^{100}Mo(^{36}S,4nγ) 1997Pa15

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104, 497 (2005)	10-Feb-2005

1997Pa15: E=155 MeV. Measured Eγ, Iγ, $\gamma\gamma$ and $\gamma\gamma(\theta)$(DCO), γ(lin pol) using EUROGAM spectrometer consisting of 54 Compton-suppressed HPGe detectors including 24 segmented (four-element) 'clover' detectors.

Other measurements (mostly for the yrast band):

2001Pa25: ^{100}Mo(^{37}Cl,4npγ) E=155 MeV. Measured fractional Doppler shifts, deduced quadrupole moments for three bands in the normal-deformed region.

1999Kl01: ^{110}Pd(^{28}Si,2p4nγ) E=125 MeV. Measured lifetimes of first 2^+ and 4^+ states by DSAM; deduced quadrupole moments.

1993LuZX: ^{119}Sn(^{16}O,3nγ) E=65 MeV. Measured $\gamma(\theta)$, γ(lin pol) for 5 transitions amongst low-lying levels up to 6^+; deduced mixing ratios for these γ rays.

1989Ki01: E=145 MeV. Measured lifetimes by recoil-distance method for eight levels in the yrast band up to 20^+.

1988PaZP: ^{119}Sn(^{16}O,3nγ) E=73 MeV. Measured $\gamma\gamma$, lifetimes recoil-distance method.

1985No02: E=150 MeV. Measured Eγ, Iγ, $\gamma\gamma$; deduced yrast rotational band up to 28^+ and SD-1 band with a cascade of 12 transitions.

1977Hu10: ^{120}Sn(^{16}O,4nγ) E=76 MeV. Measured Eγ, Iγ, $\gamma\gamma$, lifetimes by recoil-distance method.

1974De12 (also 1972Ta25): ^{120}Sn(^{16}O,4nγ) E=68-76 MeV. Measured Eγ, Iγ, $\gamma(\theta)$, $\gamma\gamma$, $\gamma\gamma(\theta)$ for a total of 9 γ rays in yrast band up to 18^+.

1973Wy01, 1971WyZX: ^{130}Ba(α,2nγ) E=33 MeV. Measured ce data for three gamma rays in the g.s. band up to 8^+.

1970Sm05: ^{130}Ba(α,2nγ) E=32 MeV. Measured Eγ, Iγ, $\gamma(\theta)$ for a total of 5 γ rays, 4 of these in g.s. band.

1968Wa14, 1969WaZX: ^{120}Sn(^{16}O,4nγ) E=80 MeV. Measured Eγ, Iγ, $\gamma(\theta)$ at two angles for a total of 7 γ rays, with 5 of these in g.s. band up to 10^+.

Others:

1995Zh25: ^{116}Sn(^{16}O,X) E=85 MeV. Measured γ multiplicity distributions. Deduced deformation parameter spin dependence, GDR parameters.

1991FuZY: ^{100}Mo(^{32}S,X) E=150-210 MeV. Measured γ multiplicity. Deduced GDR parameters.

1980Ge12: ^{116}Sn(^{16}O,α) E=125 MeV; ^{92}Zr(^{40}Ar,α) E=193 MeV. Measured σ(Eα), $\gamma\alpha$ coin, γ multiplicity; deduced α decay mechanism from ^{132}Ce compound nucleus.

^{132}Ce Levels

Single-particle labels for band assignments (1997Pa15):

A: π3/2[411], α=+1/2 a: ν7/2[404], α=+1/2
B: π3/2[411], α=-1/2 b: ν7/2[404], α=-1/2
C: π5/2[413], α=+1/2 c: ν1/2[400], α=+1/2
D: π5/2[413], α=-1/2 d: ν1/2[400], α=-1/2
E: π3/2[541], α=-1/2 e: ν9/2[514], α=-1/2
F: π3/2[541], α=+1/2 f: ν9/2[514], α=+1/2
G: π1/2[550], α=-1/2 g: ν7/2[523], α=-1/2
H: π1/2[550], α=+1/2 h: ν7/2[523], α=+1/2

E(level)†	J$^\pi$#	$T_{1/2}$‡	Comments
0.0@	0^+		
325.35@ *10*	2^+	45.2 ps *23*	$T_{1/2}$: weighted average of 48.6 ps *22* (1999Kl11), 40 ps *6* (1989Ki01), 40 ps *3* (1977Hu10), 47 ps *7* (1974De12,1972Ta25).
821.72[a] *14*	2^+		
858.36@ *13*	4^+	3.2 ps *5*	$T_{1/2}$: weighted average of 2.7 ps *7* (1999Kl11), 2.9 ps *12* (1974De12,1972Ta25), 3.7 ps *7* (1977Hu10).
1199.15[a] *12*	3^+		E(level): from ^{132}Pr ε decay. Level implied by 1993LuZX in authors' $\gamma(\theta)$ and γ(lin pol) measurements.
1382.77[a] *24*	4^+		
1541.71@ *16*	6^+	0.7 ps *4*	$T_{1/2}$: from 1977Hu10. Other: 0.8 ps *6* (1974De12,1972Ta25).

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^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

^{132}Ce Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	Comments
2022.1[a] 4	(6+)		
2047.64[b] 16	5−		
2137.9[c] 3	4−		
2329.24[@] 18	8+	0.69 ps 14	$T_{1/2}$: other: <0.7 ps (1977Hu10,1974De12).
2340.30[h] 18	(8−)		E(level): isomeric state (see 2001Mo05 and Adopted Levels).
2431.27[b] 18	7−		
2468.68[c] 23	6−		
2623.3[d] 3	7−		
2713.64[c] 23	8−		
2727.1[a] 5	(8+)		
2763.8[i] 3	(9−)		
2874.68[b] 20	9−		
3082.7[d] 3	(9−)		
3157.47[@] 21	10+	0.83 ps 21	$T_{1/2}$: other: 1.7 ps 4 (1977Hu10).
3171.57[c] 24	10−		
3236.0[h] 4	(10−)		
3309.1[e] 3	10+		
3451.1[b] 3	11−		
3466.0[a] 7	(10+)		
3669.5[d] 3	(11−)		
3670.43[e] 23	12+	7.7 ps 4	$T_{1/2}$: other: 3.5 ps 7 (1977Hu10) for 513γ. Additional information 1.
3727.9[i] 4	(11−)		
3816.8[c] 3	12−		
4004.8[&] 4	12+		
4186.6[b] 4	13−		
4240.83[e] 25	14+	1.73 ps 7	$T_{1/2}$: other:≤0.7 ps (1977Hu10) for 570γ. Additional information 2.
4257.0[a] 9	(12+)		
4257.1[h] 5	(12−)		
4405.5[d] 4	(13−)		
4604.6[c] 4	14−		
4740.3[&] 5	14+		
4742.7[i] 5	(13−)		
4940.0[e] 3	16+	0.43 ps 4	
5002.6[g] 4	(13−)		
5041.8[b] 5	15−		
5102.6[a] 10	(14+)		
5117.3[f] 6	(14−)		
5245.4[d] 5	(15−)		
5314.8[g] 7	(15−)		
5324.7[h] 5	(14−)		
5492.5[c] 5	16−		
5590.6[&] 7	(16+)		
5596.8[f] 8	(16−)		
5637.5[k] 5	(15−)		
5763.5[e] 3	18+	0.326 ps 21	
5887.2[j] 6	(16−)		

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^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

^{132}Ce Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	Comments
5948.5[g] 8	(17⁻)		
5962.7[b] 6	17⁻		
6148.5[d] 7	(17⁻)		
6190.9[k] 6	(17⁻)		
6360.8[f] 9	(18⁻)		
6438.9[c] 6	18⁻		
6544.0[j] 6	(18⁻)		
6556.9[&] 9	(18⁺)		
6702.4[e] 5	20⁺	0.7 ps	$T_{1/2}$: effective half-life, not corrected for side-feeding.
6825.8[g] 9	(19⁻)		
6883.6[b] 7	19⁻		
6943.0[k] 7	(19⁻)		
7126.4[d] 9	(19⁻)		
7159.3 9	(19⁻)		
7337.3[f] 9	(20⁻)		
7366.2[j] 7	(20⁻)		
7431.9[c] 7	20⁻		
7627.5[&] 10	(20⁺)		
7736.7[e] 5	22⁺		
7821.0[b] 8	21⁻		
7823.5[k] 7	(21⁻)		
7859.1 8	(21⁻)		
7891.6[g] 9	(21⁻)		
8343.7 10			
8398.9 9	(22⁻)		
8453.8[c] 9	(22⁻)		
8483.9[f] 10	(22⁻)		
8793.5[&] 11	(22⁺)		
8837.6[b] 10	23⁻		
8853.2[e] 6	24⁺		
8896.0 10	(23⁻)		
9110.4[g] 10	(23⁻)		
9399.3 10	(24⁻)		
9543.2[c] 10	(24⁻)		
9766.3[f] 10	(24⁻)		
9898.8[b] 11	(25⁻)		
10044.0[e] 7	26⁺		
10456.6[g] 11	(25⁻)		
10990.4[b] 12	(27⁻)		
11286.6[e] 9	28⁺		
11390.9 12			
12529.2[e] 10	30⁺		
12827.6 13			
13838.2[e] 11	32⁺		
15215.9[e] 12	(34⁺)		
16657.5[e] 13	(36⁺)		
18186.1[e] 14	(38⁺)		
19789.9[e] 15	(40⁺)		
x[l]			Additional information 3.

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^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

^{132}Ce Levels (continued)

E(level)†	E(level)†	E(level)†
1013.0+x[l] *10*	4616.0+x[l] *20*	9170+x[l] *3*
2107.0+x[l] *15*	6027.0+x[l] *23*	10886+x[l] *3*
3308.0+x[l] *18*	7551.0+x[l] *25*	12700+x[l] *3*

† From least-squares fit to Eγ's. The least-squares procedure gives χ^2=0.6.
‡ From RDM (1989Ki01), unless otherwise stated.
# As proposed by 1997Pa15, based on $\gamma\gamma(\theta)$(DCO) data and band assignments. See also adopted level.
@ Band(A): The g.s. band.
& Band(a): ef band.
a Band(B): γ band.
b Band(C): AE/BE/CE/DE band. AEFG/BEFG or AEef/BEef band at the top. Q(transition) 3.0 at low spins (2001Pa25).
c Band(D): AE/BE/CE/DE band. AEFG/BEFG or AEef/BEef band at the top. Q(transition) 3.0 at low spins (2001Pa25).
d Band(E): AE/BE/CE/DE band.
e Band(F): EF band, EFef at the top. Q(transition) 3.0 at low spins, 3.5-4.0 at high spins (2001Pa25).
f Band(G): AFef band.
g Band(g): AEef band.
h Band(H): ae, isomer band.
i Band(h): af, isomer band.
j Band(I): aeEF band.
k Band(i): afEF band.
l Band(J): Weak band; population intensity is 0.1% of the reaction channel leading to ^{132}Ce. The assignment is based on transitions of this band seen in coincidence with those amongst low-lying states of ^{132}Ce. The energy spacing of γ rays in this band suggests that it is not an SD band.

^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

γ(^{132}Ce)

The 1203.9 *3* (Iγ=1.0) transition with placement shown from 12$^-$, 4256 level to 11$^-$, 3451 level (1997Pa15) does not fit the level scheme. As per e-mail reply (to enquiry by B. Singh) from one of the authors of 1997Pa15 (E. Paul) (Oct. 24/2000), this gamma ray should be excluded.
A_2 and A_4 are from 1974De12 (also 1972Ta25).

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.&	δ	Comments
114.7 *5*	0.80 *8*	5117.3	(14$^-$)	5002.6	(13$^-$)	(M1+E2)	−0.158 *20*	DCO=0.48 *2*.
151.4 *3*	3.3 *3*	3309.1	10$^+$	3157.47	10$^+$	(M1+E2)	−0.43 *5*	I_γ: other: Iγ(151)/Iγ(980)=3.1/17.9 (1989Ki01). DCO=0.86 *2*.
159.9 *5*	0.10 *1*	2874.68	9$^-$	2713.64	8$^-$	D+Q	+0.078 *20*	DCO=0.71 *2*.
197.5 *3*	4.9 *5*	5314.8	(15$^-$)	5117.3	(14$^-$)	M1+E2	−0.088 *13*	DCO=0.40 *2*. POL=−0.31 *15*.
245.0 *3*	7.3 *7*	2713.64	8$^-$	2468.68	6$^-$	E2		DCO=0.98 *2*. POL=+0.24 *12*.
249.7 *3*	8.4 *8*	5887.2	(16$^-$)	5637.5	(15$^-$)	D		DCO=0.33 *3*.
279.5 *3*	2.6 *3*	3451.1	11$^-$	3171.57	10$^-$			
282.0 *3*	4.3	5596.8	(16$^-$)	5314.8	(15$^-$)	(M1+E2)	−0.042 *9*	DCO=0.49 *2* for 282.0+282.7. POL=−0.01 *4* for 282.0+282.7.
282.7 *3*	8.2 *8*	2713.64	8$^-$	2431.27	7$^-$	D+Q		DCO=0.49 *2* for 282.0+282.7. POL=−0.01 *4* for 282.0+282.7.
296.5 *5*	0.90 *9*	3171.57	10$^-$	2874.68	9$^-$	M1+E2		DCO=0.69 *5*. POL=+0.05 *19*.
303.6 *3*	7.2 *7*	6190.9	(17$^-$)	5887.2	(16$^-$)	D		DCO=0.43 *3*.
312.8 *5*	0.40 *4*	5637.5	(15$^-$)	5324.7	(14$^-$)			
325.4 *1*	100 *10*	325.35	2$^+$	0.0	0$^+$	E2		α(K)exp=0.032 *6* (1973Wy01,1971WyZX) E_γ: unweighted average of 325.1 *1* (1997Pa15), 325.4 *3* (1972Ta25), 325.6 *10* (1970Sm05), 325.4 *5* (1968Wa14). The value given by 1997Pa15 appears to be low by 0.2-0.3 keV as compared to the values from other experiments. DCO=0.94 *2*. POL=+0.18 *2*. A_2=+0.32 *2*, A_4=−0.07 *3*. Additional information 4.
331.1 *5*	0.50 *5*	2468.68	6$^-$	2137.9	4$^-$	Q		DCO=1.16 *6*.
340.6@ *1*		1199.15	3$^+$	858.36	4$^+$	M1+E2#	+2.60# *+27−13*	
351.7 *3*	4.0 *4*	5948.5	(17$^-$)	5596.8	(16$^-$)	(M1+E2)	−0.122 *16*	DCO=0.33 *3*. POL=+0.03 *5*.
353.0 *3*	7.0 *7*	6544.0	(18$^-$)	6190.9	(17$^-$)	M1+E2		DCO=0.37 *3*. POL=+0.02 *5*.
361.3 *3*	9.1 *9*	3670.43	12$^+$	3309.1	10$^+$	E2		Additional information 9. DCO=0.97 *2*. POL=+0.24 *4*.

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^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

γ(^{132}Ce) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.&	δ	Comments
365.2 *3*	1.0 *1*	3816.8	12^-	3451.1	11^-			
369.3 *5*	0.90 *9*	3082.7	(9^-)	2713.64	8^-	(M1+E2)		DCO=0.76 *3* for 369.3+369.7. POL=+0.02 *11* for 369.3+369.7.
369.7 *5*	0.30 *3*	4186.6	13^-	3816.8	12^-	(M1+E2)		DCO=0.76 *3* for 369.7+369.3. POL=+0.02 *11* for 369.7+369.3.
377.3@ *1*		1199.15	3^+	821.72	2^+	M1+E2#	+13.2# *14*	δ: −0.216 +13-44 is also possible but less likely from systematics.
383.6 *1*	12.0 *12*	2431.27	7^-	2047.64	5^-	E2		DCO=1.00 *2*. POL=+0.21 *5*.
399.1 *3*	5.0 *5*	6943.0	(19^-)	6544.0	(18^-)	D		DCO=0.28 *3*.
412.4 *3*	2.8 *3*	6360.8	(18^-)	5948.5	(17^-)	M1+E2	−0.076 *27*	DCO=0.42 *2*. POL=−0.35 *9*.
418.1 *5*	0.20 *2*	4604.6	14^-	4186.6	13^-			
420.8 *3*	2.0 *2*	2468.68	6^-	2047.64	5^-			
423.4 *3*	1.4 *2*	2763.8	(9^-)	2340.30	(8^-)			
423.4 *3*	1.7 *2*	7366.2	(20^-)	6943.0	(19^-)			
443.4 *1*	14.0 *14*	2874.68	9^-	2431.27	7^-	E2		DCO=0.99 *2*. POL=+0.26 *5*.
457.4 *3*	1.8 *2*	7823.5	(21^-)	7366.2	(20^-)			
458.0 *1*	14.6 *15*	3171.57	10^-	2713.64	8^-	E2		DCO=1.00 *2*. POL=+0.38 *6*.
458.5 *3*	1.0 *1*	3082.7	(9^-)	2623.3	7^-			E_γ: poor fit; level-energy difference=459.46.
465.0 *3*	2.0 *2*	6825.8	(19^-)	6360.8	(18^-)			
472.6 *3*	1.1 *1*	3236.0	(10^-)	2763.8	(9^-)			
480		2022.1	(6^+)	1541.71	6^+	M1+E2#	+2.9# *+81−13*	E_γ: from level-energy difference; transition implied by 1993LuZX.
486.0 *5*	0.30 *3*	4742.7	(13^-)	4257.1	(12^-)			
492.4 *3*	1.7 *2*	3727.9	(11^-)	3236.0	(10^-)			
495.9 *3*	2.6 *3*	821.72	2^+	325.35	2^+			
498.3 *3*	2.1 *2*	3669.5	(11^-)	3171.57	10^-			
505.3 *3*	4.5 *5*	2047.64	5^-	1541.71	6^+	D		δ(Q/D)=+0.002 *33*. DCO=0.65 *5*.
511.6 *3*	1.3 *1*	7337.3	(20^-)	6825.8	(19^-)			
513.1 *1*	23.8 *24*	3670.43	12^+	3157.47	10^+	E2		Additional information 10. DCO=1.07 *2*. POL=+0.40 *5*.
522.7 *5*	0.50 *5*	8343.7		7821.0	21^-			
524.2 *3*	1.1 *1*	1382.77	4^+	858.36	4^+	M1+E2#	+0.93# *+45−15*	
529.3 *5*	0.50 *5*	4257.1	(12^-)	3727.9	(11^-)			
532.8 *1*	93 *9*	858.36	4^+	325.35	2^+	E2		α(K)exp=0.0093 *17* (1973Wy01,1971WyZX) Additional information 5. DCO=1.04 *2*. POL=+0.28 *3*. A_2=+0.33 *2*, A_4=−0.03 *3*.
553.6 *5*	0.30 *3*	6190.9	(17^-)	5637.5	(15^-)			

^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

γ(^{132}Ce) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	Comments
554.8 *3*	1.2 *1*	7891.6	(21^-)	7337.3	(20^-)		
561.3 *3*	1.8 *2*	1382.77	4^+	821.72	2^+		
570.4 *1*	29 *3*	4240.83	14^+	3670.43	12^+	E2	Additional information 11. DCO=0.99 *2*. POL=+0.38 *4*. A_2=+0.35 *4*, A_4=−0.01 *5*.
576.1 *3*	10.2 *10*	3451.1	11^-	2874.68	9^-	E2	E_γ,I_γ,Mult.: This γ is not listed in table 2 of 1997Pa15. Data for this γ were communicated by one of the authors of 1997Pa15 (E. Paul) on October 24, 2000 in response to enquiry by B. Singh. DCO=1.13 *4*. POL=+0.49 *8*.
582.1 *5*	0.20 *2*	5324.7	(14^-)	4742.7	(13^-)		
586.6 *3*	1.7 *2*	3669.5	(11^-)	3082.7	(9^-)		
588.6 *3*	1.2 *1*	4405.5	(13^-)	3816.8	12^-		
592.4 *3*	1.3 *1*	8483.9	(22^-)	7891.6	(21^-)		
626.1 *5*	0.40 *4*	9110.4	(23^-)	8483.9	(22^-)		
639.4 *3*	3.0 *3*	2022.1	(6^+)	1382.77	4^+		
645.5 *3*	9.8 *10*	3816.8	12^-	3171.57	10^-	E2	DCO=1.12 *3*. POL=+0.30 *6*.
651.5 *5*	0.70 *7*	3082.7	(9^-)	2431.27	7^-		
656.0 *5*	0.50 *5*	9766.3	(24^-)	9110.4	(23^-)		
657.0 *5*	0.30 *3*	6544.0	(18^-)	5887.2	(16^-)		
683.3 *1*	55 *5*	1541.71	6^+	858.36	4^+	E2	α(K)exp=0.0034 *6* (1973Wy01,1971WyZX) Additional information 6. DCO=1.05 *2*. POL=+0.32 *4*. A_2=+0.35 *3*, A_4=−0.04 *3*.
699.2 *1*	19.2 *19*	4940.0	16^+	4240.83	14^+	E2	Additional information 12. DCO=1.04 *2*. POL=+0.39 *5*. A_2=+0.39 *4*, A_4=−0.03 *5*.
705.0 *3*	1.7 *2*	2727.1	(8^+)	2022.1	(6^+)		
735.4 *3*	8.1 *8*	4186.6	13^-	3451.1	11^-	E2	DCO=1.05 *3* for 735-736 triplet. POL=+0.29 *5* for 735-736 triplet.
735.5 *3*	1.1 *1*	4740.3	14^+	4004.8	12^+	E2	DCO=1.05 *3* for 735-736 triplet. POL=+0.29 *5* for 735-736 triplet.
736.3 *5*	0.90 *9*	4405.5	(13^-)	3669.5	(11^-)	E2	DCO=1.05 *3* for 735-736 triplet. POL=+0.29 *5* for 735-736 triplet.
738.9 *5*	0.80 *8*	3466.0	(10^+)	2727.1	(8^+)		
751.9 *5*	0.10 *1*	6943.0	(19^-)	6190.9	(17^-)		
755.3 *5*	0.10 *1*	3082.7	(9^-)	2329.24	8^+		E_γ: poor fit; level-energy difference=753.49.
787.6 *1*	35 *3*	2329.24	8^+	1541.71	6^+	E2	Additional information 7.

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^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

γ(^{132}Ce) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	δ	Comments
								DCO=1.13 *3* for 788 doublet. POL=+0.32 *4* for 788 doublet. A_2=+0.38 *3*, A_4=−0.03 *4*.
787.8 *3*	7.0 *7*	4604.6	14^-	3816.8	12^-	E2		DCO=1.13 *3* for 788 doublet. POL=+0.32 *4* for 788 doublet.
791.0 *5*	0.90 *9*	4257.0	(12^+)	3466.0	(10^+)			
798.6[b] *1*		2340.30	(8^-)	1541.71	6^+			E_γ: from adopted gammas. Eγ=799 for a very weak γ ray in 1997Pa15.
821.3 *3*	1.7 *2*	821.72	2^+	0.0	0^+			
822.1 *5*	0.10 *1*	7366.2	(20^-)	6544.0	(18^-)			
823.5 *1*	14.0 *14*	5763.5	18^+	4940.0	16^+	E2		Additional information 13. DCO=1.11 *2*. POL=+0.31 *4*. A_2=+0.29 *8*, A_4=−0.12 *10*.
828.2 *1*	25.3 *25*	3157.47	10^+	2329.24	8^+	E2		Additional information 8. DCO=1.00 *2*. POL=+0.33 *4*. A_2=+0.43 *4*, A_4=−0.07 *5*.
839.9 *3*	1.5 *2*	5245.4	(15^-)	4405.5	(13^-)			
845.6 *5*	0.90 *9*	5102.6	(14^+)	4257.0	(12^+)			
846.0 *3*	3.5 *3*	4004.8	12^+	3157.47	10^+	E2		E_γ: poor fit; level-energy difference=847.29. DCO=0.94 *3*. POL=+0.39 *6*.
850.3 *5*	0.80 *8*	5590.6	(16^+)	4740.3	14^+			
855.2 *3*	5.8 *6*	5041.8	15^-	4186.6	13^-	E2		DCO=1.15 *41*. POL=+0.54 *9*.
874.1[@] *1*		1199.15	3^+	325.35	2^+	M1+E2[#]	−0.31[#] *5*	
877.0 *5*	0.40 *4*	6825.8	(19^-)	5948.5	(17^-)			
880.3 *5*	0.10 *1*	7823.5	(21^-)	6943.0	(19^-)			
887.9 *3*	3.0 *3*	5492.5	16^-	4604.6	14^-	E2		DCO=1.14 *5*. POL=+0.25 *5* for 887.9+890.0.
890.0 *3*	8.1 *8*	2431.27	7^-	1541.71	6^+	E1		δ(M2/E1)=−0.005 *19*. DCO=0.76 *2*. POL=+0.25 *5* for 890.0+887.9.
894.8 *5*	0.40 *4*	5637.5	(15^-)	4742.7	(13^-)			
896.2 *5*	0.20 *2*	3236.0	(10^-)	2340.30	(8^-)			
903.1 *5*	0.70 *7*	6148.5	(17^-)	5245.4	(15^-)			
920.9[a] *3*	4.0[a] *4*	5962.7	17^-	5041.8	15^-	E2		DCO=1.10 *4* for doublet. POL=+0.27 *6* for doublet.
920.9[a] *3*	4.0[a] *4*	6883.6	19^-	5962.7	17^-	E2		
927.1 *3*	1.8 *2*	2468.68	6^-	1541.71	6^+	E1		DCO=1.12 *4*. POL=+0.35 *6*.
937.4 *5*	0.70 *7*	7821.0	21^-	6883.6	19^-	E2		DCO=1.07 *3*. POL=+0.24 *4* for 937+939.

$^{132}_{58}Ce_{74}$-8

^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

γ(^{132}Ce) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.&	δ	Comments
938.9 *3*	8.3 *8*	6702.4	20^+	5763.5	18^+	E2		DCO=1.08 *2*. POL=+0.24 *4* for 937+939.
946.4 *3*	1.9 *2*	6438.9	18^-	5492.5	16^-	E2		DCO=1.07 *3*. POL=+0.56 *10*.
963.6 *3*	1.1 *1*	3727.9	(11^-)	2763.8	(9^-)			
966.3 *5*	0.60 *6*	6556.9	(18^+)	5590.6	(16^+)			
967.0 *5*	0.30 *3*	8398.9	(22^-)	7431.9	20^-			
975.5 *5*	0.50 *5*	7859.1	(21^-)	6883.6	19^-			
976.9 *5*	0.50 *5*	7337.3	(20^-)	6360.8	(18^-)			
977.9 *5*	0.40 *4*	7126.4	(19^-)	6148.5	(17^-)			
980.2 *3*	5.7 *6*	3309.1	10^+	2329.24	8^+	E2		DCO=1.04 *2*. POL=+0.29 *5*.
993.0 *3*	1.0 *1*	7431.9	20^-	6438.9	18^-	E2		DCO=1.10 *9*. POL=+0.56 *11*.
996.6 *3*	1.0 *1*	5002.6	(13^-)	4004.8	12^+			E_γ: poor fit; level-energy difference=997.88.
1000.4 *5*	0.20 *2*	9399.3	(24^-)	8398.9	(22^-)			
1010.8 *5*	0.30 *3*	7159.3	(19^-)	6148.5	(17^-)			
1013 *1*		1013.0+x		x				
1014.6 *5*	0.70 *7*	4742.7	(13^-)	3727.9	(11^-)			
1016.6 *5*	0.50 *2*	8837.6	23^-	7821.0	21^-	E2		DCO=1.17 *10*. POL=+0.47 *10*.
1021.1 *5*	0.70 *7*	4257.1	(12^-)	3236.0	(10^-)			
1021.9 *5*	0.20 *2*	8453.8	(22^-)	7431.9	20^-			
1034.3 *3*	4.5 *4*	7736.7	22^+	6702.4	20^+	E2		DCO=1.03 *2*. POL=+0.23 *5*.
1036.9 *5*	0.30 *3*	8896.0	(23^-)	7859.1	(21^-)			
1061.2 *5*	0.20 *2*	9898.8	(25^-)	8837.6	23^-			
1065.0 *5*	0.50 *5*	7891.6	(21^-)	6825.8	(19^-)			
1067.6 *5*	0.40 *4*	5324.7	(14^-)	4257.1	(12^-)			
1070.6 *5*	0.60 *6*	7627.5	(20^+)	6556.9	(18^+)			
1080.6 *3*	2.1 *2*	2623.3	7^-	1541.71	6^+	E1		E_γ: poor fit; level-energy difference=1081.56. DCO=0.80 *5*. POL=+0.46 *16*.
1089.4 *5*	0.10 *1*	9543.2	(24^-)	8453.8	(22^-)			
1091.6 *5*	0.10 *1*	10990.4	(27^-)	9898.8	(25^-)			
1094 *1*		2107.0+x		1013.0+x				
1116.4 *3*	3.0 *3*	8853.2	24^+	7736.7	22^+	E2		DCO=1.01 *2*. POL=+0.27 *6*.
1146.0 *5*	0.50 *5*	8483.9	(22^-)	7337.3	(20^-)			
1166.0 *5*	0.20 *2*	8793.5	(22^+)	7627.5	(20^+)			
1189.3 *1*	10.8 *11*	2047.64	5^-	858.36	4^+	E1+M2	+0.046 *16*	DCO=0.84 *7*. POL=+0.28 *5* for 1189+1191.
1190.8 *3*	1.8	10044.0	26^+	8853.2	24^+	E2		DCO=1.24 *9*. POL=+0.28 *5* for 1191+1189.

$^{132}_{58}Ce_{74}$-9

^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)

$\gamma(^{132}Ce)$ (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	Comments
1201 *1*		3308.0+x		2107.0+x			
1219.1 *5*	0.30 *3*	9110.4	(23^-)	7891.6	(21^-)		
1242.6[a] *5*	0.9[a] *1*	11286.6	28^+	10044.0	26^+	Q	DCO=1.22 *9* (from an ungated $\gamma\gamma$ coin matrix) for doublet.
1242.6[a] *5*	0.90[a] *9*	12529.2	30^+	11286.6	28^+	Q	
1279.7 *3*	1.9 *2*	2137.9	4^-	858.36	4^+		
1282.4 *5*	0.30 *3*	9766.3	(24^-)	8483.9	(22^-)		
1308 *1*		4616.0+x		3308.0+x			
1309.0 *5*	0.30 *3*	13838.2	32^+	12529.2	30^+	Q	DCO=0.90 *9* (from an ungated $\gamma\gamma$ coin matrix).
1333.5 *3*	1.1 *1*	5002.6	(13^-)	3670.43	12^+		E_γ: poor fit; level-energy difference=1332.21.
1346.2 *5*	0.10 *1*	10456.6	(25^-)	9110.4	(23^-)		
1347 *1*		11390.9		10044.0	26^+		
1377.7 *5*	0.20 *2*	15215.9	(34^+)	13838.2	32^+		
1411 *1*		6027.0+x		4616.0+x			
1437 *3*		12827.6		11390.9			
1441.6 *5*	0.10 *1*	16657.5	(36^+)	15215.9	(34^+)		
1450.8 *5*	0.40 *4*	5637.5	(15^-)	4186.6	13^-		
1524 *1*		7551.0+x		6027.0+x			
1528.6 *5*	0.10 *1*	18186.1	(38^+)	16657.5	(36^+)		
1541 *1*		12827.6		11286.6	28^+		
1603.8 *5*	0.10 *1*	19789.9	(40^+)	18186.1	(38^+)		
1619 *1*		9170+x		7551.0+x			
1716 *1*		10886+x		9170+x			
1814 *1*		12700+x		10886+x			

[†] From 1997Pa15, unless otherwise stated. Uncertainties are assigned as follows: 0.1 keV for Iγ>40, 0.2 keV for Iγ=10-40, 0.5 keV for Iγ=5-10, 0.7 keV for Iγ=1-5 and 1 keV for all others, based on a general comment by 1997Pa15.

[‡] Uncertainty of 10% is assigned based on a general statement by 1997Pa15.

[#] From $\gamma(\theta)$ and γ(lin pol) data of 1993LuZX. Sign of δ as given in 1993LuZX is reversed here.

[@] Transition implied by 1993LuZX in their $\gamma(\theta)$ and γ(lin pol) measurements; the energy is taken from adopted gammas.

[&] From $\gamma\gamma(\theta)$(DCO) and γ(lin pol) data of 1997Pa15; RUL used when level lifetimes are available. For selected transitions in the yrast band, $\gamma(\theta)$ data and α(K)exp′s confirm the ΔJ=2, E2 assignments.

[a] Multiply placed with undivided intensity.

[b] Placement of transition in the level scheme is uncertain.

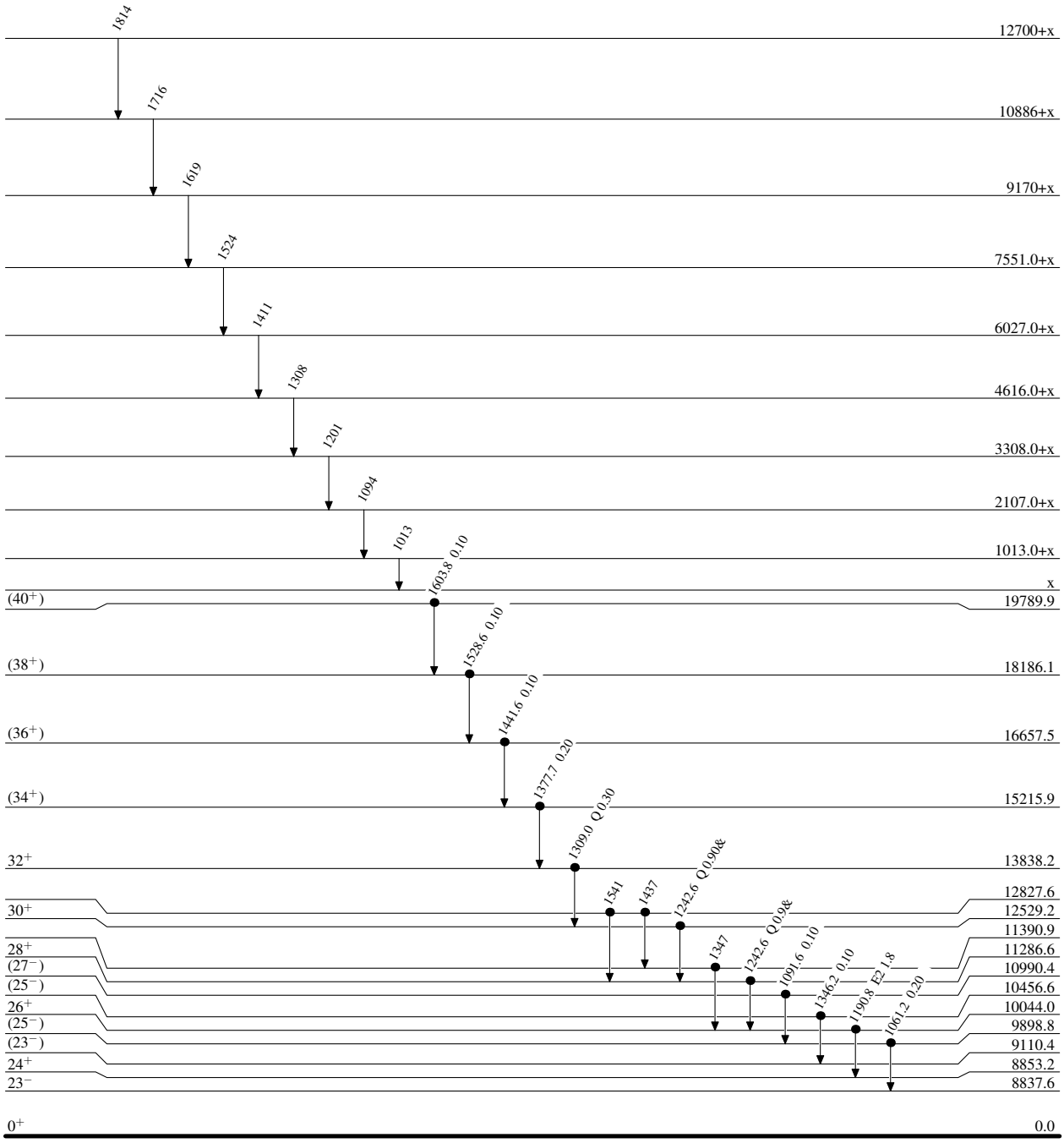
$^{132}_{58}Ce_{74}$-10

^{100}Mo(^{36}S,4nγ) **1997Pa15**

Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



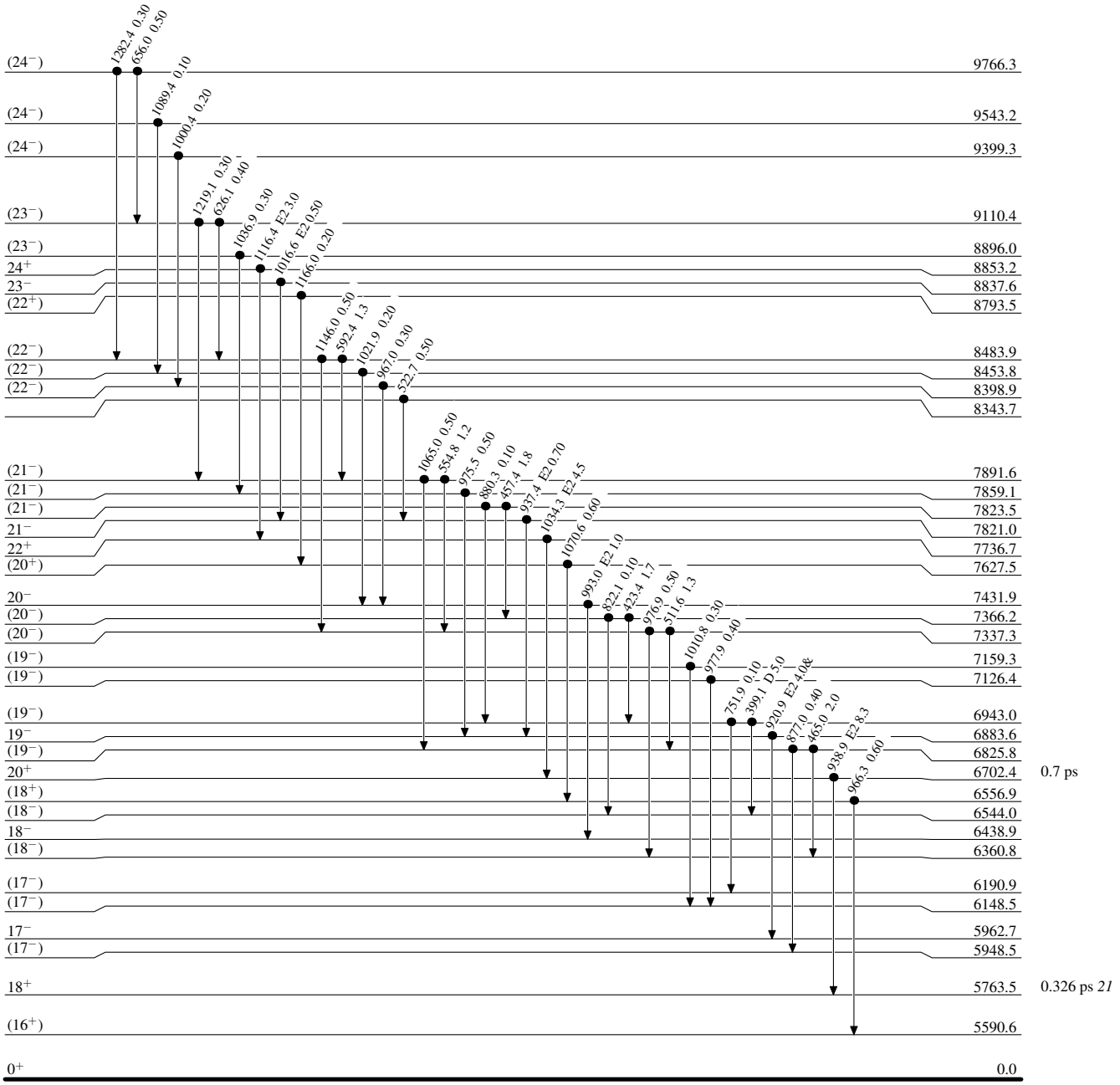
$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



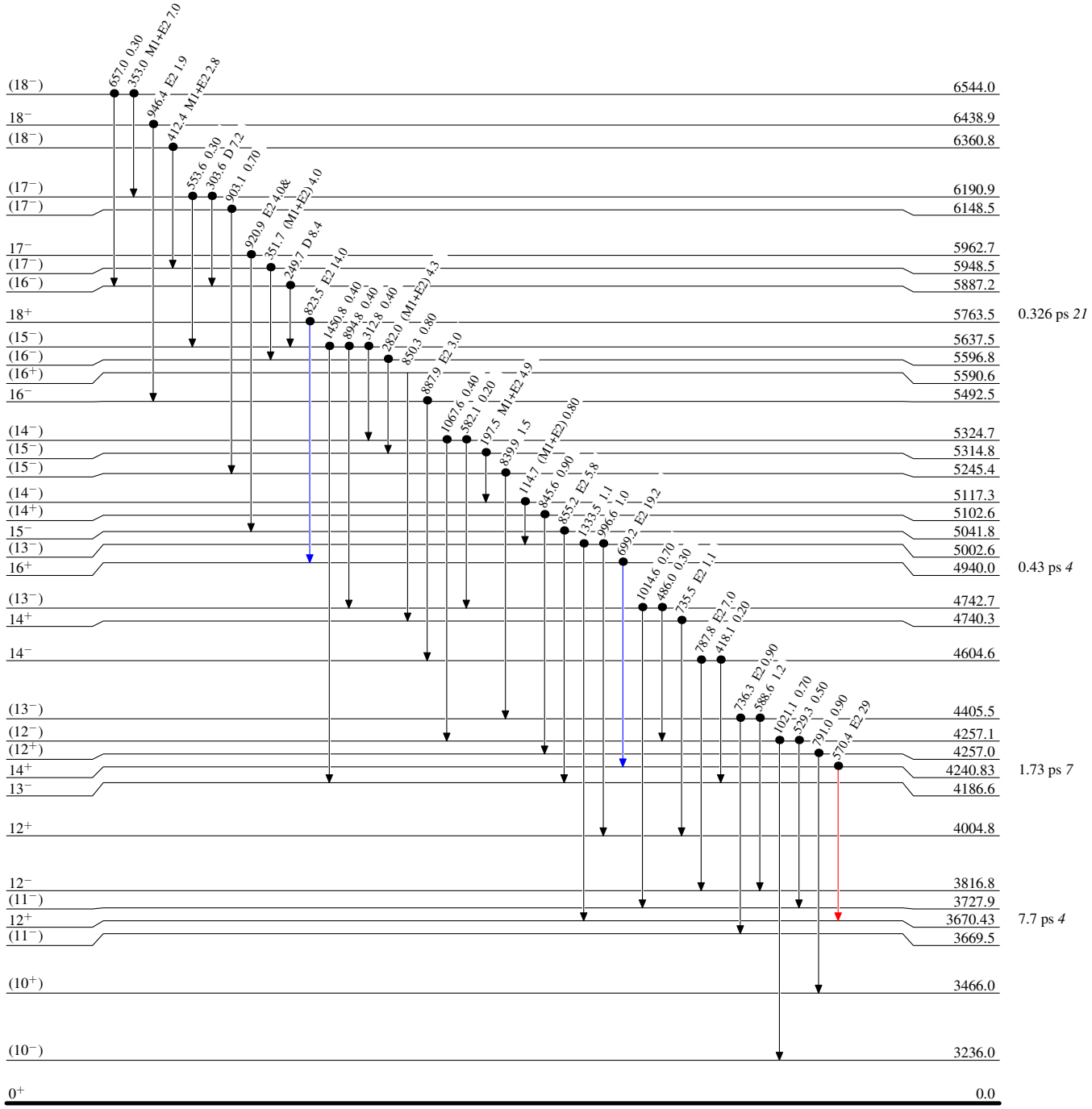
$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



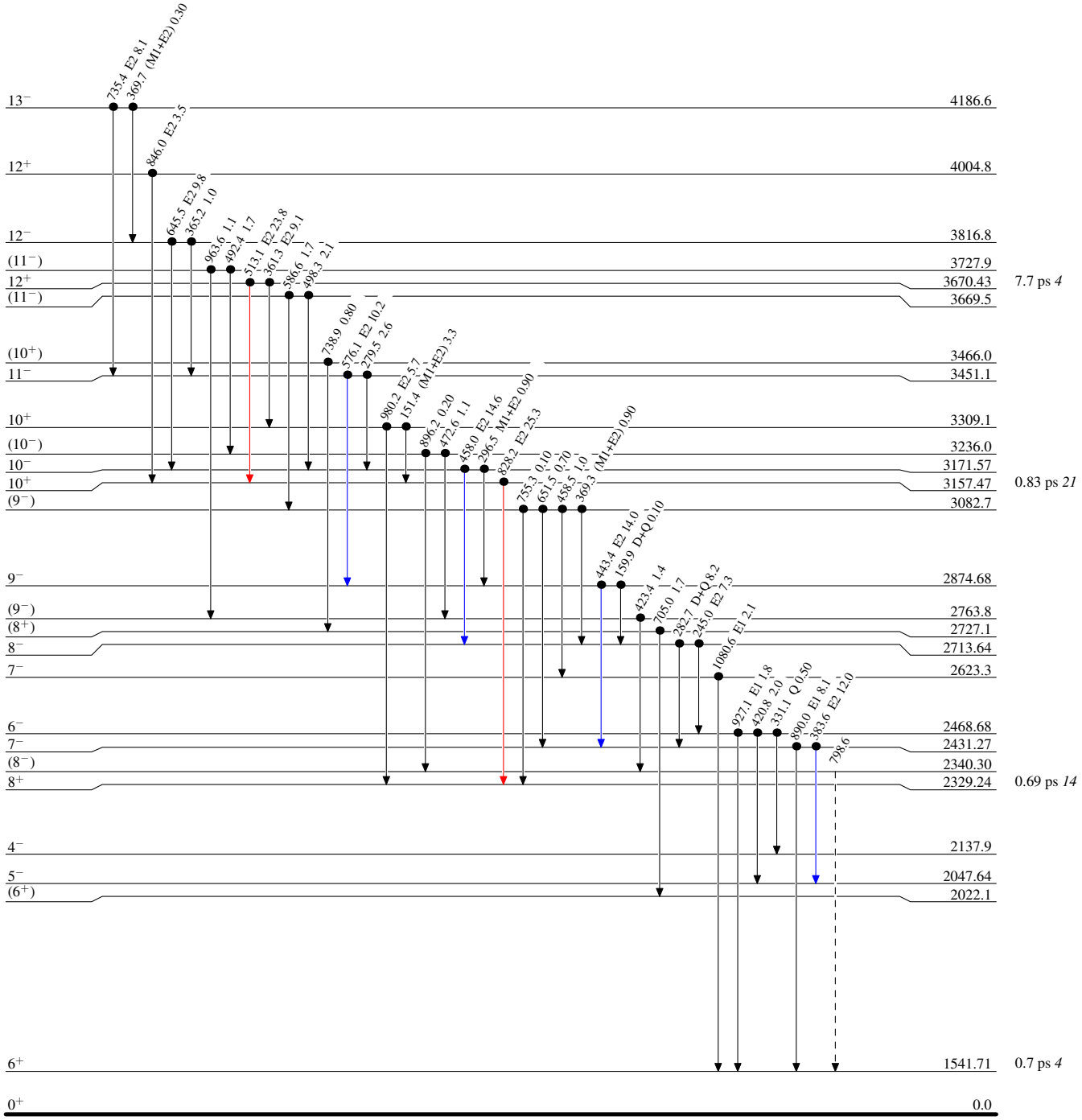
$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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)
Coincidence

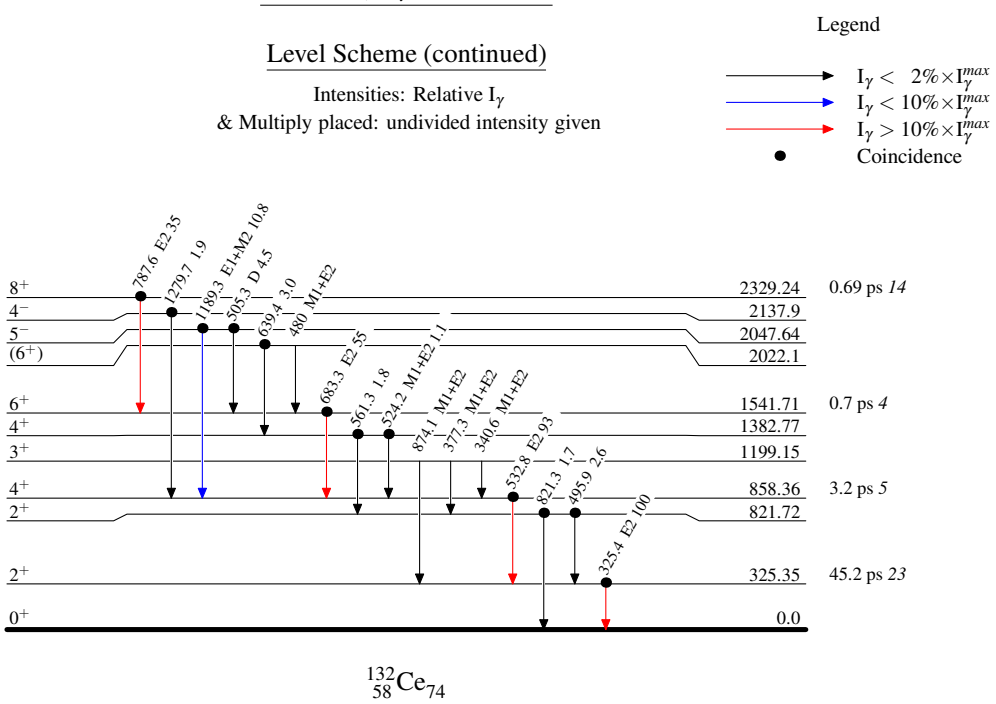


$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15

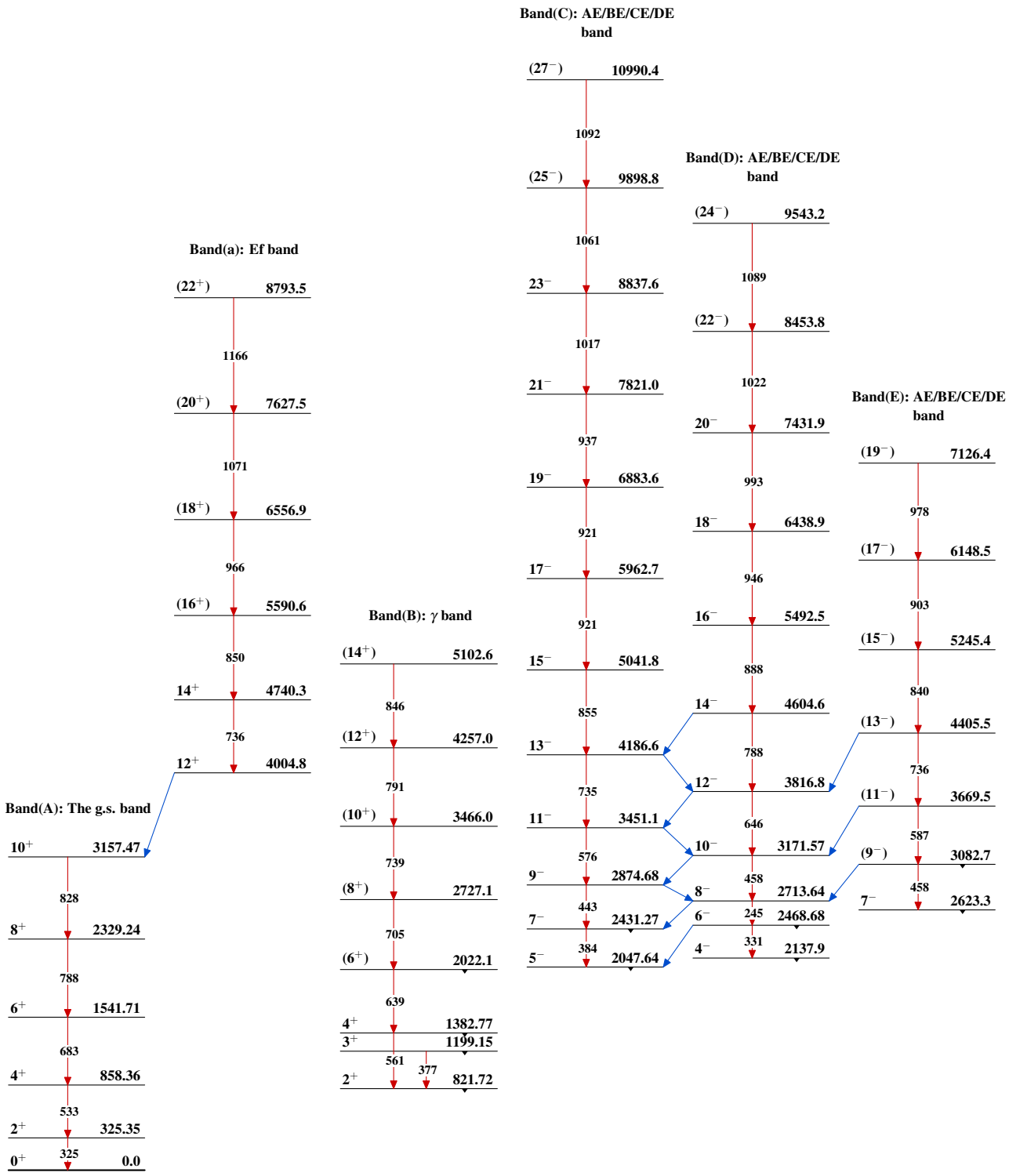
Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

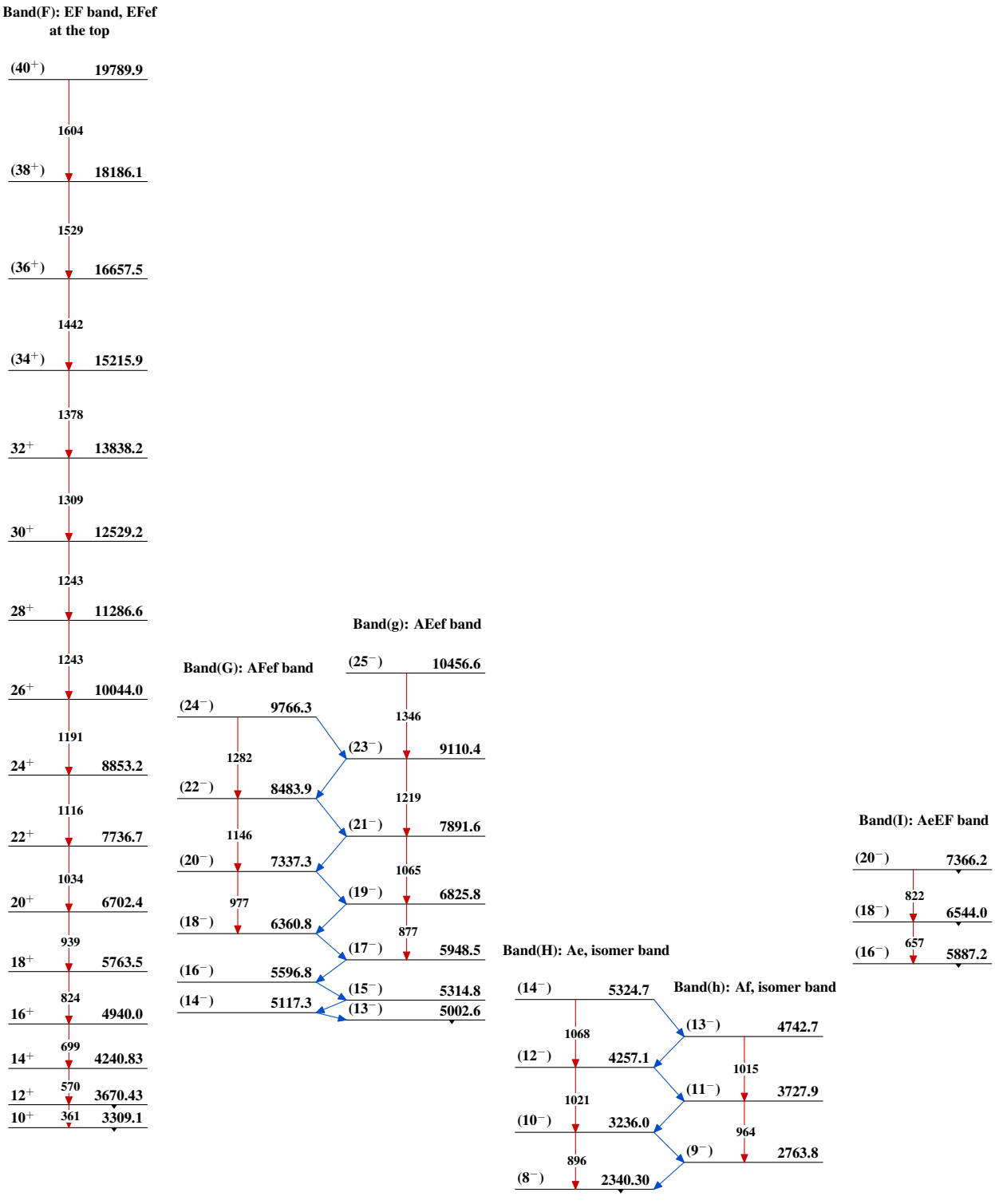


$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15

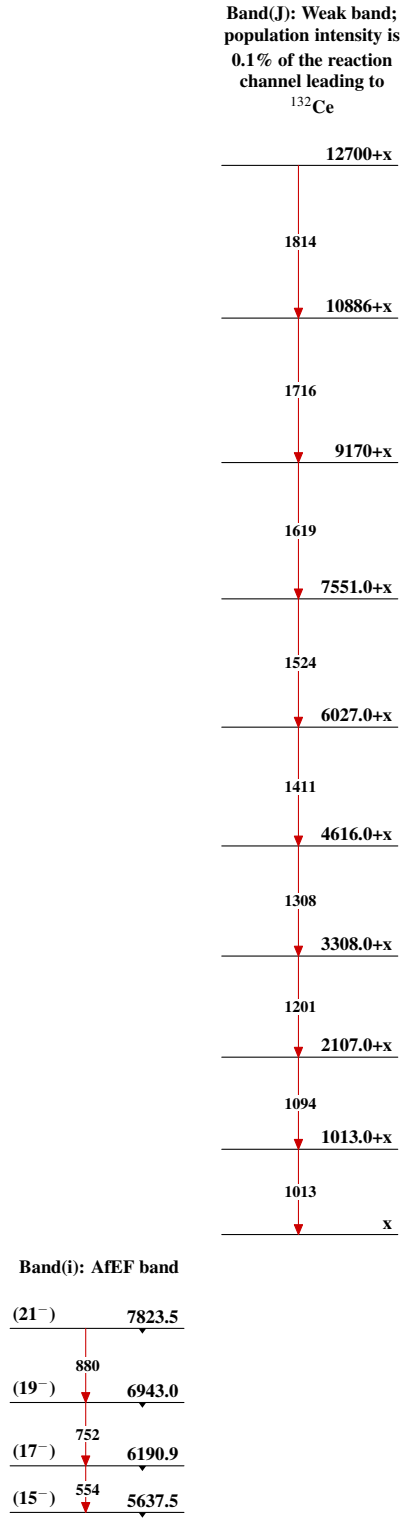


^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)



$^{132}_{58}Ce_{74}$

^{100}Mo(^{36}S,4nγ) 1997Pa15 (continued)



$^{132}_{58}Ce_{74}$