(HI,xnγ) 1985St08,1985AzZY,1973Be43

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 2537 (2012)	1-Mar-2012

Additional information 1.

1985St08: ^{120}Sn(^{40}Ar,4nγ), E(^{40}Ar)=170 MeV and several other energies. 1 mg/cm^2 target on Pb backing, which stopped the Er recoils. γ's studied using a 9-detector array of Compton-suppressed Ge detectors. Measured γ coincidences, $\gamma\gamma(\theta)$. Report ≈130 γ's and nearly 100 levels. Deduce J$^\pi$ assignments and propose 5 band structures.

1985AzZY: ^{123}Sb(^{37}Cl,4nγ), E(^{37}Cl)=158 and 166 MeV. ^{123}Sb source of thickness 0.5 mg/cm^2 evaporated on a 1 mg/cm^2 thick Au backing. Source was movable with respect to a fixed 10 mg/cm^2 thick catcher, and was placed inside a 12"×12" NaI(Tl) "4π" detector. A HPGe detector was placed near the target assembly, inside the NaI(Tl) detector. Report 37 γ's and three band structures having J$^\pi$ values up to 32$^+$, 23$^-$ and 20$^-$. Half-lives reported for 14 levels.

1973Be43: ^{160}Dy(α,8nγ), Eα=108 MeV. Enriched (96.6%) oxide target, ≈7 mg/cm^2 thick. Measured $\gamma\gamma$-coin using a 60-cm^3 and a 66-cm^3 GeLi detector. $\gamma(\theta)$ measured using a 0.9-cm^3 high-resolution GeLi detector and a 77 cm^3 GeLi detector. ^{144}Nd(^{16}O,4nγ), E(^{16}O)=100 MeV. Enriched (97.5%) metallic self-supporting target,≈3.7 mg/cm^2 thick. Measured $\gamma(\theta)$ using a 35-cm^3 GeLi detector. Deduce multipolarities for the 12 reported γ's and propose a level scheme consisting of two bands with levels having J$^\pi$ values up to 14$^+$ and 15.

1974Go14: ^{148}Sm(^{12}C,4nγ), E(^{12}C)=75 MeV. ce measured using a steering magnet and a cooled SiLi detector. A self-supporting ^{148}Sm foil, 0.3 mg/cm^2 thick, was used. The γ-ray spectrum was measured using a 3-mg/cm^2 target. Report α(K)exp values and deduced multipolarities for 7 γ transitions.

1979Bo29: ^{120}Sn(^{40}Ar,4nγ), E(^{40}Ar)=140-200 MeV. Metallic targets of isotope-separated ^{120}Sn, 1.8-mg/cm^2 thick, were used. Measured $T_{1/2}$ values using the Doppler-shift recoil-distance method for the first 7 γ transitions in the g.s. band.

1981By02: ^{141}Pr(^{19}F,4nγ), E(^{19}F)=90-110 MeV, and ^{123}Sb(^{37}Cl,4nγ), E(^{37}Cl)=170 MeV. $\gamma\gamma$ coincidences measured with Ge detectors. Ground-state band reported to 32$^+$.

1969Di02: ^{120}Sn(^{40}Ar,4nγ), E(^{40}Ar) not given. Measured $T_{1/2}$ values for the first excited 2$^+$, 4$^+$ and 6$^+$ states using the Doppler-shift recoil-distance method.

1970No01: ^{120}Sn(^{40}Ar,4nγ), E(^{40}Ar)=148 MeV. Self-supporting isotope-separated targets, 1 mg/cm^2 thick. Measured perturbed $\gamma\gamma(\theta)$ for recoiling nuclei in hyperfine magnetic fields. Deduced g-factor.

Other related references: 1967Wa18; 1973LiZO; 1976Su05; 1980By02; 1981Me09; 1984AzZW; 1985Az01; 1986DiZU; 1987De17. For brief descriptions of these studies, See the ENSDF file.

The present level scheme is from the ^{120}Sn(^{40}Ar,4nγ) study by 1985St08. The excited-state half-lives are from 1985AzZY, 1979Bo29, and 1969Di02.

Previous level schemes, e.g., 1976Su05, propose a positive-parity, odd-spin, band including several of the γ's that later works place in a negative-parity band.

Studies at very high spins and of continuum γ rays include 1982Tr01, 1984Co26, 1985Du01, and 1985St06.

^{156}Er Levels

The groupings of the "Negative-Parity Bands" are those proposed from the studies reported here. Subsequent high-spin studies (e.g., 2009Pa17, 2011Re06), however, provide different band groupings and more detailed configuration assignments for many of these levels. It is these latter assignments that are adopted here.

Up through the 30$^+$ level, the level scheme is "rotational". Above this energy, the structure becomes more complicated. For a discussion of this situation, see 1985St08. Above the point at which the level spacings seem to indicate a breakdown in the rotational structure, no association of a given level with a particular band is made.

From perturbed $\gamma\gamma(\theta)$ due to time-dependent hyperfine hyperfine interactions, 1970No01 deduce an average g-factor of ≈0.40 for levels with J≤10 in the ground-state band. This result is consistent with a constant g-factor within this band.

Neutron emission has been reported from levels with J≈52 (1988He01); and the emission rates have been calculated (1988He01,1988Ra30).

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

^{156}Er Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	Comments
0[&]	0+	19.5 min *10*	$T_{1/2}$: From the Adopted Values.
344.7[&]	2+	34.0 ps *9*	$T_{1/2}$: Weighted average of 33.2 ps *17* (1969Di02), 34.7 ps *13* (1979Bo29), and 33.5 ps *16* (1985AzZY).
797.8[&]	4+	5.0 ps *3*	$T_{1/2}$: Weighted average of 5.4 ps *7* (1969Di02), 5.0 ps *5* (1979Bo29), 4.8 ps *6* (1985AzZY).
1341.4[&]	6+	1.9 ps *3*	$T_{1/2}$: Weighted average of 1.1 ps *7* (1969Di02) and 2.0 ps *3* (1979Bo29).
1476[@]			Jπ: 1985AzZY assign this level as 5−. However, from the systematics of the negative-parity octupole-related states in the neighboring N=88 nuclei (see, e.g, 1980Zo02, ^{156}Tm ε Decay), this energy is not consistent with that expected for the 5− state. Rather, the 1611, 5− level seen in the ^{156}Tm ε decay appears to be the relevant 5− level.
1960.1[&]	8+	2.5 ps *6*	$T_{1/2}$: Weighted average of 1.6 ps *6* (1979Bo29) and 2.9 ps *4* (1985AzZY).
2031.0[a]	7−		
2206.1[b]	6−		
2491.4[a]	9−	8 ps *5*	$T_{1/2}$: From 1985AzZY.
2603.1[b]	8−		
2634.7[&]	10+	1.4 ps *3*	$T_{1/2}$: Weighted average of 1.6 ps *7* (1979Bo29) and 1.3 ps *3* (1985AzZY).
2905.2[b]	10−		
2925.4[a]	11−	8.2 ps *7*	$T_{1/2}$: From 1985AzZY.
3082.6[c]	(11−)		
3317.2[&]	12+	1.5 ps *7*	$T_{1/2}$: Weighted average of 3.0 ps *18* (1979Bo29) and 1.2 ps *8* (1985AzZY).
3386.5[b]	12−		
3434.4[a]	13−	3.3 ps *6*	$T_{1/2}$: From 1985AzZY.
3441.7	(12+)		
3675.1[c]	(13−)		
3839.8[&]	14+	1.6 ps *4*	$T_{1/2}$: Weighted average of 6 ps *3* (1979Bo29) and 1.6 ps *4* (1985AzZY).
3956.8[b]	14−		
4038.4[a]	15−	2.0 ps *12*	$T_{1/2}$: From 1985AzZY.
4066.1?	(14+)		E(level): Level not adopted. A subsequent high-spin study (2011Re06) does not confirm this level.
4312.3[c]	(15−)		
4384.9[&]	16+		
4596.6[b]	16−		
4715.0[a]	17−	1.6 ps *6*	$T_{1/2}$: From 1985AzZY.
4786.1[d]	16+		
5004.3[c]	(17−)		
5010.5[&]	18+	1.2 ps *6*	$T_{1/2}$: From 1985AzZY.
5301.0[b]	18−		
5342.2[d]	18+		
5499.8[a]	19−	2.2 ps *8*	$T_{1/2}$: From 1985AzZY.
5678.8	(19−)		
5721.5[&]	20+	0.8 ps *6*	$T_{1/2}$: From 1985AzZY.
5791.8[c]	(19−)		
5935.4[d]	20+		
6062.3[b]	20−		
6265.6[a]	21−		
6361.1	(21−)		
6441.1[c]	(21−)		
6494.5[&]	22+		
6667.5[d]	22+		

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

^{156}Er Levels (continued)

E(level)[†]	J^{π}[‡]	Comments
6744.9[b]	22^-	
6872.3[a]	23^-	
7058.7[c]	(23^-)	
7115.2	(23^-)	
7322.3[&]	24^+	
7420.1[b]	24^-	
7448.6[d]	24^+	
7497.1	(24^+)	
7607.5[a]	25^-	
7655.2[c]	(25^-)	
7984.9		
8087.7[&]	26^+	
8106.8[b]	26^-	
8215.6[d]	26^+	
8297.3[a]	27^-	
8331		
8400.3[c]	(27^-)	
8854.5	28^+	
8873.0[b]	28^-	
8908.6	(28^+)	
8971.9[&]	28^+	
9073.8[d]	28^+	
9204.9[a]	29^-	
9295.0[c]	(29^-)	
9654.2	(30^+)	
9700.4[b]	30^-	
9871[&]	30^+	
10115.9[a]	31^-	
10189.9[c]	(31^-)	
10421.1	(32^+)	
10516.5?	(32^+)	E(level): Level not reported in subsequent high-spin studies. It is not included in the Adopted Levels.
10539.5[b]	32^-	
10934.8[c]	(33^-)	
11103.6	(34^+)	
11338.8	(34^+)	
11460.5[b]	34^-	
11586.3	(34^-)	
11824.2	(35^+)	
11983	(36^+)	
12043.0	(36^+)	
12431.2[b]	36^-	
12676.1	(38^+)	
13066.3[b]	38^-	
13211.3	(38^+)	
13876.5	(40^+)	
14044.0	(40^+)	
14431.9	(42^+)	
15489.4	(43^+)	

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

^{156}Er Levels (continued)

† From a least-squares fit to the γ energies.
‡ As given by 1985St08 and 1985AzZY, although in some cases their values are enclosed here in parentheses. These values are based on the multipolarities of the γ transitions, where known, the γ branching of the levels, and the assumption of generally increasing spin with increasing excitation energy. The configurations associated with the proposed bands and the fragmentation of these bands are discussed by 1985St08.
\# Values for the excited states were measured using the Doppler-shift recoil-distance technique.
@ From 1985AzZY.
& Band(A): $K^{\pi}=0^+$ ground-state band.
a Band(B): Negative-parity, odd-spin band.
b Band(C): Negative-parity, even-spin band.
c Band(D): Negative-parity, odd-spin band.
d Band(E): Positive-parity, even-spin band.

γ(^{156}Er)

E_γ †	I_γ @	E_i(level)	J^π_i	E_f	J^π_f	Mult. ‡#	δ	Comments
186		7058.7	(23^-)	6872.3	23^-			
218.7		12043.0	(36^+)	11824.2	(35^+)			
270.4		2905.2	10^-	2634.7	10^+			Mult.: γ(θ) consistent with a nonstretched dipole (1985St08).
290.7		2925.4	11^-	2634.7	10^+	E1(+M2)	≤0.055	Mult.,δ: γ(θ) establishes the spin sequence 11→10 and the listed δ for this transition (1973Be43). From α(K)exp=0.020 *7* (1974Go14), mult=E1, with δ(M2/E1)≤0.15.
294		8400.3	(27^-)	8106.8	26^-			
302		2905.2	10^-	2603.1	8^-			Additional information 2.
344.7	100	344.7	2^+	0	0^+	E2		Mult.: From γ(θ), mult=Q (1973Be43). RUL eliminates M2.
346		8331		7984.9				
359.2		9654.2	(30^+)	9295.0	(29^-)			
370		7115.2	(23^-)	6744.9	22^-			
378.7		6441.1	(21^-)	6062.3	20^-			
383		6744.9	22^-	6361.1	(21^-)			
387		14431.9	(42^+)	14044.0	(40^+)			
397		2603.1	8^-	2206.1	6^-			
398		3839.8	14^+	3441.7	(12^+)			
414.0		2905.2	10^-	2491.4	9^-			
434		2925.4	11^-	2491.4	9^-	E2		Mult.: From α(K)exp=0.020 *4* (1974Go14). γ(θ) indicated a stretched quadrupole (1973Be43).
435.6		5935.4	20^+	5499.8	19^-			
447.9		3082.6	(11^-)	2634.7	10^+			
453.1	93 *3*	797.8	4^+	344.7	2^+	E2		Mult.: From α(K)exp=0.026 *8* (1975Ag02) and 0.024 *10* (1980Zo02) (^{156}Tm ε decay) and 0.017 *2* (1974Go14) (^{148}Sm(^{12}C,4nγ)).
460.6		2491.4	9^-	2031.0	7^-			
479.8		6744.9	22^-	6265.6	21^-			
481.3		3386.5	12^-	2905.2	10^-			
488[a]		7984.9		7497.1	(24^+)			
508.9		3434.4	13^-	2925.4	11^-	E2		Mult.: γ(θ) indicates a stretched quadrupole (1973Be43). RUL eliminates M2.
522.7	24 *3*	3839.8	14^+	3317.2	12^+	E2		Mult.: γ(θ) indicates a stretched quadrupole (1973Be43). RUL eliminates M2.
531.2		2491.4	9^-	1960.1	8^+	E1(+M2)	<0.16	Mult.,δ: From α(K)exp<0.0061 (1974Go14). γ(θ)

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

γ(^{156}Er) (continued)

E_γ[†]	I_γ[@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡#]	Comments
							establishes the spin sequence 9→8 and δ≤0.29 for this transition (1973Be43).
536.3		7984.9		7448.6	24^+		
540		7655.2	(25^-)	7115.2	(23^-)		
543.6	90 *3*	1341.4	6^+	797.8	4^+	E2	Mult.: From α(K)exp=0.0110 *17* (1974Go14). γ(θ) (1973Be43) indicates a stretched quadrupole.
545.2	24 *3*	4384.9	16^+	3839.8	14^+		
548.0		7420.1	24^-	6872.3	23^-	(D)	Mult.: γ(θ) consistent with a stretched dipole (1985St08).
548[a]		10421.1	(32^+)	9871	30^+		
555[&] 5		2031.0	7^-	1476			
555.4		14431.9	(42^+)	13876.5	(40^+)		
556.2		5342.2	18^+	4786.1	16^+		
570.3		3956.8	14^-	3386.5	12^-		
572		2603.1	8^-	2031.0	7^-		
577.5		8908.6	(28^+)	8331			
580.4		9654.2	(30^+)	9073.8	28^+		
586.7		6265.6	21^-	5678.8	(19^-)		
590		8087.7	26^+	7497.1	(24^+)		
591		3082.6	(11^-)	2491.4	9^-		
592.5		3675.1	(13^-)	3082.6	(11^-)		
593.2		5935.4	20^+	5342.2	18^+		
596.4		7655.2	(25^-)	7058.7	(23^-)		
604.0		4038.4	15^-	3434.4	13^-	E2	Mult.: γ(θ) indicates a stretched quadrupole (1973Be43). RUL eliminates M2.
606.5		6872.3	23^-	6265.6	21^-		
617.8		7058.7	(23^-)	6441.1	(21^-)		
618.8	80 *3*	1960.1	8^+	1341.4	6^+	E2	Mult.: From α(K)exp=0.0084 *14* (1974Go14). γ(θ) (1973Be43) indicates a stretched quadrupole. RUL eliminates M2.
625.7	23 *3*	5010.5	18^+	4384.9	16^+		
627		5342.2	18^+	4715.0	17^-	(D)	Mult.: γ(θ) consistent with a stretched dipole (1985St08).
632.8		12676.1	(38^+)	12043.0	(36^+)		
635.1		13066.3	38^-	12431.2	36^-		
637.0		4312.3	(15^-)	3675.1	(13^-)		
639.0		8854.5	28^+	8215.6	26^+		
639.8		4596.6	16^-	3956.8	14^-		
643.1		2603.1	8^-	1960.1	8^+	(D)	Mult.: Probably a nonstretched dipole (1985St08).
649.6		6441.1	(21^-)	5791.8	(19^-)		
651.5		11586.3	(34^-)	10934.8	(33^-)		
665.2		13876.5	(40^+)	13211.3	(38^+)		
674		5678.8	(19^-)	5004.3	(17^-)		
674.6	62 *3*	2634.7	10^+	1960.1	8^+	E2	Mult.: From γ(θ), γ is a stretched quadrupole (1973Be43). RUL eliminates M2.
675.4		7420.1	24^-	6744.9	22^-		
676.6		4715.0	17^-	4038.4	15^-		
682		6361.1	(21^-)	5678.8	(19^-)		
682		9654.2	(30^+)	8971.9	28^+		
682.5	48 *4*	3317.2	12^+	2634.7	10^+	E2	Mult.: γ(θ) indicates a stretched quadrupole (1973Be43). RUL eliminates M2.
682.5		11103.6	(34^+)	10421.1	(32^+)		
682.6		6744.9	22^-	6062.3	20^-		
687.0		8106.8	26^-	7420.1	24^-		
689.5		2031.0	7^-	1341.4	6^+	(D)	Mult.: γ(θ) consistent with a stretched dipole (1985St08).
689.8		8297.3	27^-	7607.5	25^-		
691.9		5004.3	(17^-)	4312.3	(15^-)		

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

γ(^{156}Er) (continued)

E_γ[†]	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡#]	Comments
704.4		5301.0	18⁻	4596.6	16⁻		
704.5		12043.0	(36⁺)	11338.8	(34⁺)		
710.9	22 3	5721.5	20⁺	5010.5	18⁺		
720[a]		4786.1	16⁺	4066.1?	(14⁺)		
720.6		11824.2	(35⁺)	11103.6	(34⁺)		
732.1		6667.5	22⁺	5935.4	20⁺		
735.0		7607.5	25⁻	6872.3	23⁻		
744.9		8400.3	(27⁻)	7655.2	(25⁻)		
744.9		10934.8	(33⁻)	10189.9	(31⁻)		
745.6		9654.2	(30⁺)	8908.6	(28⁺)		
747.7		4786.1	16⁺	4038.4	15⁻	(D)	Mult.: γ(θ) consistent with a stretched dipole (1985St08).
749		4066.1?	(14⁺)	3317.2	12⁺		
754.4		7115.2	(23⁻)	6361.1	(21⁻)		
761.4		6062.3	20⁻	5301.0	18⁻		
765.3	35 3	8087.7	26⁺	7322.3	24⁺		
766.1		6265.6	21⁻	5499.8	19⁻		
766.1		8873.0	28⁻	8106.8	26⁻		
766.8		8854.5	28⁺	8087.7	26⁺		
766.9		10421.1	(32⁺)	9654.2	(30⁺)		
767.0		8215.6	26⁺	7448.6	24⁺		
773.0	22 3	6494.5	22⁺	5721.5	20⁺		
781.1		7448.6	24⁺	6667.5	22⁺		
783[a]		7655.2	(25⁻)	6872.3	23⁻		
784.8		5499.8	19⁻	4715.0	17⁻		
787.8		5791.8	(19⁻)	5004.3	(17⁻)		
792.7		8400.3	(27⁻)	7607.5	25⁻		
793		7058.7	(23⁻)	6265.6	21⁻		
799.8	10 3	9654.2	(30⁺)	8854.5	28⁺		
807.0		3441.7	(12⁺)	2634.7	10⁺		
821.0		8908.6	(28⁺)	8087.7	26⁺		
827.4		9700.4	30⁻	8873.0	28⁻		
827.7	20 3	7322.3	24⁺	6494.5	22⁺		
832.6		14044.0	(40⁺)	13211.3	(38⁺)		
839.1		10539.5	32⁻	9700.4	30⁻		
845.1		12431.2	36⁻	11586.3	(34⁻)		
858.2		9073.8	28⁺	8215.6	26⁺		
861.2		6361.1	(21⁻)	5499.8	19⁻		
862.2[a]		10516.5?	(32⁺)	9654.2	(30⁺)		
864.7		2206.1	6⁻	1341.4	6⁺		
879		11983	(36⁺)	11103.6	(34⁺)		
884.2		8971.9	28⁺	8087.7	26⁺		
894.9		9295.0	(29⁻)	8400.3	(27⁻)		
894.9		10189.9	(31⁻)	9295.0	(29⁻)		
899		9871	30⁺	8971.9	28⁺		
907.6		9204.9	29⁻	8297.3	27⁻		
911.0		10115.9	31⁻	9204.9	29⁻		
917.7		11338.8	(34⁺)	10421.1	(32⁺)		
921.0		11460.5	34⁻	10539.5	32⁻		
925.1		5935.4	20⁺	5010.5	18⁺		
939.3		12043.0	(36⁺)	11103.6	(34⁺)		
963.9		5678.8	(19⁻)	4715.0	17⁻		
965.7		5004.3	(17⁻)	4038.4	15⁻		
970.6		12431.2	36⁻	11460.5	34⁻		
1002.6		7497.1	(24⁺)	6494.5	22⁺		
1046		11586.3	(34⁻)	10539.5	32⁻		

Continued on next page (footnotes at end of table)

(HI,xnγ) 1985St08,1985AzZY,1973Be43 (continued)

γ(^{156}Er) (continued)

E_γ †	E_i(level)	J_i^π	E_f	J_f^π
1057.5	15489.4	(43$^+$)	14431.9	(42$^+$)
1168.3	13211.3	(38$^+$)	12043.0	(36$^+$)
1368.0	14044.0	(40$^+$)	12676.1	(38$^+$)

† From 1985St08, unless otherwise noted. Others: 1967Wa18, 1973Be43 (with uncertainties), 1974Go14, 1976Su05, and 1981By02.

‡ Primarily from the $\gamma(\theta)$ data of 1973Be43 and the ce data of 1974Go14, but with several assignments from 1985St08 and 1976Su05. Although some transitions are denoted as E2 in most of the studies, actually the angular-distribution and -correlation data can establish only that they are quadrupole. Additional information, in this case primarily from ce data and RUL (where level lifetimes are known), is needed in order to establish mult=E2. The transitions thus denoted as E2 are all stretched E2′s (1973Be43).

Additional information 3.

@ From 1981By02 for the ^{123}Sb(^{37}Cl,4nγ) reaction with E(^{37}Cl)=170 MeV. Values for other reactions are given by 1973Be43 for ^{160}Dy(α,8nγ) at 108 MeV and ^{144}Nd(^{16}O,4nγ) at 100 MeV; by 1974Go14 for ^{148}Sm(^{12}C,4nγ) at 75 MeV; and 1981By02 for ^{141}Pr(^{19}F,4nγ) at 95 MeV.

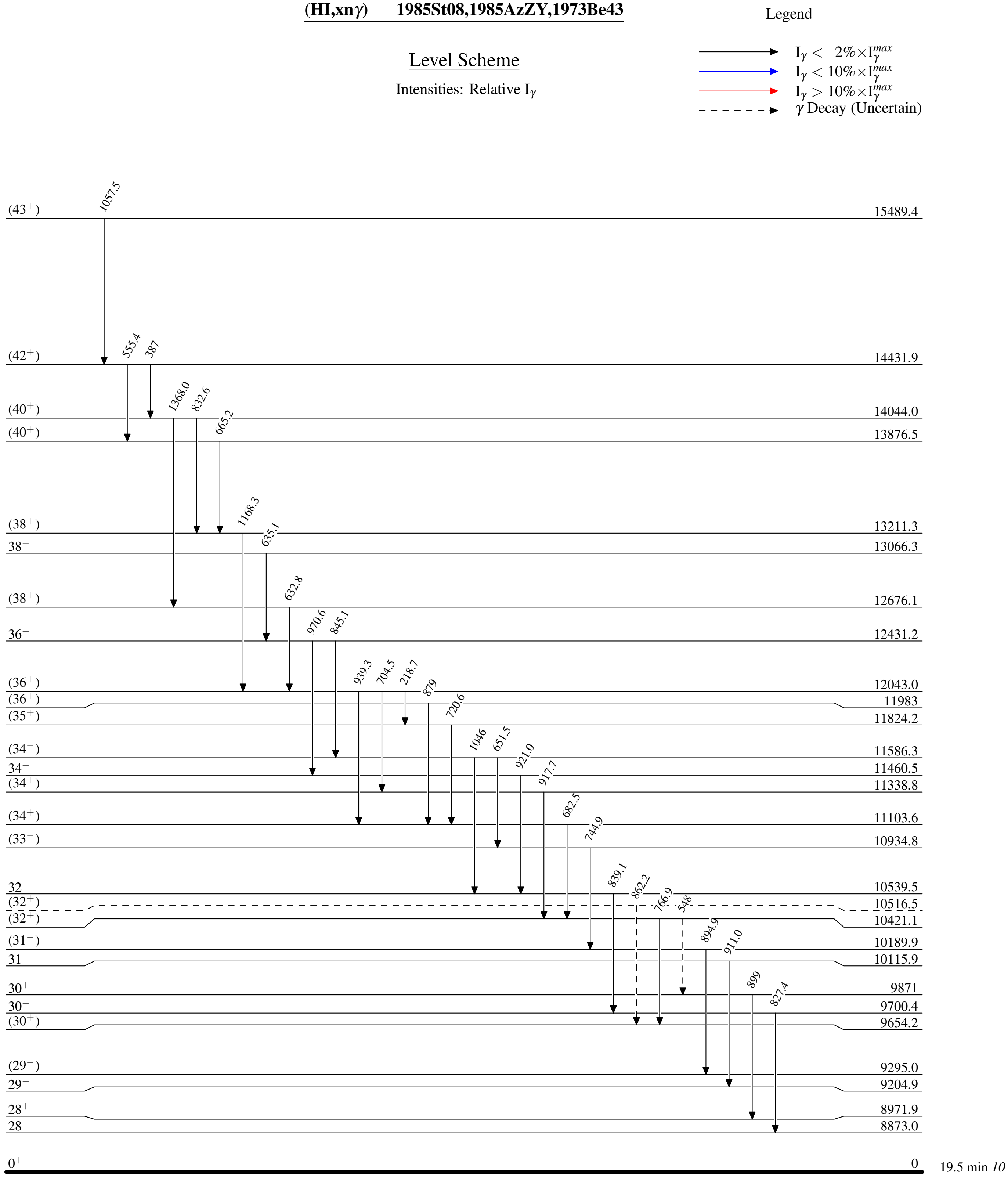
& Reported and placed by 1985AzZY.

a Placement of transition in the level scheme is uncertain.

(HI,xnγ) 1985St08,1985AzZY,1973Be43

Level Scheme

Intensities: Relative I_γ



$^{156}_{68}Er_{88}$

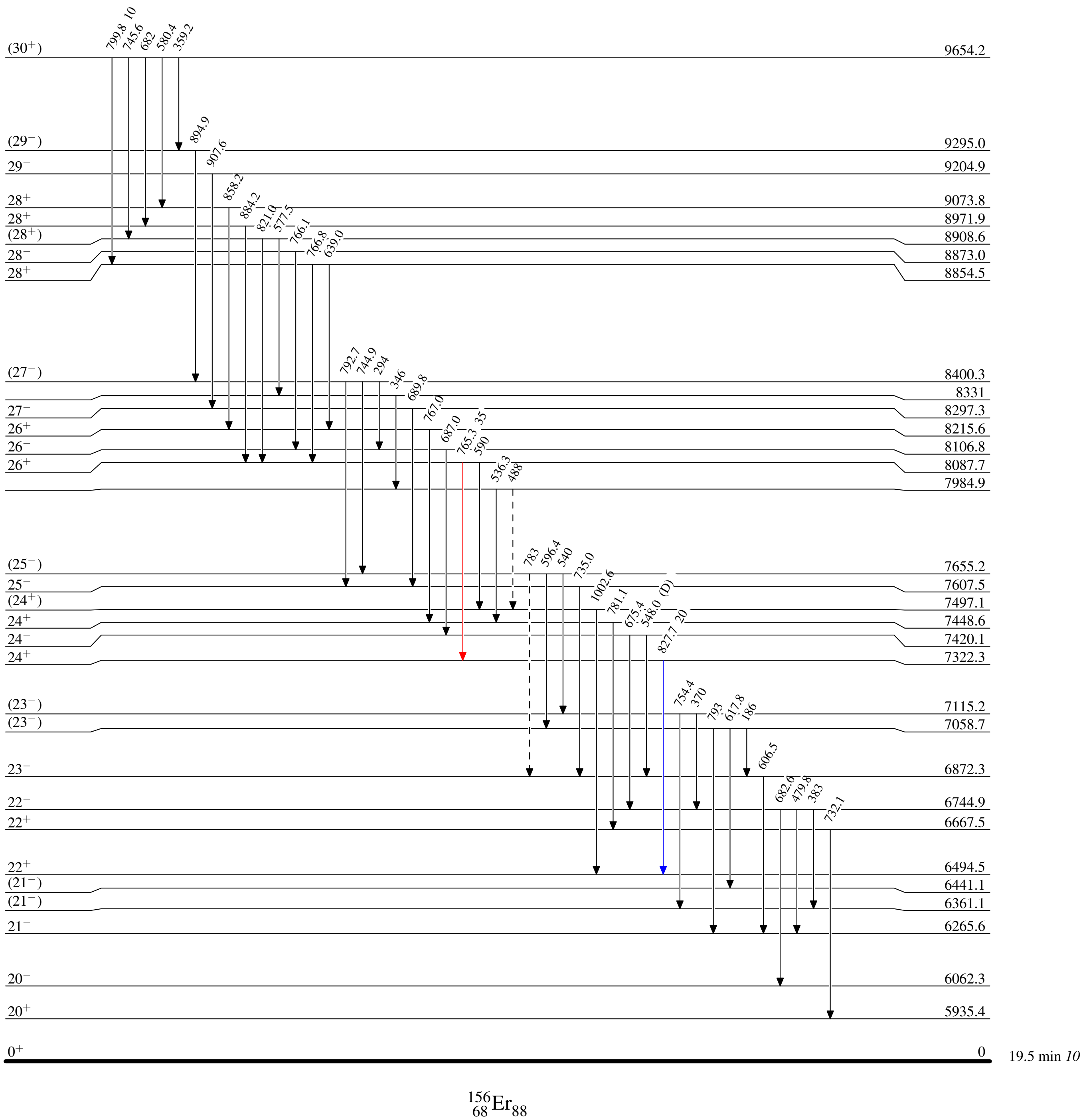
(HI,xnγ) 1985St08,1985AzZY,1973Be43

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)



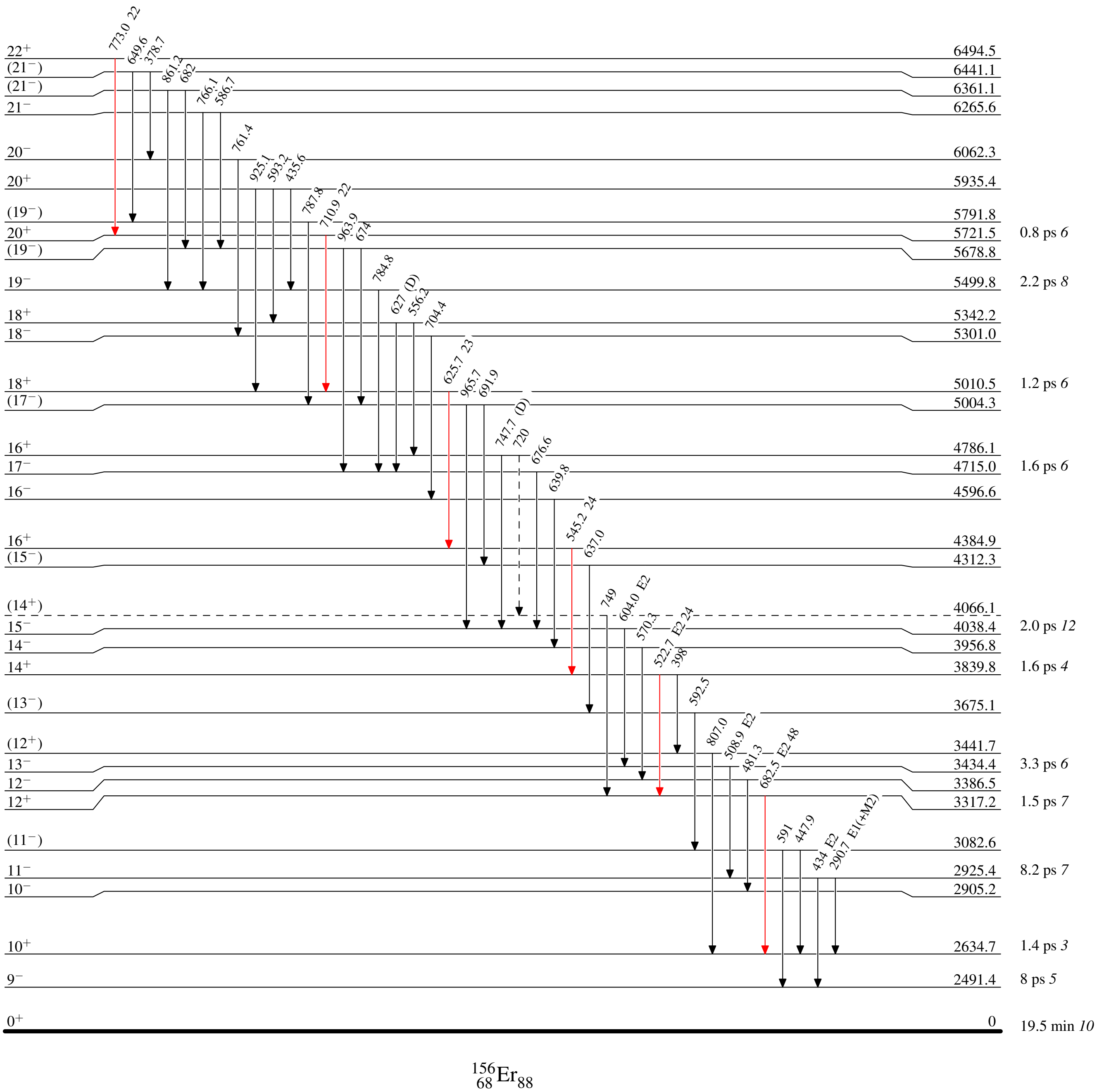
(HI,xnγ) 1985St08,1985AzZY,1973Be43

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)



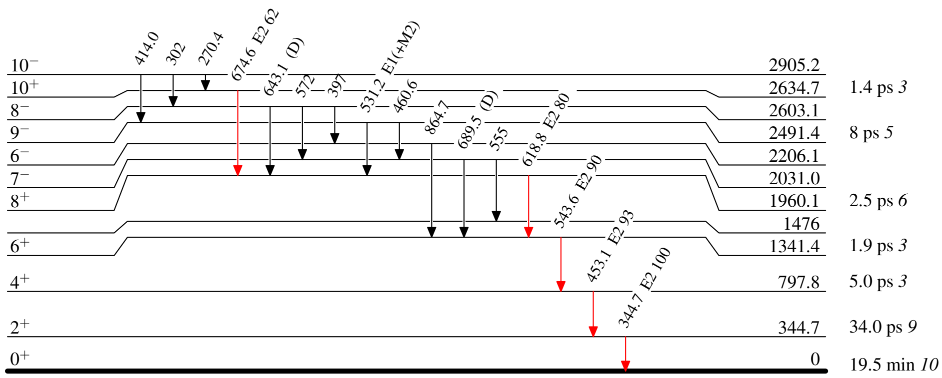
(HI,xnγ) 1985St08,1985AzZY,1973Be43

Level Scheme (continued)

Intensities: Relative I_γ

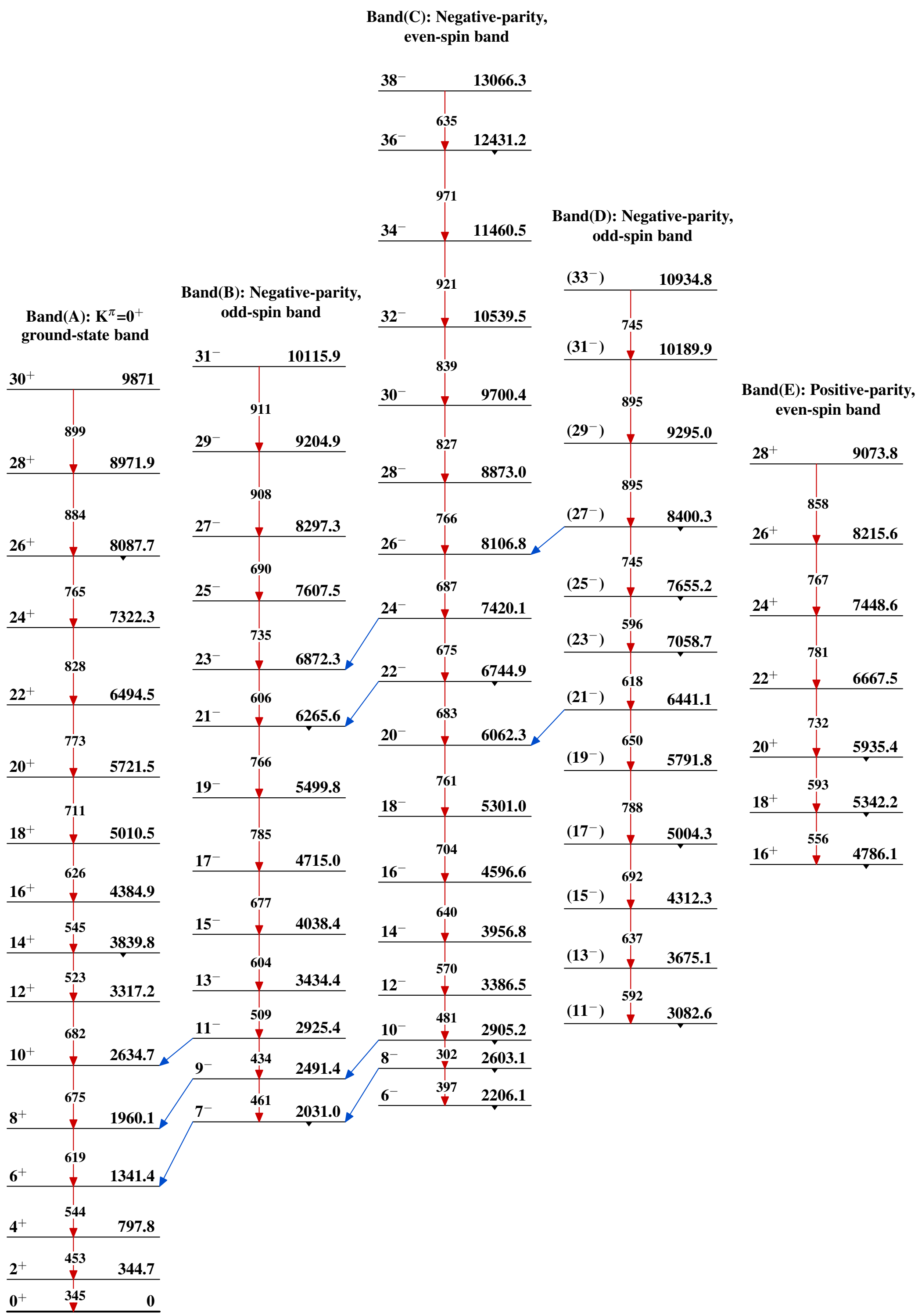
Legend

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



$^{156}_{68}Er_{88}$

(HI,xnγ) 1985St08,1985AzZY,1973Be43



$^{156}_{68}Er_{88}$