^{150}Sm(^{28}Si,4nγ),(^{29}Si,5nγ) 1990Fa02,1982Du13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, Huo Junde	NDS 87, 15 (1999)	1-Nov-1998

1990Fa02: ^{150}Sm(^{28}Si,4nγ), E=138 MeV; ^{150}Sm(^{29}Si,5nγ) E=147 MeV. Measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma(\theta)$. Detectors: high-purity germanium with Compton suppression and array of six NaI detectors.
1982Du13: ^{150}Sm(^{28}Si,4nγ) E=138 MeV. Measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma(\theta)$. Detectors:Ge(Li).

^{174}Os Levels

E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†
0.0‡	0$^+$	2102.44# *25*	8$^-$	2906.4# *3*	12$^-$	4676.6@ *4*	19$^-$
158.69‡ *13*	2$^+$	2113.5‡ *3*	12$^+$	3073.8@ *4*	13$^-$	5111.8# *4*	20$^-$
435.12‡ *18*	4$^+$	2149.2?& *3*		3163.2& *3*	(13)	5232.7‡ *5*	22$^+$
777.77‡ *21*	6$^+$	2205.69@ *25*	9$^-$	3239.7‡ *4*	16$^+$	5261.8@ *4*	21$^-$
1171.96‡ *23*	8$^+$	2272.0 *5*		3388.7# *4*	14$^-$	5430.3& *11*	(21)
1240.1 *4*		2409.9& *3*	(9)	3577.3@ *4*	15$^-$	5741.0# *6*	22$^-$
1417.7 *4*		2476.4# *3*	10$^{(-)}$	3663.4& *4*	(15)	5869.9@ *6*	23$^-$
1453.21 *22*		2613.6@ *3*	11$^-$	3861.8‡ *4*	18$^+$	5986.7‡ *6*	24$^+$
1549.69# *22*	4$^-$*a*	2622.6 *5*		3924.8# *4*	16$^{(-)}$	6511.9@ *7*	25$^-$
1596.38@ *22*	5$^{(-)}$*a*	2656.0‡ *4*	14$^+$	4114.4@ *4*	17$^-$	6785.7‡ *7*	26$^+$
1617.56‡ *25*	10$^+$	2706.6 *5*		4225.5& *5*	(17)		
1790.27# *22*	6$^{(-)}$	2749.8& *3*	(11)	4505.4# *4*	18$^-$		
1860.46@ *24*	7$^{(-)}$	2905.5 *5*		4524.9‡ *4*	20$^+$		

† Based on rotational structure, $\gamma(\theta)$.
‡ Band(A): K$^\pi$=0$^+$ g.s. rotational band.
# Band(B): K$^\pi$=(4$^-$) rotational band.
@ Band(C): K$^\pi$=(5$^-$) rotational band.
& Band(D): rotational band.
a Not necessarily band head (1990Fa02).

$\gamma(^{174}Os)$

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.‡	Comments
158.7 *2*	68.0 *20*	158.69	2$^+$	0.0	0$^+$		
193.9 *2*	0.6 *2*	1790.27	6$^{(-)}$	1596.38	5$^{(-)}$		
240.6 *2*	4.2 *3*	1790.27	6$^{(-)}$	1549.69	4$^-$		A$_2$=+0.10 *3*, A$_4$=0.13 *5*.
260.7 *2*	0.9 *2*	2409.9	(9)	2149.2?			E$_\gamma$: not observed in ^{146}Nd(^{32}S,4nγ) (1992Hi09).
264.3 *2*	3.0 *3*	1860.46	7$^{(-)}$	1596.38	5$^{(-)}$	(E2)	A$_2$=+0.37 *16*.
276.4 *2*	100.0	435.12	4$^+$	158.69	2$^+$	(E2)	A$_2$=+0.27 *1*, A$_4$=−0.09 *1*.
312.1 *2*	10.2 *4*	2102.44	8$^-$	1790.27	6$^{(-)}$	(E2)	A$_2$=+0.27 *5*, A$_4$=−0.07 *5*.
337.0 *2*	1.2 *8*	1790.27	6$^{(-)}$	1453.21			A$_2$=+0.49 *12*.
339.9 *2*	≈3.0	2749.8	(11)	2409.9	(9)		
342.7 *2*	93 *6*	777.77	6$^+$	435.12	4$^+$	(E2)	A$_2$=+0.29 *1*, A$_4$=−0.06 *1*.
344.9 *21*	3	2205.69	9$^-$	1860.46	7$^{(-)}$	(E2)	A$_2$=+0.21 *2*, A$_4$=−0.11 *4*.
373.9 *2*	9.6 *5*	2476.4	10$^{(-)}$	2102.44	8$^-$	(E2)	A$_2$=0.36 *6*.
394.2 *2*	75.8 *12*	1171.96	8$^+$	777.77	6$^+$	(E2)	A$_2$=+0.32 *2*, A$_4$=−0.06 *3*.
407.9 *2*	12.5 *5*	2613.6	11$^-$	2205.69	9$^-$	(E2)	A$_2$=+0.35 *5*, A$_4$=−0.07 *6*.
413.4 *2*	3.6 *4*	3163.2	(13)	2749.8	(11)		

Continued on next page (footnotes at end of table)

^{150}Sm(^{28}Si,4nγ),(^{29}Si,5nγ) 1990Fa02,1982Du13 (continued)

γ(^{174}Os) (continued)

E_γ †	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult. ‡	Comments
430.0 *2*	7.2 *5*	2906.4	12^-	2476.4	$10^{(-)}$	(E2)	A_2=+0.18 *6*.
445.6 *2*	58.5 *11*	1617.56	10^+	1171.96	8^+	(E2)	A_2=+0.32 *3*, A_4=−0.13 *3*.
460.0 *2*	10.3 *5*	3073.8	13^-	2613.6	11^-	(E2)	A_2=+0.33 *3*, A_4=−0.11 *3*.
482.3 *2*	4.0 *4*	3388.7	14^-	2906.4	12^-	(E2)	A_2=+0.27 *11*.
495.9 *2*	41.8 *8*	2113.5	12^+	1617.56	10^+	(E2)	A_2=+0.31 *2*, A_4=−0.12 *2*.
500.2 *2*	4.8 *4*	3663.4	(15)	3163.2	(13)		
503.5 *2*	8.6 *5*	3577.3	15^-	3073.8	13^-	(E2)	A_2=+0.33 *3*, A_4=−0.11 *3*.
536.4 *2*	≈3.6	3924.8	$16^{(-)}$	3388.7	14^-	(E2)	A_2=+0.25 *7*, A_4=−0.22 *8*.
537.0 *2*	≈7.5	4114.4	17^-	3577.3	15^-	(E2)	
542.3 *2*	33.2 *6*	2656.0	14^+	2113.5	12^+	(E2)	A_2=+0.31 *2*, A_4=−0.13 *3*.
562.0 *5*	≈3.6	4225.5	(17)	3663.4	(15)		
562.2 *2*	6.4 *16*	4676.6	19^-	4114.4	17^-	(E2)	A_2=+0.25 *5*.
580.6 *2*	3.6 *12*	4505.4	18^-	3924.8	$16^{(-)}$		
583.3 *2*	19.0 *16*	3239.7	16^+	2656.0	14^+	(E2)	A_2=+0.28 *3*, A_4=−0.14 *3*.
585.2 *2*	5.4 *13*	5261.8	21^-	4676.6	19^-	(E2)	A_2=+0.27 *7*.
587.9 *2*	3.0 *5*	2205.69	9^-	1617.56	10^+		A_2=+0.10 *5*.
606.4 *2*	3.8 *6*	5111.8	20^-	4505.4	18^-		
608.0 *5*	1.9 *8*	5869.9	23^-	5261.8	21^-		
[x]615.0 *5*	2.4 *4*						Placed by 1990Fa02 as feeding the J=17 *4229* level. 1992Hi09 did not observe this γ ray.
621.8 *2*	12.2 *5*	3861.8	18^+	3239.7	16^+	(E2)	A_2=+0.40 *5*, A_4=−0.16 *7*.
629.0 *5*	1.1 *4*	5741.0	22^-	5111.8	20^-		
642.0 *5*	≈0.5	6511.9	25^-	5869.9	23^-		
662.9 *2*	5.4 *15*	4524.9	20^+	3861.8	18^+	(E2)	A_2=+0.33 *4*, A_4=−0.13 *5*.
688.6 *2*	6.5 *6*	1860.46	$7^{(-)}$	1171.96	8^+	D	A_2=−0.22 *5*, A_4=−0.09 *6*.
707.3 *2*	2.8 *5*	5232.7	22^+	4524.9	20^+	(E2)	A_2=+0.30 *7*, A_4=−0.08 *8*.
754.0 *5*		5986.7	24^+	5232.7	22^+		
792.0 *5*	1.3 *6*	2905.5		2113.5	12^+		
792.3 *2*	1.0 *6*	2409.9	(9)	1617.56	10^+		
799.0 *5*		6785.7	26^+	5986.7	24^+	(E2)	
805.0 *5*	1.2 *4*	1240.1		435.12	4^+		
818.5 *2*	4.1 *5*	1596.38	$5^{(-)}$	777.77	6^+		
1005.0 *5*	1.2 *4*	2622.6		1617.56	10^+		
1012.3 *2*	5.9 *6*	1790.27	$6^{(-)}$	777.77	6^+		A_2=+0.18 *11*.
1018.0 *2*	2.2 *7*	1453.21		435.12	4^+		
1033.5 *2*	1.9 *5*	2205.69	9^-	1171.96	8^+		
1089.0 *5*	1.5 *5*	2706.6		1617.56	10^+		
1100.0 *5*	1.2 *4*	2272.0		1171.96	8^+		
1114.4 *2*	2.4 *4*	1549.69	4^-	435.12	4^+		A_2=+0.29 *13*.
1132.2 *2*	1.4 *4*	2749.8	(11)	1617.56	10^+		
1161.0 *5*	≈0.5	1596.38	$5^{(-)}$	435.12	4^+		
1237.9 *2*	1.8 *5*	2409.9	(9)	1171.96	8^+		
1259.0 *5*	1.7 *6*	1417.7		158.69	2^+		

† From 1990Fa02.
‡ From $\gamma(\theta)$. Quadrupole transitions are assumed to be stretched E2.
[x] γ ray not placed in level scheme.

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Level Scheme

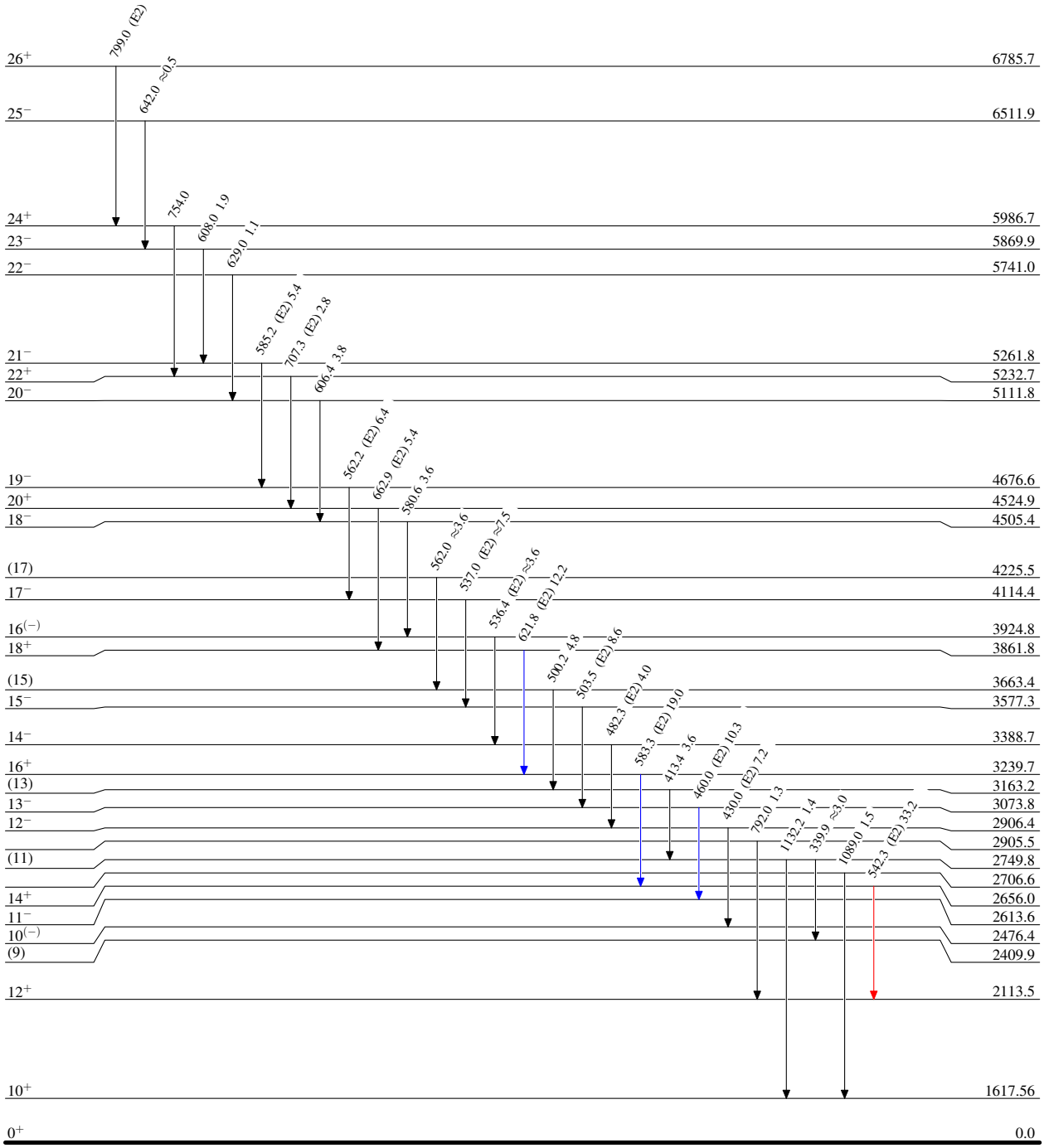
Intensities: Relative I_γ

Legend

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

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

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

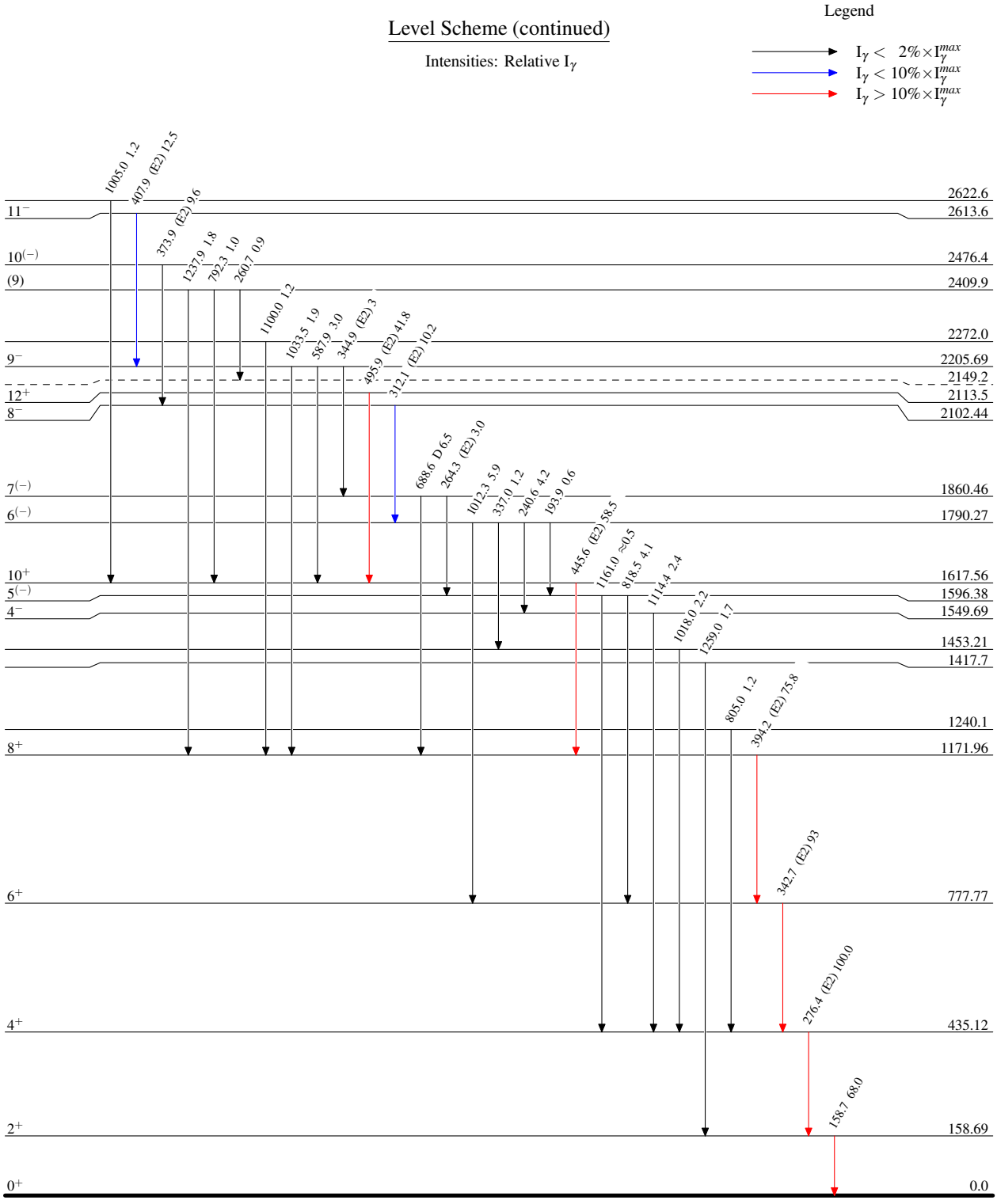


$^{174}_{76}Os_{98}$

$^{150}Sm(^{28}Si,4n\gamma),(^{29}Si,5n\gamma)$ 1990Fa02,1982Du13

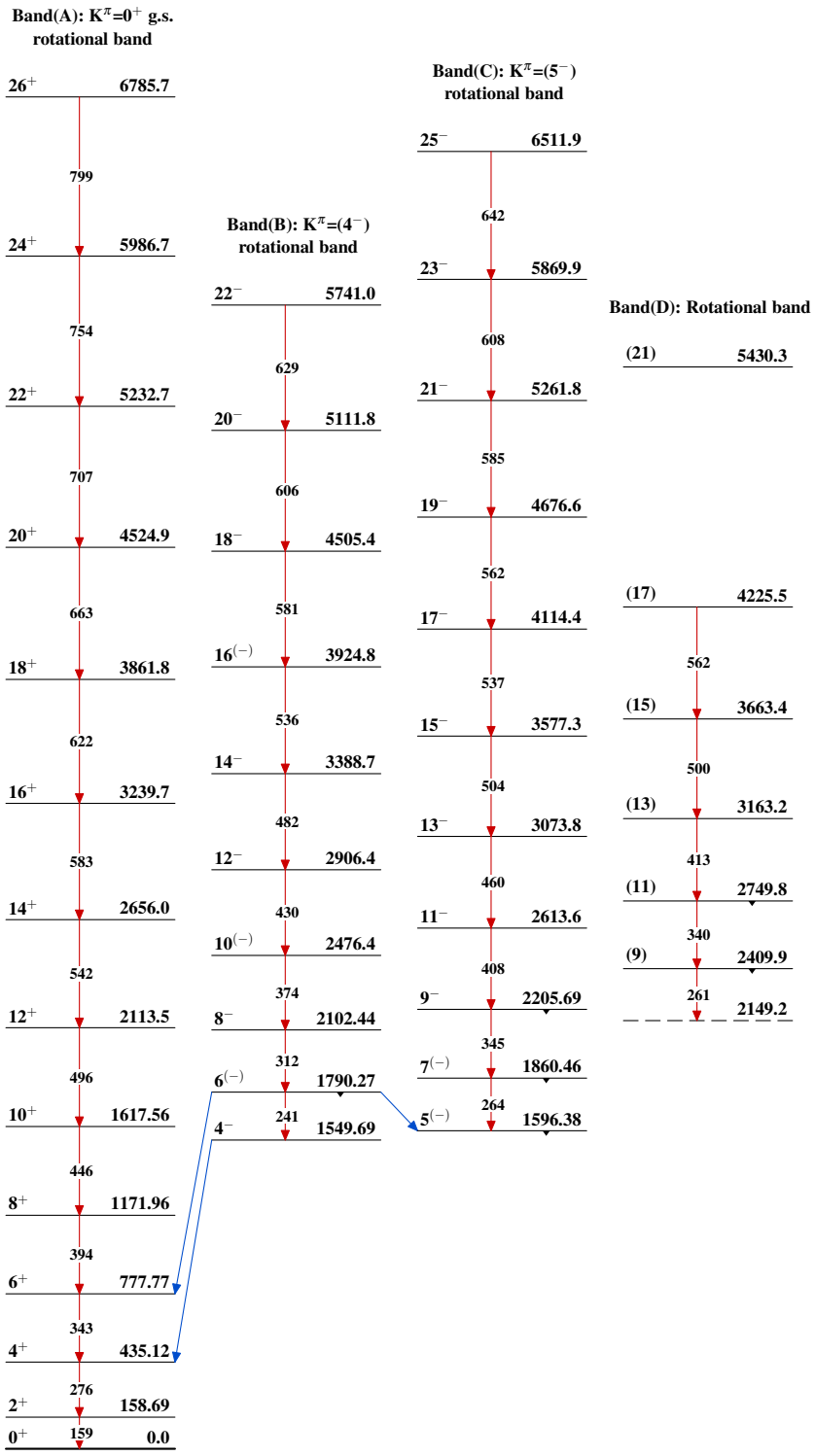
Level Scheme (continued)

Intensities: Relative I_γ



$^{174}_{76}Os_{98}$

$^{150}Sm(^{28}Si,4n\gamma),(^{29}Si,5n\gamma)$ 1990Fa02,1982Du13



$^{174}_{76}Os_{98}$