^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 113, 715 (2012)	31-May-2011

2000Zh03 (same as 2000Zh12): E=80 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$, γ(linear polarization), $\gamma\gamma$(t) using five Compton-suppressed HPGe detectors. Other references from the same group: 2000Zh12, 2000OdZZ, 1999ZhZI, 1998ZhZT, 1998ZhZN, 1998TsZZ.

1998Fa09: E=85 MeV. Measured Eγ, Iγ, conversion electrons, and $\gamma\gamma$ coin using eight Compton-suppressed Ge detectors for gamma rays and mini-orange magnetic spectrometer combined with a Si(Li) detector for electrons.

1994Te05: E=85 MeV. Measured γ rays, $\gamma\gamma$ coin, DCO.

1991Ca10: E=70 MeV. Measured γ rays, ce.

1990Az01: E=70, 75 MeV. Measured $\gamma\gamma$ coin, $\gamma(\theta)$.

1987Bu08: E=60-83 MeV. Measured γ rays, $\gamma\gamma$ coin, $\gamma(\theta)$, γ(t), excit.

Level scheme is mostly as given by 2000Zh03. The level scheme consists of two parts, one above the 35-ns isomer at 8988 and the other below it. The level scheme above the isomer is from 2000Zh03 and differs from earlier works. However the level scheme below the isomer is an extension of earlier schemes of 1999Fa09, 1994Te05, 1991Ca10, 1990Az01, all these references are probably from the same group. The level scheme of 1998Fa09 is in agreement with that of 2000Zh03 up to the 7300 keV level, except for the levels (depopulating γ) at 3342 (1231γ), 4043 (424γ), 6802 (1010γ), 7036 (339γ). The 339-, and 424-keV γ rays have been placed elsewhere and the 1231γ ray is not reported in 2000Zh03. Hence the levels at 3342, 4043 and 7036 have not been adopted. In 1998Fa09 Eγ=140, 213, 230, 321, 381, 398, 538, 624, 771, 797, 803, 889, 1143, 1151, and 1321 are shown to originate from levels above 7300. All of these except Eγ=213, 381, 803, and 1321 have been placed elsewhere in the level scheme by 2000Zh12.

^{143}Nd Levels

E(level)†	J$^\pi$#	$T_{1/2}$@	Comments
0.0	7/2$^-$		J$^\pi$: configuration=(ν $f_{7/2}$).
1228.2 *5*	13/2$^+$	4.0 ns *12*	J$^\pi$: configuration=(ν $i_{13/2}$).
2019.2 *7*	15/2$^-$		
2398.5 *9*	17/2$^-$	≤0.3 ns	
2490.1 *10*	19/2$^-$	≤0.3 ns	
2753.1 *7*	17/2$^+$		
2911.0 *11*	21/2$^+$	0.48 ns *3*	
3024.0 *11*	21/2$^+$	≤1.0 ps	
3084.8 *11*	23/2$^+$	7.6 ps *35*	
3189.8 *9*			
3334.8 *10*			$T_{1/2}$: 2000Zh03 suggest this level to be an isomer.
3457.3 *11*	25/2$^+$	48 ps *24*	
3619.7 *11*	(23/2)		J$^\pi$: not given in 2000Zh03. A 277γ depopulating this level seen by 1998Fa09, not confirmed by 2000Zh03.
4063.1 *12*			
4075.9 *11*	(27/2$^+$)		
4224.6 *11*	27/2$^+$		
4523.8 *12*	29/2$^+$		
4634.8 *12*	29/2$^+$		$T_{1/2}$: 1987Bu08 report $T_{1/2}$(410γ)=4 ps *2* and $T_{1/2}$(1178γ)=10 ps *5*.
4706.6 *12*			
4821.3 *12*			
4999.4 *12*	31/2$^+$		
5129.4 *12*	31/2$^+$	≤36 ps	
5282.9 *12*	31/2$^+$		
5343.8 *12*	33/2$^+$	≤36 ps	
5427.2 *12*	33/2$^+$		
5506.4 *12*	33/2$^+$		
5791.6 *13*		0.6 ps *3*	
5913.9 *12*	35/2$^-$		

Continued on next page (footnotes at end of table)

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

^{143}Nd Levels (continued)

E(level)[†]	J$^{\pi}$[#]	T$_{1/2}$[@]	Comments
5991.0 *12*	35/2$^{(-)}$		
6056.4 *12*			
6237.6 *12*	($^-$)	≤2.8 ps	
6489.7 *12*			
6502.5 *12*			
6516.8 *12*			
6696.1 *12*	(39/2$^-$)		
6801.1[‡] *14*			
6825.1 *13*			
7019.6 *12*			
7294.6 *13*			
7296.3 *13*			
7529.5 *13*	43/2$^-$		
7848.1 *13*	43/2$^-$		
7889.6 *12*			
7967.8 *13*			
8649.6 *12*	47/2$^-$		
8687.1 *13*			
8987.9 *13*	49/2$^+$	35 ns *8*	T$_{1/2}$: from 2000Zh03.
9167.7 *14*			
10131.2 *14*	53/2$^+$		
10529.5 *14*			
10668.9 *14*			
10755.1 *14*			
11466.9 *14*			
11557.7 *15*			
11788.4 *15*			
12559.5 *16*			

[†] From least-squares fit to γ-ray energies.

[‡] From 1998Fa09, not given in 2000Zh03.

[#] For levels upto 4635 J^{π} are from 1990Az01 based on $\gamma(\theta)$ and ce work of 1991Ca10. These have also been adopted by 1998Fa09, 2000Zh03. For levels above 4635 J^{π} are from 1994Te05, 2000Zh03 based on DCO ratios and linear polarization measurements. Possible configurations are based on zero-order weak coupling (most states interpreted as configuration=(^{142}Nd⊗f7/2) and configuration=(^{142}Nd⊗i13/2)) and deformed independent model calculations are given in 2000Zh03.

[@] From 1987Bu08.

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
61.0 *5*		3084.8	23/2$^+$	3024.0	21/2$^+$	M1(+E2)	10 *4*	α(K)=4.5 *6*; α(L)=4 *4*; α(M)=0.9 *8*; α(N+..)=0.23 *20* α(N)=0.20 *18*; α(O)=0.026 *22*; α(P)=0.00025 *8* Mult.: deduced from Iγ(61γ, 373γ) in 534γ gate (1994Te05).
91.6 *5*	18.1 *18*	2490.1	19/2$^-$	2398.5	17/2$^-$	M1	1.82 *4*	B(M1)(W.u.)>0.033 α(K)=1.55 *4*; α(L)=0.216 *5*; α(M)=0.0458 *10*; α(N+..)=0.0119 *3* α(N)=0.01025 *22*; α(O)=0.00156 *4*; α(P)=0.0001003 *22* E_γ: placement of 92γ and 379γ is interchanged in 1998Fa09. Mult.: from adopted gammas. A_2=−0.31 *3*, A_4=−0.05 *5* (1990Az01).
139.3 *5*	6.8[‡] *23*	10668.9		10529.5		M1+E2	0.62 *7*	α(K)=0.460 *14*; α(L)=0.12 *6*; α(M)=0.027 *14*; α(N+..)=0.007 *4* α(N)=0.006 *3*; α(O)=0.0008 *4*; α(P)=2.6×10^{-5} *5*
145.0 *5*	1.6[‡] *9*	3334.8		3189.8				
161.5 *5*	2.5[‡] *10*	4224.6	27/2$^+$	4063.1				
173.7 *5*	38.1 *13*	3084.8	23/2$^+$	2911.0	21/2$^+$	M1	0.299	B(M1)(W.u.)=0.42 *20* α(K)=0.255 *5*; α(L)=0.0351 *6*; α(M)=0.00745 *12*; α(N+..)=0.00194 *4* α(N)=0.00167 *3*; α(O)=0.000254 *4*; α(P)=1.65×10^{-5} *3* α(K)exp=0.15 *4* (1998Fa09). A_2=−0.18 *4*, A_4=0.03 *4*, Pol=−0.28 *6*.
178.2 *5*	3.0[‡] *8*	4999.4	31/2$^+$	4821.3				α(K)exp=0.28 *11* (1998Fa09)
179.6 *5*	2.2[‡] *7*	9167.7		8987.9	49/2$^+$			
193.4 *5*	3.4[‡] *14*	6696.1	(39/2$^-$)	6502.5				
206.4 *5*	1.1[‡] *7*	6696.1	(39/2$^-$)	6489.7				
214.5 *5*	21.9 *21*	5343.8	33/2$^+$	5129.4	31/2$^+$	M1	0.168 *3*	B(M1)(W.u.)>0.036 α(K)=0.1430 *22*; α(L)=0.0196 *3*; α(M)=0.00416 *7*; α(N+..)=0.001082 *17* α(N)=0.000931 *15*; α(O)=0.0001416 *22*; α(P)=9.22×10^{-6} *15* α(K)exp=0.14 *2* (1998Fa09). A_2=−0.21 *4*, A_4=0.04 *5*, Pol=−0.38 *9*.
223.5 *5*	3.3 *8*	5506.4	33/2$^+$	5282.9	31/2$^+$	M1	0.1501 *23*	α(K)=0.1279 *20*; α(L)=0.0175 *3*; α(M)=0.00372 *6*; α(N+..)=0.000967 *15* α(N)=0.000832 *13*; α(O)=0.0001266 *20*; α(P)=8.24×10^{-6} *13* A_2=−0.13 *8*, A_4=0.04 *5*, Pol=−0.37 *10*. Mult.: from $\gamma(\theta)$, linear pol (2000Zh03). 1998Fa09 assigned E1.
230.7 *5*	2.0[‡] *10*	11788.4		11557.7				
246.4 *5*	7.0 *8*	6237.6	(−)	5991.0	35/2$^{(-)}$	M1+E2	0.107 *9*	α(K)=0.087 *12*; α(L)=0.0156 *22*; α(M)=0.0034 *6*; α(N+..)=0.00086 *12* α(N)=0.00075 *11*; α(O)=0.000108 *11*; α(P)=5.2×10^{-6} *12*
292.8 *5*	4.7 *7*	4999.4	31/2$^+$	4706.6				A_2=−0.25 *10*, A_4=0.11 *3*, Pol=−0.10 *14*.
299.2 *5*	8.0[‡] *8*	4523.8	29/2$^+$	4224.6	27/2$^+$	M1	0.0688	α(K)=0.0587 *9*; α(L)=0.00798 *12*; α(M)=0.001689 *25*; α(N+..)=0.000440 *7* α(N)=0.000378 *6*; α(O)=5.76×10^{-5} *9*; α(P)=3.77×10^{-6} *6* A_2=−0.25 *5*, A_4=0.00 *6*, Pol=−0.19 *11*. Mult.: from $\gamma(\theta)$, lin pol (2000Zh03).
300.6 *5*	1.8[‡] *6*	8987.9	49/2$^+$	8687.1				
321.6 *5*	2.4[‡] *11*	11788.4		11466.9				

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
323.5 *5*	3.1[‡] *14*	6237.6	(−)	5913.9	35/2−				A_2=−0.30 *9*, A_4=0.14 *10*, Pol=−0.12 *13*.
338.6 *5*	14.4 *6*	8987.9	49/2+	8649.6	47/2−				A_2=−0.23 *2*, A_4=0.12 *5*, Pol=+0.31 *5*.
344.4 *5*	3.7 *5*	5343.8	33/2+	4999.4	31/2+	M1		0.0476	B(M1)(W.u.)>0.0015 α(K)=0.0406 *6*; α(L)=0.00549 *8*; α(M)=0.001162 *17*; α(N+..)=0.000303 *5* α(N)=0.000260 *4*; α(O)=3.96×10^{-5} *6*; α(P)=2.60×10^{-6} *4* A_2=−0.21 *5*, A_4=0.06 *7*, Pol=−0.34 *11*.
364.5 *5*	10.4 *10*	4999.4	31/2+	4634.8	29/2+	M1		0.0410	α(K)=0.0350 *5*; α(L)=0.00473 *7*; α(M)=0.001001 *15*; α(N+..)=0.000261 *4* α(N)=0.000224 *4*; α(O)=3.42×10^{-5} *5*; α(P)=2.24×10^{-6} *4* α(K)exp=0.035 *12*. A_2=−0.13 *8*, A_4=0.06 *5*, Pol=−0.33 *7*.
372.5 *5*	35.3 *23*	3457.3	25/2+	3084.8	23/2+	M1+E2	0.115 *15*	0.0386	B(M1)(W.u.)=0.008 *5*; B(E2)(W.u.)=0.5 *3* α(K)=0.0330 *5*; α(L)=0.00446 *7*; α(M)=0.000945 *14*; α(N+..)=0.000246 *4* α(N)=0.000212 *3*; α(O)=3.22×10^{-5} *5*; α(P)=2.11×10^{-6} *3* A_2=−0.15 *4*, A_4=0.00 *2*, Pol=−0.34 *8*. Mult.: A_2=−0.026 *13*, A_4=+0.015 *13* (1987Bu08).
379.3 *5*	64 *3*	2398.5	17/2−	2019.2	15/2−	M1		0.0370	B(M1)(W.u.)>0.0013 α(K)=0.0316 *5*; α(L)=0.00426 *7*; α(M)=0.000902 *13*; α(N+..)=0.000235 *4* α(N)=0.000202 *3*; α(O)=3.08×10^{-5} *5*; α(P)=2.02×10^{-6} *3* α(K)exp=0.025 *3* (1991Ca10). A_2=−0.12 *6*, A_4=0.05 *6*, Pol=−0.28 *5*.
398.3 *5*	5.0 *9*	10529.5		10131.2	53/2+				
407.5 *5*	3.1 *6*	5913.9	35/2−	5506.4	33/2+				A_2=−0.11 *5*, A_4=−0.01 *5*, Pol=+0.30 *8*.
410.3 *5*	16.2 *9*	4634.8	29/2+	4224.6	27/2+	M1		0.0302	α(K)=0.0258 *4*; α(L)=0.00347 *5*; α(M)=0.000735 *11*; α(N+..)=0.000191 *3* α(N)=0.0001646 *24*; α(O)=2.51×10^{-5} *4*; α(P)=1.649×10^{-6} *24* α(K)exp=0.040 *9* (1998Fa09). A_2=−0.12 *7*, A_4=0.02 *5*, Pol=−0.37 *7*.
420.8 *5*	48.0 *12*	2911.0	21/2+	2490.1	19/2−	E1		0.00588 *9*	B(E1)(W.u.)=6.9×10^{-6} *5* α=0.00588 *9*; α(K)=0.00505 *8*; α(L)=0.000662 *10*; α(M)=0.0001394 *20*; α(N+..)=3.60×10^{-5} *6* α(N)=3.11×10^{-5} *5*; α(O)=4.67×10^{-6} *7*; α(P)=2.91×10^{-7} *5* α(K)exp=0.003 *7* (1998Fa09). A_2=−0.16 *3*, A_4=0.00 *3*, Pol=+0.29 *5*.
423.0 *5*	3.4[‡] *11*	5129.4	31/2+	4706.6					
427.7 *5*	9.2 *17*	5427.2	33/2+	4999.4	31/2+				A_2=0.18 *4*, A_4=0.03 *3*, Pol=−0.35 *10*.
436.7 *5*	2.7[‡] *8*	3189.8		2753.1	17/2+				
445.9 *5*	3.6 *14*	6237.6	(−)	5791.6					A_2=−0.19 *9*, A_4=0.08 *8*, Pol=+0.28 *12*.
448.0 *5*	15 *3*	4523.8	29/2+	4075.9	(27/2+)				α(K)exp=0.019 *5* for 448 doublet (1998Fa09). E_γ,I_γ: doublet.

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
448		5791.6		5343.8	33/2$^+$			α(K)exp=0.019 *5* for 448 doublet (1998Fa09). Placed in the level scheme but not in the table (2000Zh03).
456.1 *5*	3.0[‡] *14*	4075.9	(27/2$^+$)	3619.7	(23/2)			
481.9 *5*	1.9[‡] *10*	4706.6		4224.6	27/2$^+$			
484.7 *5*	3.2[‡] *12*	5991.0	35/2$^{(-)}$	5506.4	33/2$^+$			α(K)exp=0.018 *4* (1998Fa09) Mult.: E1 from $\gamma(\theta)$, lin pol (2000Zh03) but 1998Fa09 assign M1+E2 on basis of α(K)exp.
486.7 *5*	2.7[‡] *11*	5913.9	35/2$^-$	5427.2	33/2$^+$			
494[#]		7294.6		6801.1				
494.4 *5*	23 *3*	5129.4	31/2$^+$	4634.8	29/2$^+$	M1+E2	0.015 *4*	α(K)=0.013 *3*; α(L)=0.0019 *3*; α(M)=0.00040 *5*; α(N+..)=0.000105 *14* α(N)=9.0×10^{-5} *12*; α(O)=1.35×10^{-5} *21*; α(P)=8.1×10^{-7} *22* α(K)exp=0.012 *3*. A_2=−0.10 *4*, A_4=−0.03 *4*, Pol=−0.29 *12*.
503.2 *5*	1.9[‡] *5*	7019.6		6516.8				
526.2 *5*	9.1 *19*	6516.8		5991.0	35/2$^{(-)}$			
534.1 *5*	15.2 *12*	3024.0	21/2$^+$	2490.1	19/2$^-$	[E1]	0.00339 *5*	B(E1)(W.u.)>0.0016 α=0.00339 *5*; α(K)=0.00291 *5*; α(L)=0.000378 *6*; α(M)=7.96×10^{-5} *12*; α(N+..)=2.06×10^{-5} *3* α(N)=1.78×10^{-5} *3*; α(O)=2.68×10^{-6} *4*; α(P)=1.697×10^{-7} *24* A_2=−0.10 *5*, A_4=0.05 *6*, Pol=+0.28 *6*.
537.7 *5*	6.6 *10*	10668.9		10131.2	53/2$^+$			
550.0 *5*	2.6[‡] *9*	6056.4		5506.4	33/2$^+$			
563.8 *5*	9.0 *18*	5991.0	35/2$^{(-)}$	5427.2	33/2$^+$			A_2=−0.16 *5*, A_4=0.04 *5*, Pol=+0.36 *9*. Mult.: E1 from $\gamma(\theta)$, lin pol (2000Zh03).
570.1 *5*	23.1 *21*	5913.9	35/2$^-$	5343.8	33/2$^+$			A_2=−0.22 *10*, A_4=0.00 *8*, Pol=+0.23 *10*. Mult.: $\gamma(\theta)$, linear pol (2000Zh03).
575.8 *5*	4.0 *16*	6489.7		5913.9	35/2$^-$			A_2=0.19 *6*, A_4=0.11 *12*, Pol=+0.30 *8*.
587.8 *5*	6.3 *24*	6825.1		6237.6	(−)			
593.4 *5*	1.3[‡] *4*	7889.6		7296.3				
618.7 *5*	9[‡] *3*	4075.9	(27/2$^+$)	3457.3	25/2$^+$			
623.9 *5*	5.0 *7*	10755.1		10131.2	53/2$^+$			
639.7 *5*	1.4[‡] *6*	6696.1	(39/2$^-$)	6056.4				
647.2 *5*	7.8 *11*	5991.0	35/2$^{(-)}$	5343.8	33/2$^+$			α(K)exp=0.0083 *31* (1998Fa09) A_2=0.23 *8*, A_4=0.09 *10*, Pol=+0.44 *10*. Mult.: E1 from $\gamma(\theta)$, lin pol (2000Zh03) but 1998Fa09 assign M1+E2 on basis of α(K)exp.
673.3 *5*	1.5[‡] *7*	7967.8		7294.6				
681.9 *5*	1.8[‡] *5*	8649.6	47/2$^-$	7967.8				
709.1 *5*	7.7 *16*	5343.8	33/2$^+$	4634.8	29/2$^+$	(E2)	0.00486 *7*	B(E2)(W.u.)>0.41 α=0.00486 *7*; α(K)=0.00409 *6*; α(L)=0.000603 *9*; α(M)=0.0001286 *19*;

$^{143}_{60}Nd_{83}$-5

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(N+..)=3.31×10^{-5} *5* α(N)=2.86×10^{-5} *4*; α(O)=4.25×10^{-6} *6*; α(P)=2.45×10^{-7} *4* Mult.: M1+E2 from α(K)exp.
711.8 *5*	3.0[‡] *8*	11466.9		10755.1				
759.7 *5*	7.2 *13*	8649.6	47/2$^-$	7889.6				A_2=−0.21 *5*, A_4=0.14 *11*, Pol=−0.35 *9*.
767.4 *5*	1.0[‡] *5*	4224.6	27/2$^+$	3457.3	25/2$^+$			
771.1 *5*	5.5[‡] *19*	12559.5		11788.4				
774.7 *5*	2.0[‡] *8*	4999.4	31/2$^+$	4224.6	27/2$^+$			
781.4 *5*	1.1[‡] *5*	7019.6		6237.6	(−)			
782.2 *5*	7.3 *12*	6696.1	(39/2$^-$)	5913.9	35/2$^-$	(E2)	0.00386 *6*	α=0.00386 *6*; α(K)=0.00326 *5*; α(L)=0.000470 *7*; α(M)=0.0001000 *14*; α(N+..)=2.58×10^{-5} *4* α(N)=2.23×10^{-5} *4*; α(O)=3.33×10^{-6} *5*; α(P)=1.96×10^{-7} *3* A_2=0.22 *8*, A_4=−0.28 *27*, Pol=+0.49 *13*. Mult.: $\gamma(\theta)$, linear pol (2000Zh03). D from DCO in 1994Te05.
791.0 *5*	78 *3*	2019.2	15/2$^-$	1228.2	13/2$^+$	E1	0.001474 *21*	α=0.001474 *21*; α(K)=0.001269 *18*; α(L)=0.0001621 *23*; α(M)=3.40×10^{-5} *5*; α(N+..)=8.83×10^{-6} α(N)=7.61×10^{-6} *11*; α(O)=1.153×10^{-6} *17*; α(P)=7.48×10^{-8} *11* α(K)exp<0.0015 (1998Fa09). A_2=−0.25 *4*, A_4=0.06 *7*, Pol=+0.34 *12*.
793.8 *5*	1.6[‡] *7*	7296.3		6502.5				
798.0 *5*	6.7[‡] *14*	11466.9		10668.9				
801.7 *5*	4.9[‡] *10*	8649.6	47/2$^-$	7848.1	43/2$^-$			
804.9 *5*	3.2 *13*	7294.6		6489.7				
833.5 *5*	3.0 *13*	7529.5	43/2$^-$	6696.1	(39/2$^-$)			
838.7 *5*	1.6[‡] *7*	8687.1		7848.1	43/2$^-$			
869.8 *5*	3.4[‡] *12*	7889.6		7019.6				
888.8 *5*	3.2[‡] *10*	11557.7		10668.9				
963.4 *5*	2.4[‡] *7*	10131.2	53/2$^+$	9167.7				
978.3 *5*	2.1[‡] *8*	4063.1		3084.8	23/2$^+$			
982.7 *5*	8.4 *17*	5506.4	33/2$^+$	4523.8	29/2$^+$	E2	0.00233 *4*	α=0.00233 *4*; α(K)=0.00198 *3*; α(L)=0.000273 *4*; α(M)=5.79×10^{-5} *9*; α(N+..)=1.498×10^{-5} *21* α(N)=1.291×10^{-5} *19*; α(O)=1.94×10^{-6} *3*; α(P)=1.199×10^{-7} *17* A_2=0.34 *12*, A_4=0.20 *20*, Pol=+0.37 *14*. Mult.: from $\gamma(\theta)$, lin pol (2000Zh03).
1010[#]		6801.1		5791.6				
1064.7 *5*	4.0[‡] *15*	7889.6		6825.1				
1120.2 *5*	1.3[‡] *6*	8649.6	47/2$^-$	7529.5	43/2$^-$			
1129.4 *5*	3.7 *11*	3619.7	(23/2)	2490.1	19/2$^-$			
1139.8 *5*	26.4 *13*	4224.6	27/2$^+$	3084.8	23/2$^+$	[E2]	0.001707 *24*	α=0.001707 *24*; α(K)=0.001456 *21*; α(L)=0.000196 *3*; α(M)=4.15×10^{-5} *6*;

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(N+..)=1.212×10^{-5} *1* α(N)=9.28×10^{-6} *13*; α(O)=1.400×10^{-6} *20*; α(P)=8.83×10^{-8} *13*; α(IPF)=1.35×10^{-6} *3* A_2=0.34 *8*, A_4=−0.05 *4*, Pol=+0.45 *9*.
1143.4 *5*	15.3 *22*	10131.2	53/2$^+$	8987.9	49/2$^+$	E2	0.001696 *24*	α=0.001696 *24*; α(K)=0.001447 *21*; α(L)=0.000195 *3*; α(M)=4.12×10^{-5} *6*; α(N+..)=1.220×10^{-5} *1* α(N)=9.21×10^{-6} *13*; α(O)=1.391×10^{-6} *20*; α(P)=8.78×10^{-8} *13*; α(IPF)=1.51×10^{-6} *3* A_2=0.33 *8*, A_4=0.02 *6*, Pol=+0.32 *8*. Mult.: $\gamma(\theta)$, linear pol (2000Zh03).
1152.0 *5*	5.8 *17*	7848.1	43/2$^-$	6696.1	(39/2$^-$)	E2	0.001670 *24*	α=0.001670 *24*; α(K)=0.001425 *20*; α(L)=0.000192 *3*; α(M)=4.06×10^{-5} *6*; α(N+..)=1.245×10^{-5} *1* α(N)=9.06×10^{-6} *13*; α(O)=1.369×10^{-6} *20*; α(P)=8.64×10^{-8} *13*; α(IPF)=1.93×10^{-6} *4* A_2=0.13 *8*, A_4=0.08 *11*, Pol=+0.41 *10*. Mult.: $\gamma(\theta)$, linear pol (2000Zh03).
1158.5 *5*	3.4 *14*	6502.5		5343.8	33/2$^+$			
1164.9[&] *5*	1.4[‡] *6*	4075.9	(27/2$^+$)	2911.0	21/2$^+$			
1177.0 *5*	15.1 *23*	4634.8	29/2$^+$	3457.3	25/2$^+$	E2	0.001600 *23*	α=0.001600 *23*; α(K)=0.001365 *20*; α(L)=0.000183 *3*; α(M)=3.87×10^{-5} *6*; α(N+..)=1.370×10^{-5} *2* α(N)=8.65×10^{-6} *13*; α(O)=1.307×10^{-6} *19*; α(P)=8.28×10^{-8} *12*; α(IPF)=3.65×10^{-6} *7* A_2=0.36 *10*, A_4=−0.07 *8*, Pol=+0.35 *11*.
1193.2 *5*	2.7 *8*	7889.6		6696.1	(39/2$^-$)			
1207.0 *5*	3.2 *8*	5282.9	31/2$^+$	4075.9	(27/2$^+$)	(E2)	0.001524 *22*	α=0.001524 *22*; α(K)=0.001297 *19*; α(L)=0.0001737 *25*; α(M)=3.67×10^{-5} *6*; α(N+..)=1.623×10^{-5} α(N)=8.20×10^{-6} *12*; α(O)=1.239×10^{-6} *18*; α(P)=7.87×10^{-8} *11*; α(IPF)=6.71×10^{-6} *12* A_2=0.35 *17*, A_4=−0.15 *13*, Pol=+0.45 *13*. Mult.: $\gamma(\theta)$, from linear pol (2000Zh03).
1228.2 *5*	100 *29*	1228.2	13/2$^+$	0.0	7/2$^-$	E3	0.00293 *5*	B(E3)(W.u.)=59 *18* α=0.00293 *5*; α(K)=0.00247 *4*; α(L)=0.000365 *6*; α(M)=7.80×10^{-5} *11*; α(N+..)=2.27×10^{-5} *4* α(N)=1.740×10^{-5} *25*; α(O)=2.61×10^{-6} *4*; α(P)=1.551×10^{-7} *22*; α(IPF)=2.53×10^{-6} *5* A_2=0.40 *5*, A_4=−0.08 *8*, Pol=+0.50 *8*.
1249.4 *5*	6.8 *16*	4706.6		3457.3	25/2$^+$			A_2=0.37 *13*, A_4=0.14 *15*, Pol=+0.34 *11*.
1364.2 *5*	5.3 *20*	4821.3		3457.3	25/2$^+$			
1524.9 *5*	5.0 *18*	2753.1	17/2$^+$	1228.2	13/2$^+$	E2	0.001043 *15*	α=0.001043 *15*; α(K)=0.000822 *12*; α(L)=0.0001073 *15*; α(M)=2.26×10^{-5} *4*; α(N+..)=9.08×10^{-5} α(N)=5.06×10^{-6} *7*; α(O)=7.68×10^{-7} *11*; α(P)=4.99×10^{-8} *7*;

$^{143}_{60}Nd_{83}$-7

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09 (continued)

$\gamma(^{143}Nd)$ (continued)

E_γ	E_i(level)	Comments
		α(IPF)=8.50×10^{-5} *12* A_2=0.35 *3*, A_4=0.05 *5*, Pol=+0.40 *10*. Mult.: $\gamma(\theta)$, lin pol.

† Additional information 1.
‡ From $\gamma\gamma$ coin data (2000Zh03).
# From 1998Fa09, not seen in 2000Zh03.
@ From conversion-electron data (1998Fa09).
& Placement of transition in the level scheme is uncertain.

$^{143}_{60}Nd_{83}$-8

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09

Level Scheme

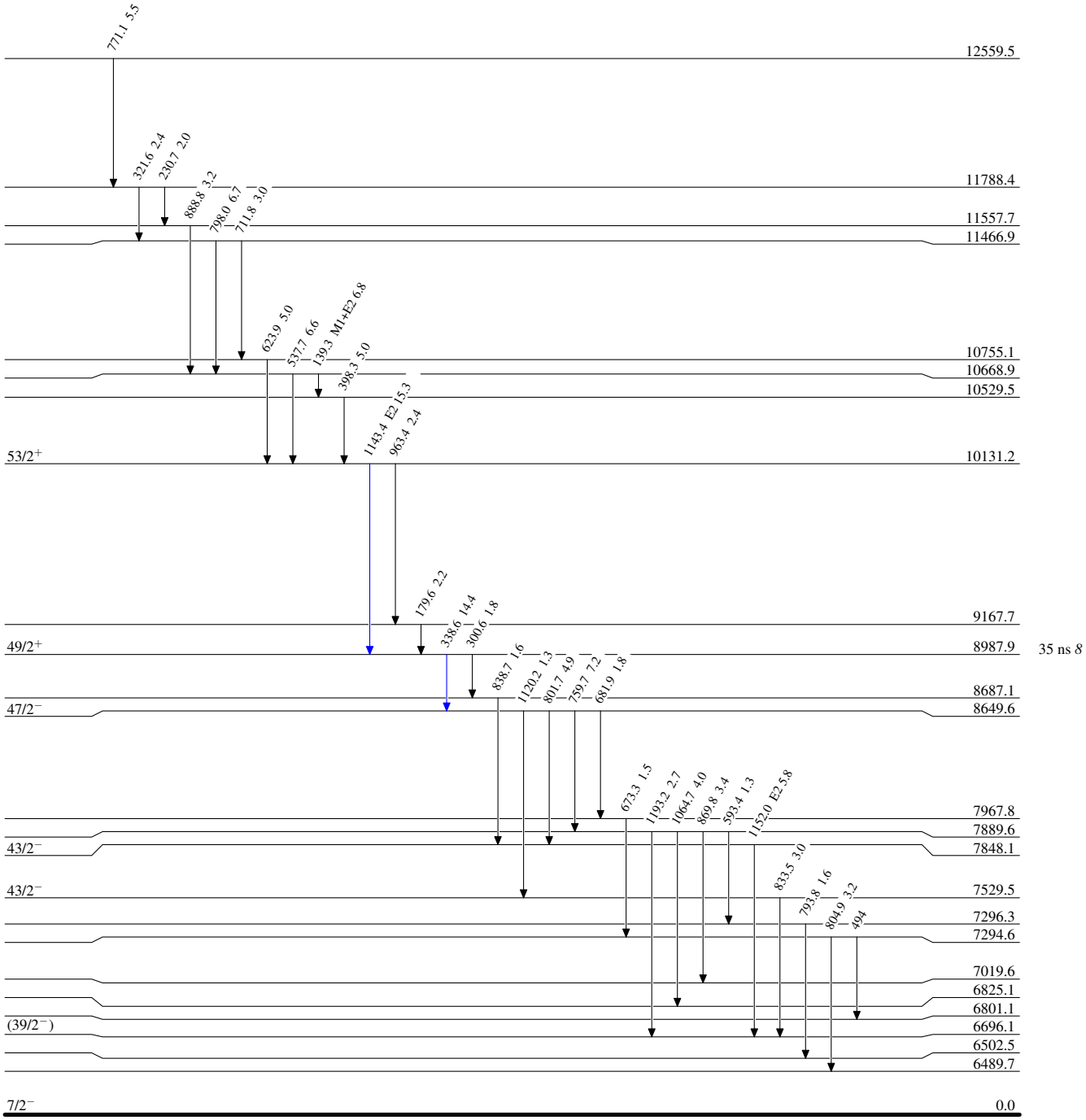
Intensities: Relative I_γ

Legend

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

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

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



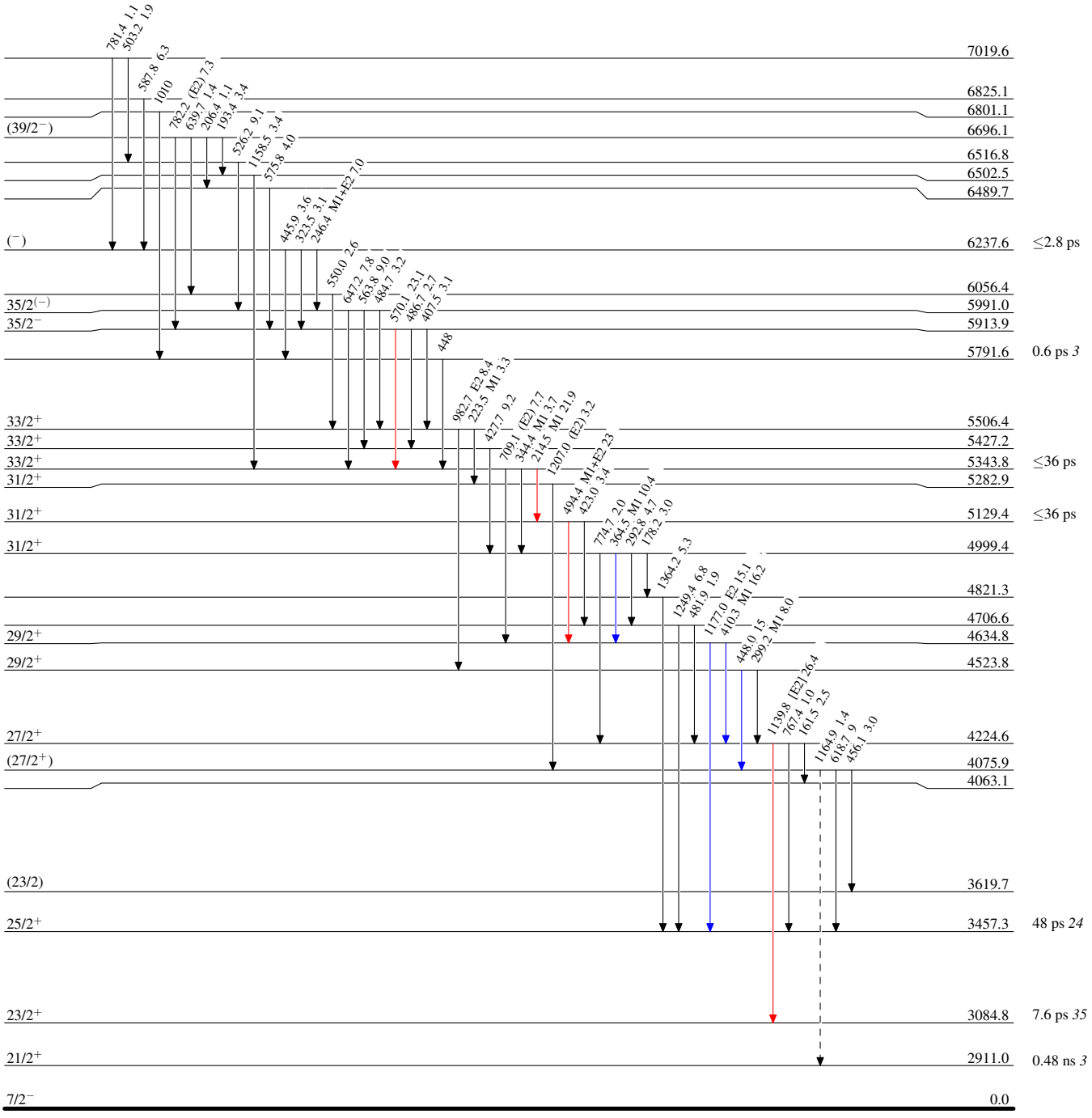
$^{143}_{60}Nd_{83}$

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09

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)

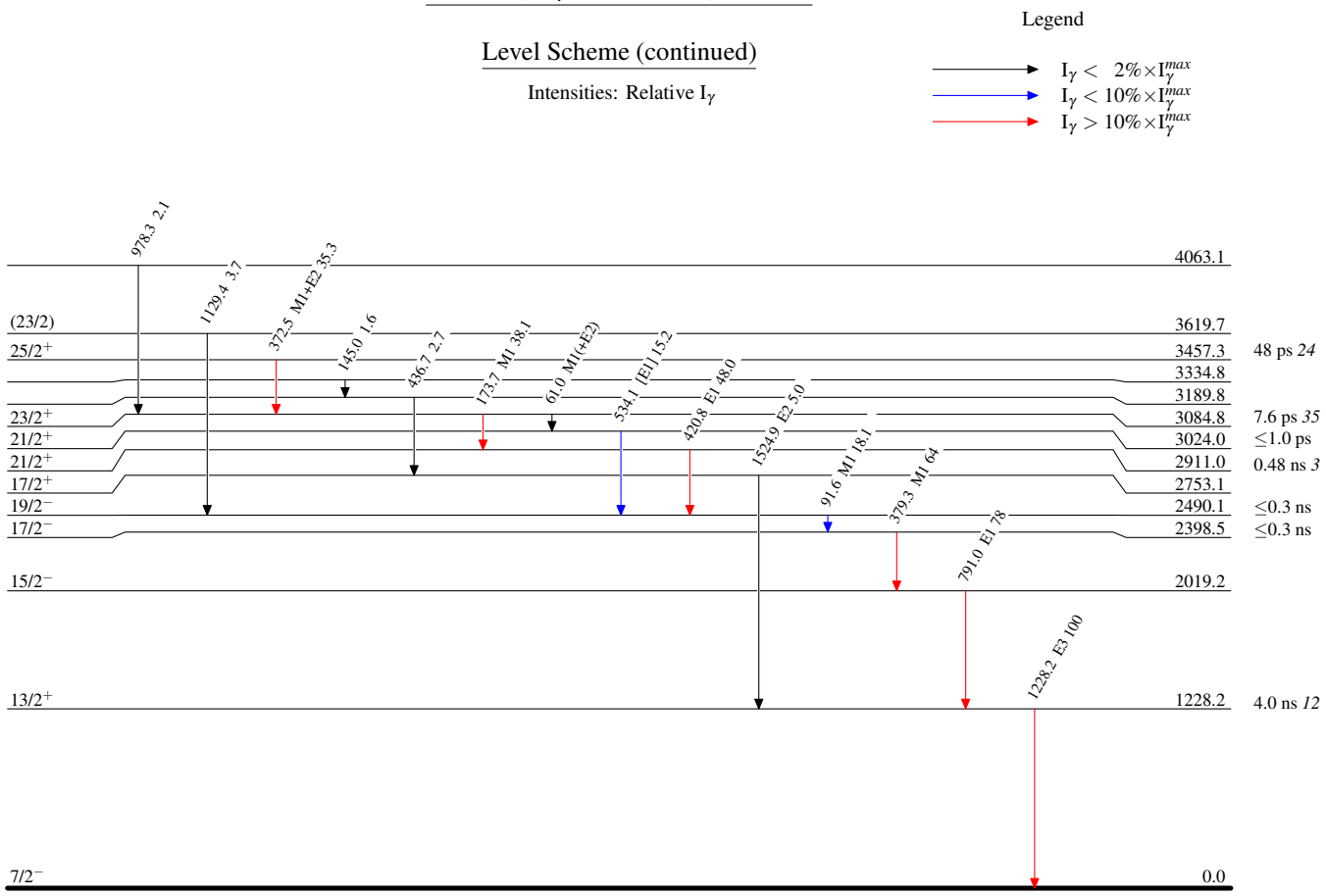


$^{143}_{60}Nd_{83}$

^{130}Te(^{18}O,5nγ) 2000Zh03,1998Fa09

Level Scheme (continued)

Intensities: Relative I_γ



$^{143}_{60}Nd_{83}$