(E2,out) ratios, are not available in the paper.

Band assignments are from 2019Pe12.

E(level)[†]	J$^{\pi}$[#]	T$_{1/2}$	Comments
0.0[@]	0$^+$		
357.4[@] *1*	2$^+$		
901.9[@] *1*	4$^+$		
908.1[‡&] *1*	2$^+$[‡]		
1477.5[‡&] *1*	(4$^+$)[‡]		
1593.0[@] *2*	6$^+$		
2101.2[‡&] *2*	(6$^+$)[‡]		
2395.3[@] *3*	8$^+$		
2474.8[a] *10*	8$^-$	9.54 ms *14*	%IT=100 T$_{1/2}$: from 2002Mo31 (Phys. Lett. 547B, 200).
2799.9[&] *3*	8$^+$		
2866.8[b] *13*	9$^-$		
2982.0[c] *7*	8$^+$		
3260.2[@] *7*	10$^+$		
3276.7[d] *8*	9$^+$		
3317.8[a] *13*	10$^-$		
3423.3[f] *7*	10$^+$		
3603.8[&] *7*	10$^+$		
3761.3[c] *9*	10$^+$		Iγ(779, E2)/Iγ(485, M1)=0.8 *2*. B(M1, 485γ)/B(E2, 779γ)=2.2 *6*. B(E2, 10+$\rightarrow$9$^+$)/B(E2, 10+$\rightarrow$8$^+$)=0.19 *+19−16*.
3782.8[b] *14*	11$^-$		
3790.3[j] *9*	10$^+$		
3963.1[d] *9*	11$^+$		Iγ(686, E2)/Iγ(202, M1)≥32. B(M1, 202γ)/B(E2, 686γ)≤0.4.
3989.4[f] *9*	12$^+$		
4153.5[g] *9*	11$^+$		
4223.3[@] *12*	12$^+$		
4256.3[j] *9*	12$^+$		
4300.8[a] *14*	12$^-$		
4404.2[c] *8*	12$^+$		Iγ(643, E2)/Iγ(441, M1)=0.21 *12*.

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12 (continued)

^{130}Ba Levels (continued)

E(level)[†]	Jπ[#]	Comments
		B(M1, 441γ)/B(E2, 643γ)=3.7 *21*. B(E2, 12+→11$^+$)/B(E2, 12+→10$^+$)=4.0 *+27−26*.
4456.2[k] *10*	11$^+$	
4772.8[b] *15*	13$^-$	
4782.5[f] *12*	14$^+$	
4794.1[d] *13*	13$^+$	Iγ(831, E2)/Iγ(390, M1)≥2.1. B(M1, 390γ)/B(E2, 831γ)≤2.8.
4870.4[g] *11*	13$^+$	
4884.2[j] *12*	14$^+$	
4908.1[e] *8*	12$^+$	
4986.2[k] *11*	13$^+$	
5085.3[i] *16*	14$^+$	
5164.1[e] *10*	13$^+$	
5440.9[e] *12*	14$^+$	Iγ(14+→12$^+$)/Iγ(14+→13$^+$)≤0.16. B(M1, 14+→13$^+$)/B(E2, 14+→12$^+$)≥8.1. B(E2, 14+→13$^+$)/B(E2, 14+→12$^+$)≥3.6.
5453.8[a] *16*	14$^-$	
5647.2[k] *12*	15$^+$	
5678.3[j] *15*	16$^+$	
5715.8[b] *18*	15$^-$	
5719.5[g] *16*	15$^+$	
5729.3[f] *15*	16$^+$	
5759.8[e] *13*	15$^+$	Iγ(15+→13$^+$)/Iγ(15+→14$^+$)≤0.19. B(M1, 15+→14$^+$)/B(E2, 15+→13$^+$)≥8.1. B(E2, 15+→14$^+$)/B(E2, 15+→13$^+$)≥1.4.
6047.3[i] *19*	16$^+$	
6091.8[a] *19*	16$^-$	
6108.0[e] *15*	16$^+$	Iγ(16+→14$^+$)/Iγ(16+→15$^+$)≤0.09. B(M1, 16+→15$^+$)/B(E2, 16+→14$^+$)≥21. B(E2, 16+→15$^+$)/B(E2, 16+→14$^+$)≥5.1.
6442.2[k] *15*	17$^+$	
6497.2[e] *15*	17$^+$	Iγ(17+→15$^+$)/Iγ(17+→16$^+$)≤0.12. B(M1, 17+→16$^+$)/B(E2, 17+→15$^+$)≥20. B(E2, 17+→16$^+$)/B(E2, 17+→15$^+$)≥5.1.
6563.3[j] *16*	18$^+$	
6589.8[b] *21*	17$^-$	
6647.3[h] *18*	18$^+$	
6836.3[g] *18*	17$^+$	
6904.8[a] *21*	18$^-$	
6930.2[e] *16*	18$^+$	Iγ(18+→16$^+$)/Iγ(18+→17$^+$)≤0.5. B(M1, 18+→17$^+$)/B(E2, 18+→16$^+$)≥11.
6943.2[f] *16*	18$^+$	
7138.3[i] *21*	18$^+$	
7319.3[k] *16*	19$^+$	
7416.2[e] *16*	19$^+$	Iγ(19+→17$^+$)/Iγ(19+→18$^+$)=1.1 *7*. B(M1, 19+→18$^+$)/B(E2, 19+→17$^+$)=3.3 *21*.
7524.3[j] *19*	20$^+$	
7563.8[b] *23*	19$^-$	
7574.3[h] *19*	20$^+$	
7922.2[e] *19*	20$^+$	

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^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12 (continued)

^{130}Ba Levels (continued)

E(level)[†]	J$^{\pi}$[#]	E(level)[†]	J$^{\pi}$[#]	E(level)[†]	J$^{\pi}$[#]	E(level)[†]	J$^{\pi}$[#]
7927.8[a] *24*	20$^-$	8661.3[h] *21*	22$^+$	9908.3[h] *23*	24$^+$	11322.3[h] *25*	26$^+$
8265.3[k] *19*	21$^+$	9283.3[k] *21*	23$^+$	10436.3?[k] *24*	25$^+$	11984.3[j] *28*	28$^+$
8574.3[j] *21*	22$^+$	9690.3[j] *24*	24$^+$	10821.3[j] *26*	26$^+$		

[†] Deduced from least-squares fit to Eγ data, assuming ΔEγ=1 keV.

[‡] From ^{130}Ba Adopted Levels in the ENSDF database (May 2001 update).

[#] As given in level-scheme Fig. 1 in 2019Pe12, based on previous assignments for the g.s. band, and band assignments in the present work.

[@] Band(A): g.s. band.

[&] Band(B): γ band.

[a] Band(C): K^{π}=8$^-$ band, α=0. Prolate, $\nu h^{-1}_{11/2}\otimes\nu g^{-1}_{7/2}$ at low spins, $\nu h^{-1}_{11/2}\otimes\nu g^{-1}_{7/2}\otimes\pi h^{2}_{11/2}$ at high spins, deformation-aligned (DAL) band.

[b] Band(c): K^{π}=8$^-$ band, α=1. Prolate, $\nu h^{-1}_{11/2}\otimes\nu g^{-1}_{7/2}$ at low spins, $\nu h^{-1}_{11/2}\otimes\nu g^{-1}_{7/2}\otimes\pi h^{2}_{11/2}$ at high spins, deformation-aligned (DAL) band.

[c] Band(D): t-band based on 8$^+$, α=0. Prolate, $\nu h^{-2}_{11/2}$, ν7/2[523]$\otimes\nu$9/2[514] Fermi-aligned (FAL) band.

[d] Band(d): t-band based on 8$^+$, α=1. Prolate, $\nu h^{-2}_{11/2}$, ν7/2[523]$\otimes\nu$9/2[514] Fermi-aligned (FAL) band.

[e] Band(E): Dipole band based on 12$^+$. Prolate, $\nu h^{2}_{11/2}\otimes\pi h^{-2}_{11/2}$, Fermi-aligned (FAL) band.

[f] Band(F): S2o band, even spin. Oblate, $\nu h^{2}_{11/2}$, rotation-aligned (RAL) band.

[g] Band(f): S2o′ band, odd spin. Oblate, $\nu h^{2}_{11/2}$, rotation-aligned (RAL) band.

[h] Band(G): S2o-high spin band based on 18$^+$. Oblate, $\nu h^{4}_{11/2}$, rotation-aligned (RAL) band.

[i] Band(H): S2p band based on 14$^+$. Prolate, $\nu h^{4}_{11/2}$, Fermi-aligned band.

[j] Band(I): S1, even spin. Prolate, $\pi h^{2}_{11/2}$ at low spin, $\pi h^{2}_{11/2}\otimes\nu h^{2}_{11/2}$ at medium spins, $\pi h^{2}_{11/2}\otimes\nu h^{4}_{11/2}$ at high spins, rotation-aligned (RAL) band.

[k] Band(J): S1′, odd spin. Prolate, $\pi h^{2}_{11/2}$, γ-vibration/wobbling band.

γ(^{130}Ba)

E$_\gamma$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	E$_\gamma$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$
147	3423.3	10$^+$	3276.7	9$^+$	465	3782.8	11$^-$	3317.8	10$^-$
163	3423.3	10$^+$	3260.2	10$^+$	466	4256.3	12$^+$	3790.3	10$^+$
182	2982.0	8$^+$	2799.9	8$^+$	472	4772.8	13$^-$	4300.8	12$^-$
202[‡]	3963.1	11$^+$	3761.3	10$^+$	473	7416.2	19$^+$	6943.2	18$^+$
256	5164.1	13$^+$	4908.1	12$^+$	485	3761.3	10$^+$	3276.7	9$^+$
277	5440.9	14$^+$	5164.1	13$^+$	486	7416.2	19$^+$	6930.2	18$^+$
295	3276.7	9$^+$	2982.0	8$^+$	506	7922.2	20$^+$	7416.2	19$^+$
319	5759.8	15$^+$	5440.9	14$^+$	507	2982.0	8$^+$	2474.8	8$^-$
348	6108.0	16$^+$	5759.8	15$^+$	518	4300.8	12$^-$	3782.8	11$^-$
357.4[†] *1*	357.4	2$^+$	0.0	0$^+$	530	3790.3	10$^+$	3260.2	10$^+$
367	3790.3	10$^+$	3423.3	10$^+$	530	4986.2	13$^+$	4456.2	11$^+$
389	6497.2	17$^+$	6108.0	16$^+$	540	3963.1	11$^+$	3423.3	10$^+$
390[‡]	4794.1	13$^+$	4404.2	12$^+$	544.5[†] *1*	901.9	4$^+$	357.4	2$^+$
392	2866.8	9$^-$	2474.8	8$^-$	550.7[†] *1*	908.1	2$^+$	357.4	2$^+$
433	6930.2	18$^+$	6497.2	17$^+$	566	3989.4	12$^+$	3423.3	10$^+$
441	4404.2	12$^+$	3963.1	11$^+$	569.4[†] *1*	1477.5	(4$^+$)	908.1	2$^+$
446	6943.2	18$^+$	6497.2	17$^+$	575.5[†] *2*	1477.5	(4$^+$)	901.9	4$^+$
451	3317.8	10$^-$	2866.8	9$^-$	587	2982.0	8$^+$	2395.3	8$^+$
452	4908.1	12$^+$	4456.2	11$^+$	623.8[†] *2*	2101.2	(6$^+$)	1477.5	(4$^+$)

Continued on next page (footnotes at end of table)

^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12 (continued)

γ(^{130}Ba) (continued)

E_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
628	4884.2	14^+	4256.3	12^+	918	6647.3	18^+	5729.3	16^+
638	6091.8	16^-	5453.8	14^-	919	7416.2	19^+	6497.2	17^+
643	4404.2	12^+	3761.3	10^+	927	7574.3	20^+	6647.3	18^+
661	5647.2	15^+	4986.2	13^+	937	5719.5	15^+	4782.5	14^+
666	4456.2	11^+	3790.3	10^+	943	5715.8	15^-	4772.8	13^-
681	5453.8	14^-	4772.8	13^-	946	8265.3	21^+	7319.3	19^+
686	3963.1	11^+	3276.7	9^+	947	5729.3	16^+	4782.5	14^+
691.1† *2*	1593.0	6^+	901.9	4^+	961	7524.3	20^+	6563.3	18^+
698.7† *2*	2799.9	8^+	2101.2	(6^+)	962	6047.3	16^+	5085.3	14^+
709‡	9283.3	23^+	8574.3	22^+	963	4223.3	12^+	3260.2	10^+
717	4870.4	13^+	4153.5	11^+	974	7563.8	19^-	6589.8	17^-
729	3989.4	12^+	3260.2	10^+	977	5759.8	15^+	4782.5	14^+
730	4153.5	11^+	3423.3	10^+	981	4404.2	12^+	3423.3	10^+
730	4986.2	13^+	4256.3	12^+	983	4300.8	12^-	3317.8	10^-
741‡	8265.3	21^+	7524.3	20^+	990	4772.8	13^-	3782.8	11^-
756	7319.3	19^+	6563.3	18^+	996	4256.3	12^+	3260.2	10^+
760	5164.1	13^+	4404.2	12^+	1018	9283.3	23^+	8265.3	21^+
763	5647.2	15^+	4884.2	14^+	1023	7927.8	20^-	6904.8	18^-
764‡	6442.2	17^+	5678.3	16^+	1028	3423.3	10^+	2395.3	8^+
779	3761.3	10^+	2982.0	8^+	1050	8574.3	22^+	7524.3	20^+
793	4782.5	14^+	3989.4	12^+	1087	8661.3	22^+	7574.3	20^+
794	5678.3	16^+	4884.2	14^+	1091	7138.3	18^+	6047.3	16^+
795	6442.2	17^+	5647.2	15^+	1107	6836.3	17^+	5729.3	16^+
802	3276.7	9^+	2474.8	8^-	1116	9690.3	24^+	8574.3	22^+
802.3† *2*	2395.3	8^+	1593.0	6^+	1117‡	6836.3	17^+	5719.5	15^+
804	3603.8	10^+	2799.9	8^+	1120.2† *1*	1477.5	(4^+)	357.4	2^+
813	6904.8	18^-	6091.8	16^-	1131	10821.3	26^+	9690.3	24^+
831	4794.1	13^+	3963.1	11^+	1144	4404.2	12^+	3260.2	10^+
833	4256.3	12^+	3423.3	10^+	1153	5453.8	14^-	4300.8	12^-
843	3317.8	10^-	2474.8	8^-	1153‡	10436.3?	25^+	9283.3	23^+
850‡	5719.5	15^+	4870.4	13^+	1163	11984.3	28^+	10821.3	26^+
862	5085.3	14^+	4223.3	12^+	1199.3 *2*	2101.2	(6^+)	901.9	4^+
865	3260.2	10^+	2395.3	8^+	1201	6930.2	18^+	5729.3	16^+
874	6589.8	17^-	5715.8	15^-	1208	3603.8	10^+	2395.3	8^+
877	4153.5	11^+	3276.7	9^+	1214	6943.2	18^+	5729.3	16^+
877	7319.3	19^+	6442.2	17^+	1247	9908.3	24^+	8661.3	22^+
881	4870.4	13^+	3989.4	12^+	1304	4908.1	12^+	3603.8	10^+
885	6563.3	18^+	5678.3	16^+	1414	11322.3	26^+	9908.3	24^+
908.0† *1*	908.1	2^+	0.0	0^+	1648	4908.1	12^+	3260.2	10^+
916	3782.8	11^-	2866.8	9^-					

† From ^{130}Ba Adopted dataset in the ENSDF database (May 2001 update).

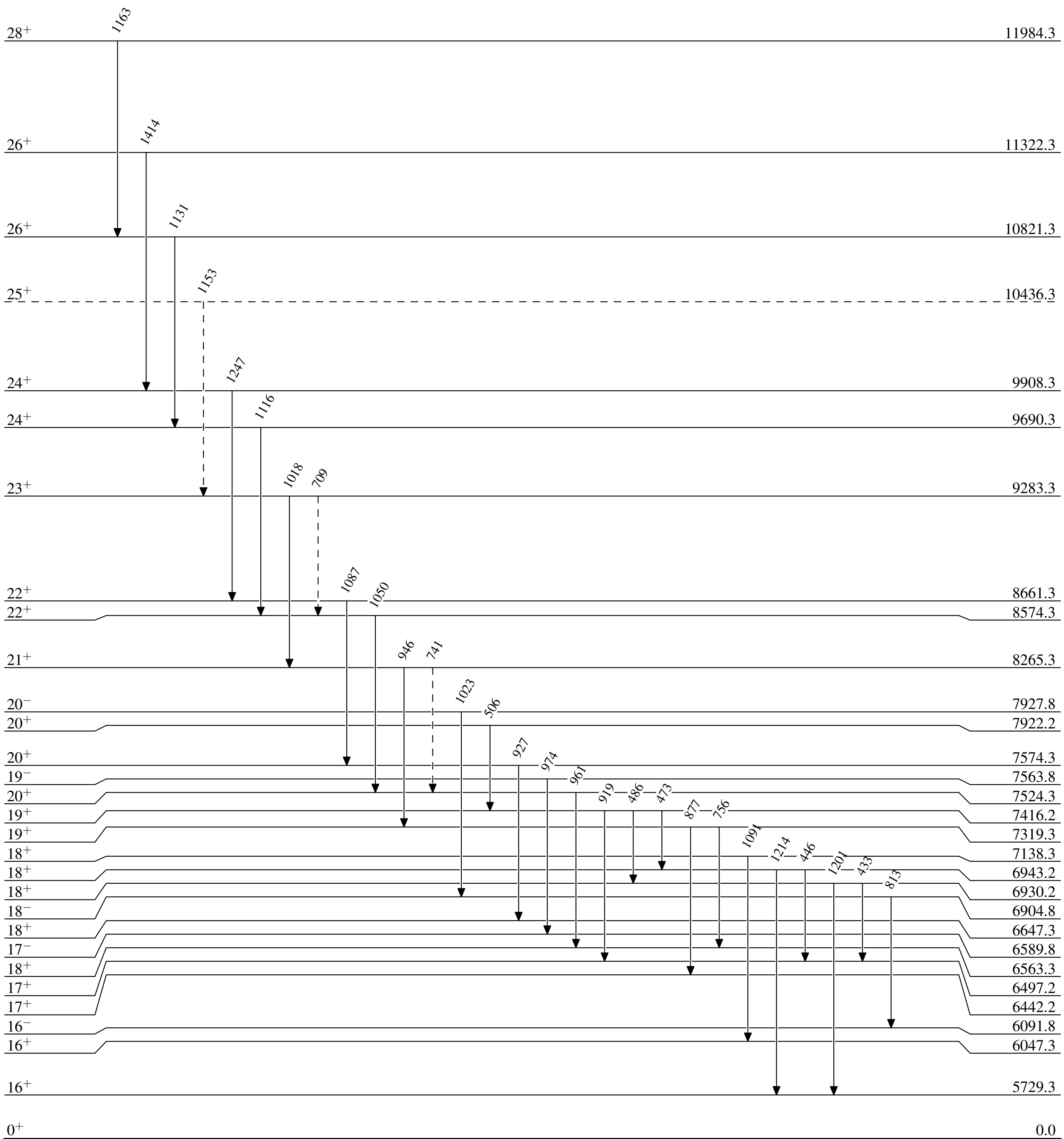
‡ Placement of transition in the level scheme is uncertain.

Legend

^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12

Level Scheme

γ Decay (Uncertain)



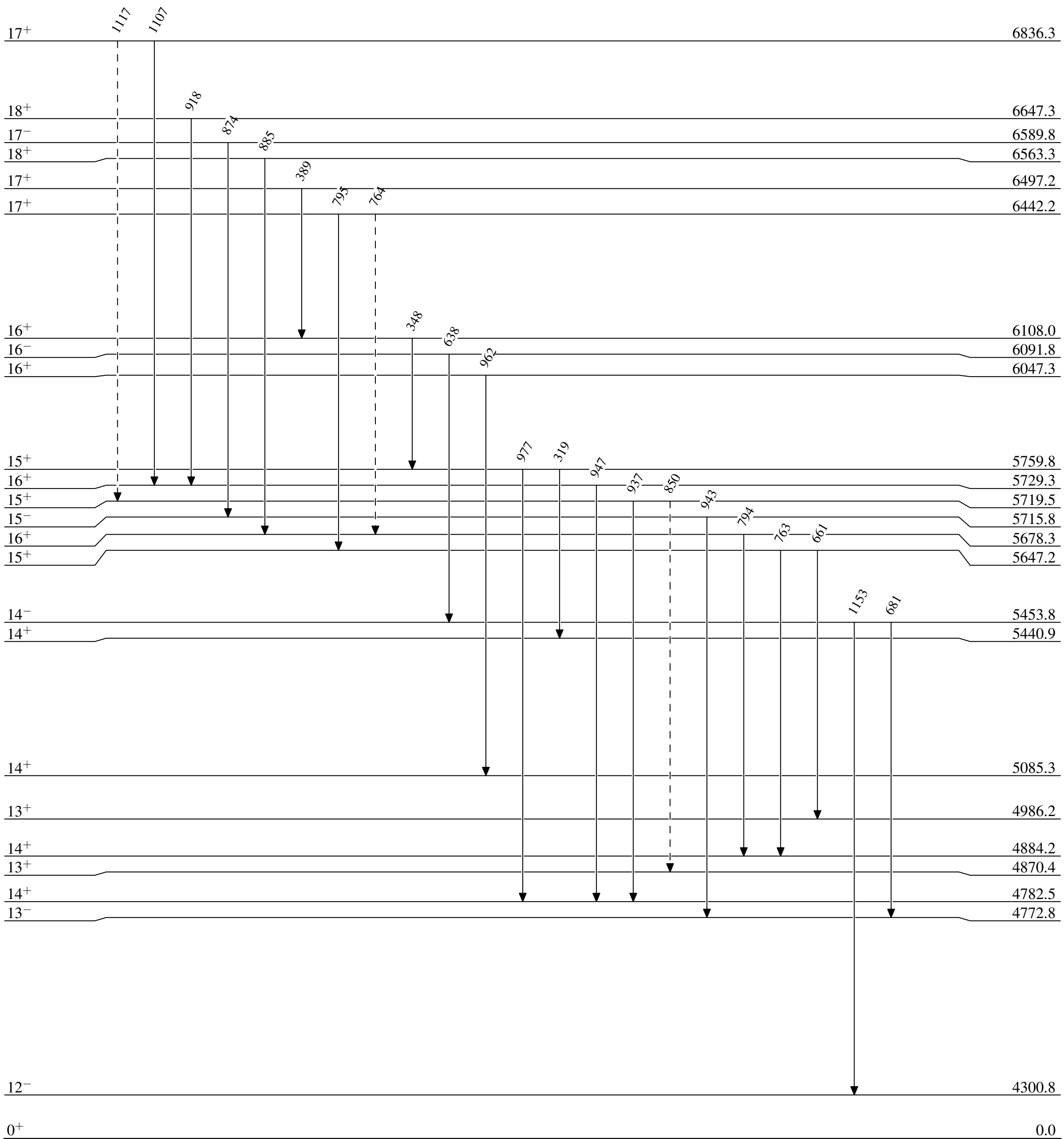
$^{130}_{56}Ba_{74}$

^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12

Level Scheme (continued)

Legend

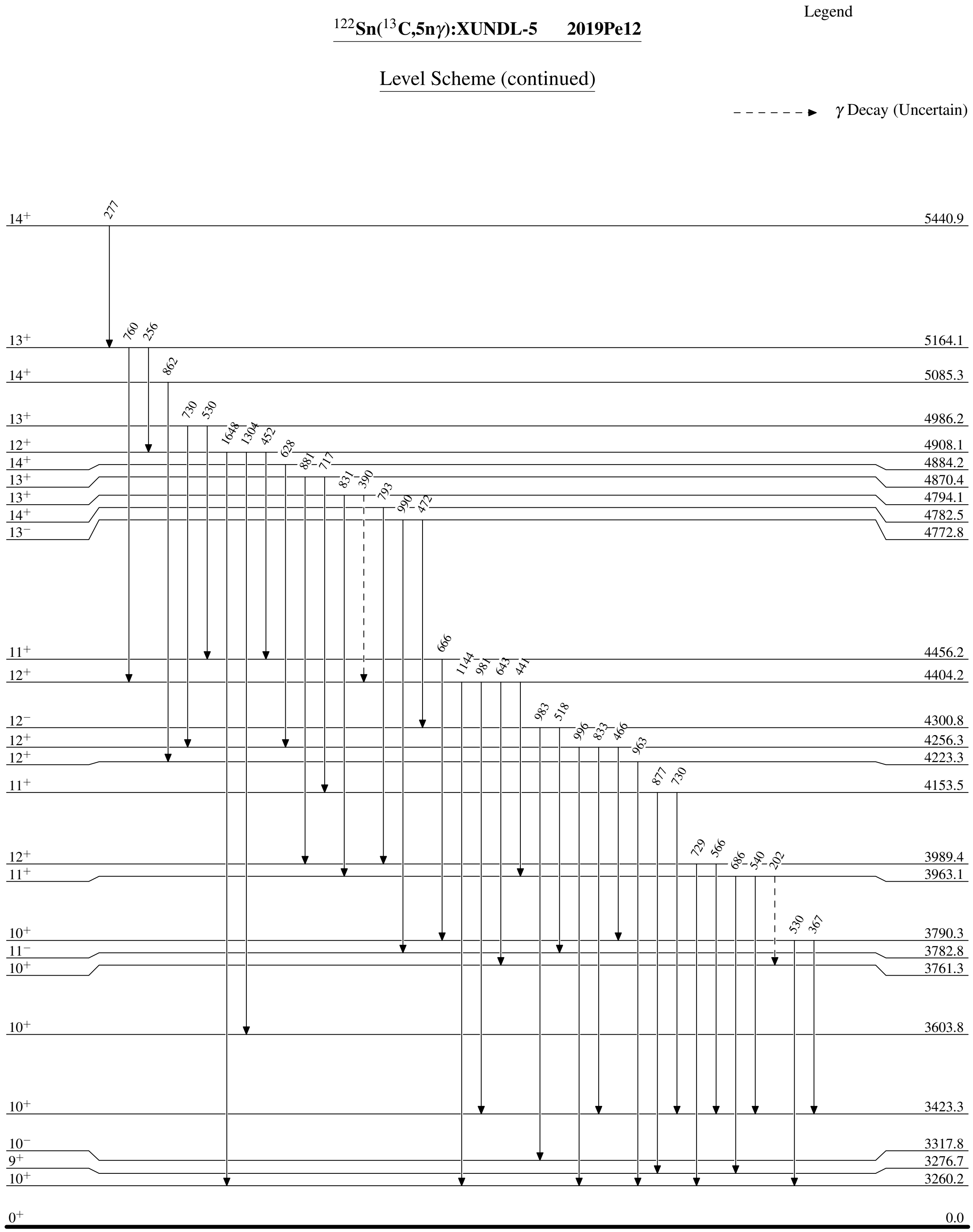
γ Decay (Uncertain)



$^{130}_{56}Ba_{74}$

^{122}Sn(^{13}C,5nγ):XUNDL-5 2019Pe12

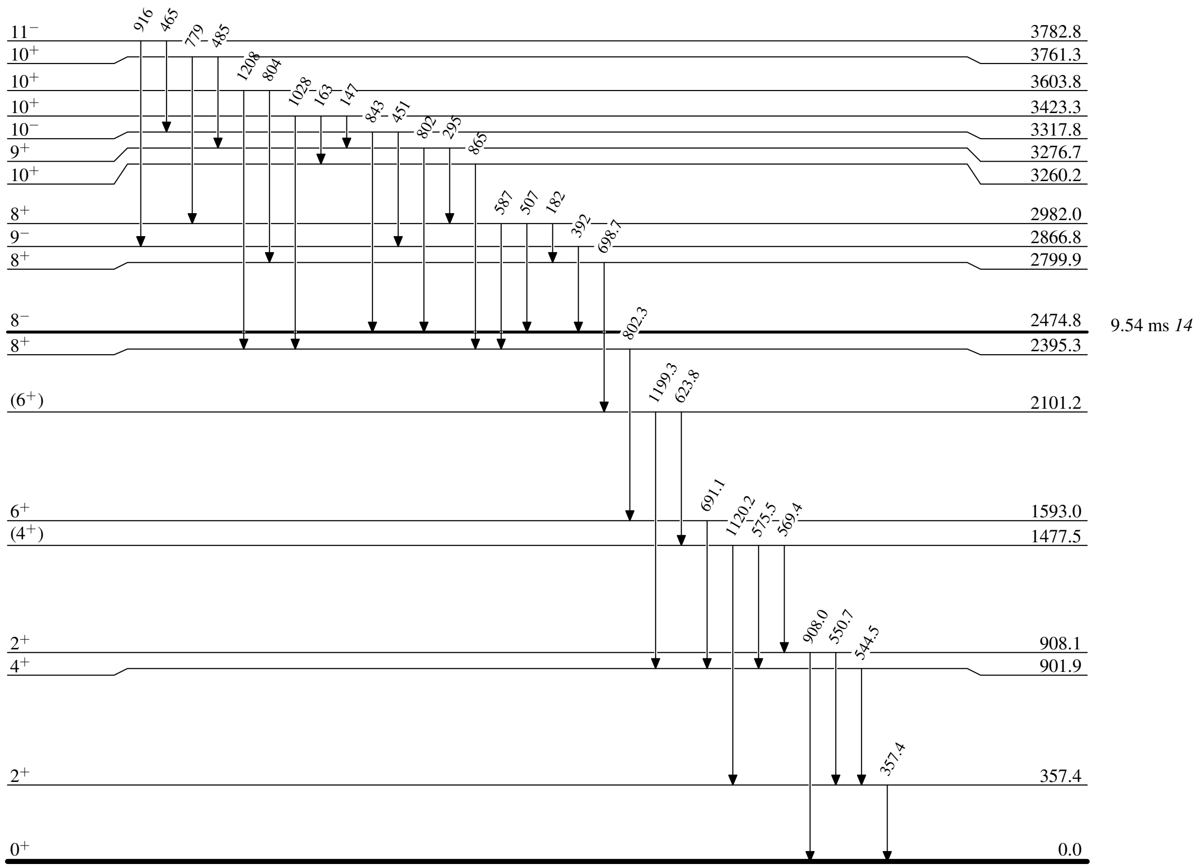
Level Scheme (continued)



$^{130}_{56}$Ba$_{74}$

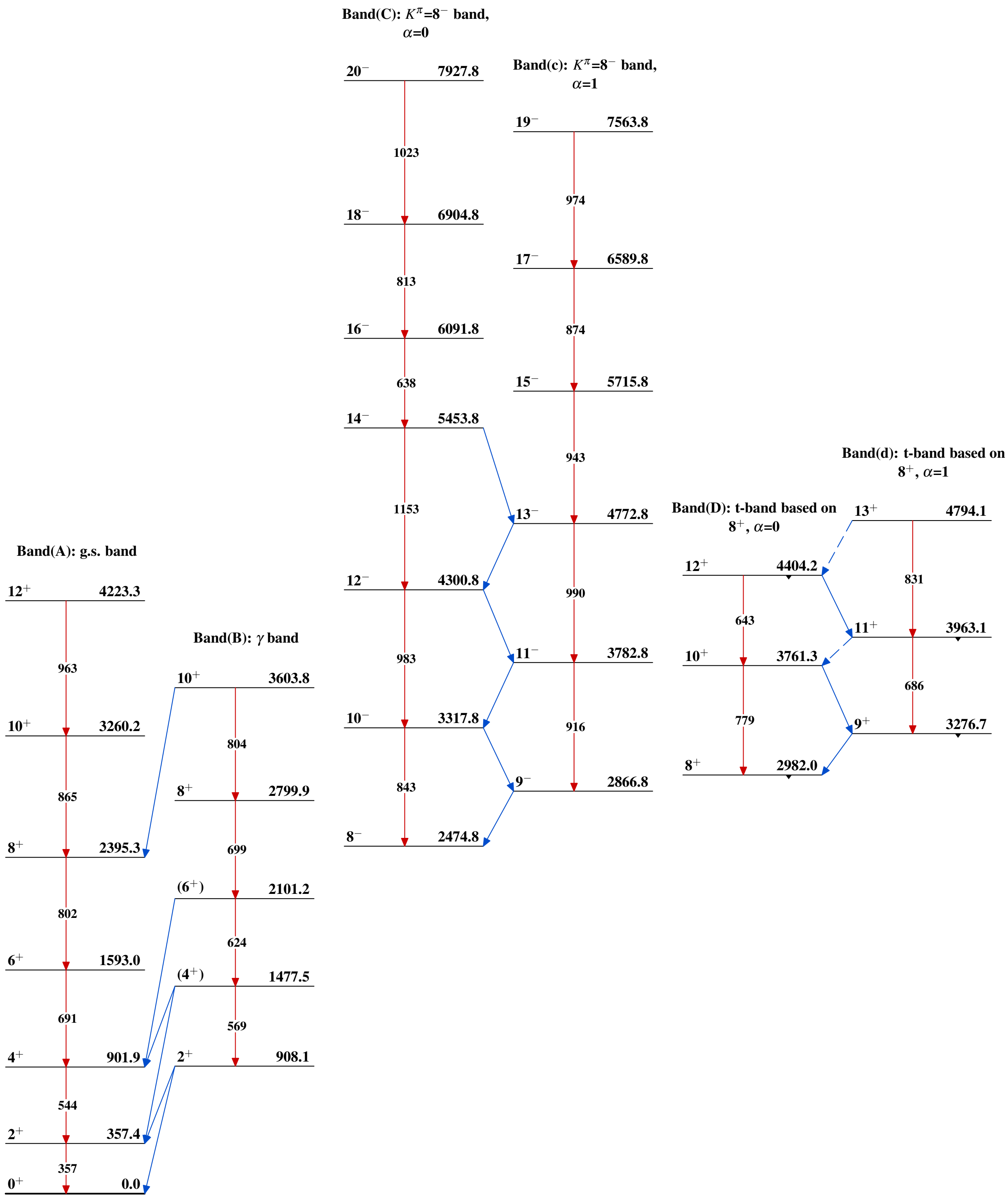
$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-5 2019Pe12

Level Scheme (continued)



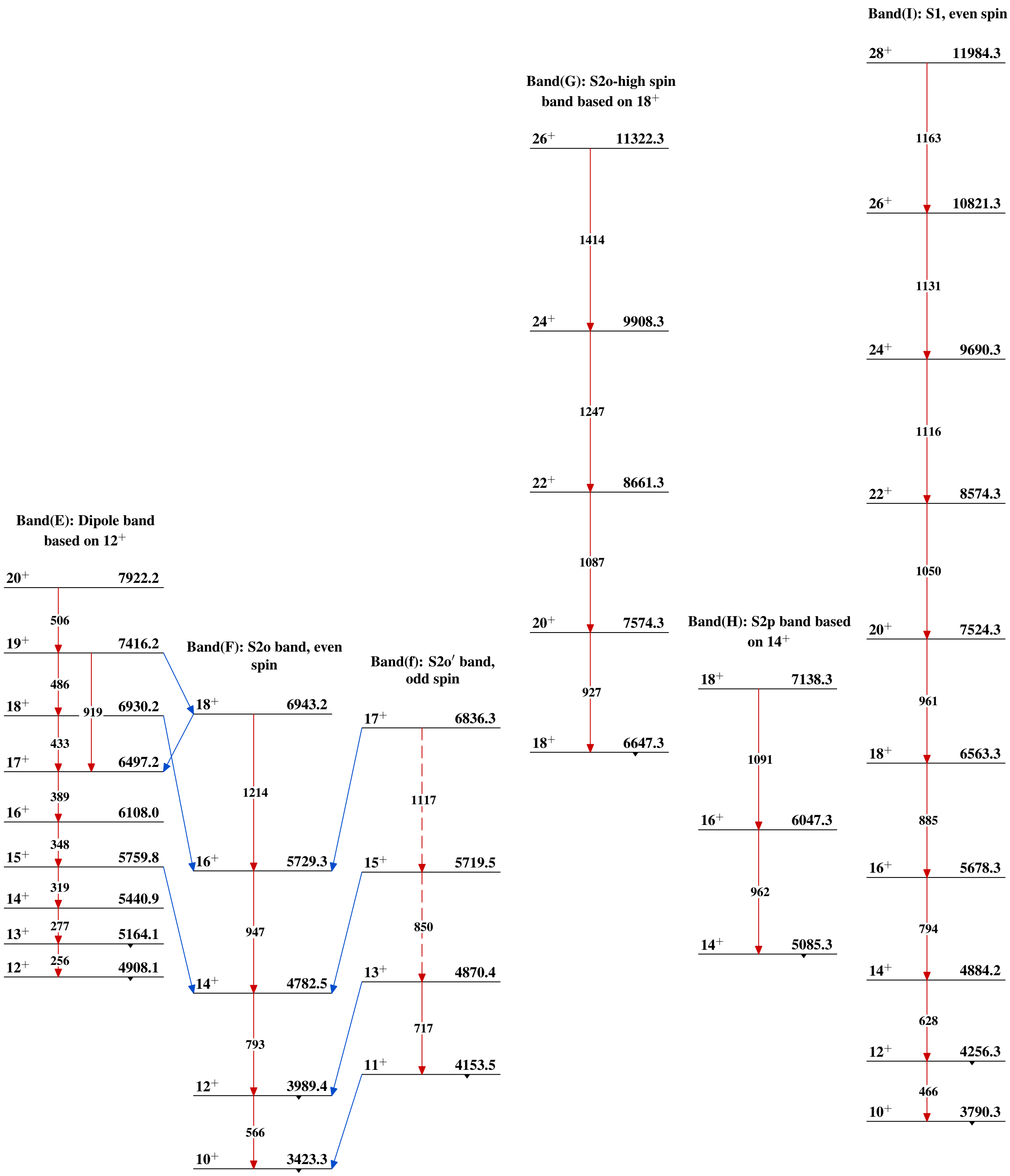
$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-5 2019Pe12



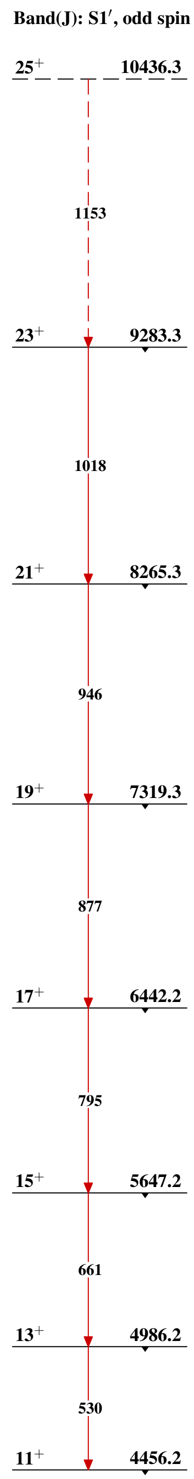
$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-5 2019Pe12 (continued)



$^{130}_{56}Ba_{74}$

$^{122}Sn(^{13}C,5n\gamma)$:XUNDL-5 2019Pe12 (continued)



$^{130}_{56}Ba_{74}$