^{169}Tm(γ,γ') 1999Hu01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 2033 (2008)	15-Jun-2008

1999Hu01: bremsstrahlung endpoint energies of 4.5 and 7.0 MeV; 96.8% ^{169}Tm oxide target with ^{27}Al and B added for calibration purposes; Ge cluster detector (130°) + single Ge detector (90°); measured Eγ, Iγ, integrated cross section for nuclear resonance fluorescence; deduced $(2J+1)\Gamma_{\gamma 0}/E_\gamma^3$ (where J is the spin of the excited level) and, from this, B(M1) or B(E1) assuming D excitation. See also 1997VoZZ.

^{169}Tm Levels

E(level)[†]	J$^\pi$[‡]	$(J+1/2)\Gamma_{\gamma 0}/E_\gamma^3$[#]	I_s (eV b)[@]	Comments
0.0	1/2$^+$			J$^\pi$: from Adopted Levels.
8.4[&]				
118.2[&]				
1510.6 *4*	(1/2,3/2)	1.6 *4*	9.3 *22*	B(M1)=0.14 *3* if π=+, B(E1)=0.0015 *4* if π=− (1999Hu01).
1527.5 *6*	(1/2,3/2)	1.0 *4*	6.0 *21*	B(M1)=0.09 *3* if π=+; B(E1)=0.0010 *3* if π=− (1999Hu01).
1864.6 *2*	(1/2,3/2)	4.0 *6*	9.0 *11*	B(M1)=0.35 *5* if π=+; B(E1)=0.0038 *6* if π=− (1999Hu01).
1910.5 *1*	(1/2,3/2)	12.7 *7*	37.5 *20*	B(M1)=1.09 *6* if π=+; B(E1)=0.0121 *7* if π=− (1999Hu01).
1922.3 *2*	(1/2,3/2)	0.76 *23*	2.5 *7*	B(M1)=0.066 *20* if π=+; B(E1)=0.00073 *22* if π=− (1999Hu01).
1963.7 *3*	(1/2,3/2)	0.39 *12*	3.0 *9*	B(M1)=0.034 *10* if π=+; B(E1)=0.00038 *11* if π=− (1999Hu01).
1978.4 *3*	(1/2,3/2)	0.42 *12*	3.2 *9*	B(M1)=0.036 *10* if π=+; B(E1)=0.00040 *11* if π=− (1999Hu01).
1991.7 *2*	(1/2,3/2)	1.26 *28*	5.4 *9*	B(M1)=0.109 *24* if π=+; B(E1)=0.00121 *27* if π=− (1999Hu01).
2075.5 *7*	(1/2,3/2)	0.8 *4*	3.0 *10*	B(M1)=0.07 *3* if π=+; B(E1)=0.0008 *3* if π=− (1999Hu01).
2168.7 *4*	(1/2,3/2)	0.73 *23*	2.6 *8*	B(M1)=0.063 *20* if π=+; B(E1)=0.00070 *22* if π=− (1999Hu01).
2190.6 *3*	(1/2,3/2)	0.45 *9*	3.8 *8*	B(M1)=0.039 *8* if π=+; B(E1)=0.00043 *9* if π=− (1999Hu01).
2215.3 *3*	(1/2,3/2)	0.38 *24*	3.3 *21*	B(M1)=0.033 *21* if π=+; B(E1)=0.00036 *23* if π=− (1999Hu01).
2236.1 *2*	(1/2,3/2)	1.03 *12*	5.6 *7*	B(M1)=0.089 *11* if π=+; B(E1)=0.00098 *12* if π=− (1999Hu01).
2262.5 *4*	(1/2,3/2)	0.89 *22*	3.2 *8*	B(M1)=0.077 *19* if π=+; B(E1)=0.00085 *21* if π=− (1999Hu01).
2293.8 *4*	(1/2,3/2)	0.38 *9*	3.4 *8*	B(M1)=0.033 *8* if π=+; B(E1)=0.00036 *9* if π=− (1999Hu01).
2306.3 *5*	(1/2,3/2)	0.28 *8*	2.4 *8*	B(M1)=0.024 *7* if π=+; B(E1)=0.00027 *8* if π=− (1999Hu01).
2312.2 *4*	(1/2,3/2)	0.66 *19*	2.9 *18*	B(M1)=0.057 *16* if π=+; B(E1)=0.00063 *18* if π=− (1999Hu01).
2386.6 *4*	(1/2,3/2)	0.42 *17*	3.8 *16*	B(M1)=0.036 *15* if π=+; B(E1)=0.00040 *17* if π=− (1999Hu01).
2455.8 *4*	(1/2,3/2)	0.45 *14*	3.0 *8*	B(M1)=0.039 *12* if π=+; B(E1)=0.00043 *13* if π=− (1999Hu01).
2466.0 *2*	(1/2,3/2)	0.20 *6*	2.0 *5*	B(M1)=0.018 *5* if π=+; B(E1)=0.00020 *6* if π=− (1999Hu01).
2492.0 *2*	(1/2,3/2)	1.05 *10*	6.9 *7*	B(M1)=0.091 *9* if π=+; B(E1)=0.00101 *10* if π=− (1999Hu01).
2553.4 *12*	(1/2,3/2)	0.51 *17*	2.0 *7*	B(M1)=0.044 *15* if π=+; B(E1)=0.00049 *17* if π=− (1999Hu01).
2571.4 *6*	(1/2,3/2)	0.20 *6*	2.0 *6*	B(M1)=0.018 *5* if π=+; B(E1)=0.00020 *6* if π=− (1999Hu01).
2598.6 *8*	(1/2,3/2)	0.73 *21*	7.3 *2*	B(M1)=0.063 *18* if π=+; B(E1)=0.00070 *20* if π=− (1999Hu01).
2602.8 *11*	(1/2,3/2)	0.36 *7*	3.6 *7*	B(M1)=0.031 *6* if π=+; B(E1)=0.00034 *7* if π=− (1999Hu01).
2687.0 *4*	(1/2,3/2)	0.23 *6*	2.4 *6*	B(M1)=0.020 *5* if π=+; B(E1)=0.00022 *6* if π=− (1999Hu01).
2749.4 *5*	(1/2,3/2)	0.63 *15*	3.4 *7*	B(M1)=0.055 *13* if π=+; B(E1)=0.00061 *14* if π=− (1999Hu01).
2756.4 *7*	(1/2,3/2)	0.29 *7*	3.1 *7*	B(M1)=0.025 *6* if π=+; B(E1)=0.00028 *7* if π=− (1999Hu01).
2769.1 *4*	(1/2,3/2)	0.89 *12*	6.7 *8*	B(M1)=0.077 *10* if π=+; B(E1)=0.00085 *11* if π=− (1999Hu01).
2786.5 *4*	(1/2,3/2)	0.42 *8*	4.6 *9*	B(M1)=0.037 *7* if π=+; B(E1)=0.00041 *8* if π=− (1999Hu01).
2814.2 *6*	(1/2,3/2)	0.7 *4*	3.8 *22*	B(M1)=0.06 *4* if π=+; B(E1)=0.0006 *4* if π=− (1999Hu01).
2818.6 *4*	(1/2,3/2)	0.30 *13*	3.3 *14*	B(M1)=0.026 *11* if π=+; B(E1)=0.00029 *12* if π=− (1999Hu01).
2843.1 *5*	(1/2,3/2)	0.22 *6*	2.4 *6*	B(M1)=0.019 *5* if π=+; B(E1)=0.00021 *6* if π=− (1999Hu01).
2861.1 *7*	(1/2,3/2)	0.68 *24*	7.5 *27*	B(M1)=0.059 *21* if π=+; B(E1)=0.00065 *23* if π=− (1999Hu01).
2943.3 *4*	(1/2,3/2)	0.9 *3*	3.0 *7*	B(M1)=0.08 *3* if π=+; B(E1)=0.0009 *3* if π=− (1999Hu01).
2996.2 *4*	(1/2,3/2)	0.68 *13*	3.7 *7*	B(M1)=0.059 *11* if π=+; B(E1)=0.00065 *12* if π=− (1999Hu01).
3127.6 *6*	(1/2,3/2)	0.41 *7*	4.8 *9*	B(M1)=0.035 *6* if π=+; B(E1)=0.00039 *7* if π=− (1999Hu01).
3175.6 *7*	(1/2,3/2)	0.21 *6*	2.6 *7*	B(M1)=0.018 *5* if π=+; B(E1)=0.00020 *6* if π=− (1999Hu01).
3185.0 *12*	(1/2,3/2)	0.63 *25*	7.7 *31*	B(M1)=0.054 *22* if π=+; B(E1)=0.00060 *24* if π=− (1999Hu01).
3187.5 *7*	(1/2,3/2)	0.19 *10*	2.3 *18*	B(M1)=0.016 *9* if π=+; B(E1)=0.00018 *10* if π=− (1999Hu01).
3191.3 *5*	(1/2,3/2)	0.61 *14*	4.2 *8*	B(M1)=0.053 *12* if π=+; B(E1)=0.00059 *13* if π=− (1999Hu01).
3199.7 *7*	(1/2,3/2)	0.68 *20*	8.3 *24*	B(M1)=0.059 *17* if π=+; B(E1)=0.00065 *19* if π=− (1999Hu01).

Continued on next page (footnotes at end of table)

^{169}Tm(γ,γ′) 1999Hu01 (continued)

^{169}Tm Levels (continued)

E(level)[†]	Jπ[‡]	(J+1/2)$\Gamma_{\gamma 0}/E_\gamma^3$[#]	I_s (eV b)[@]	Comments
3204.8 *7*	(1/2,3/2)	0.95 *25*	7.5 *20*	B(M1)=0.082 *22* if π=+; B(E1)=0.00091 *24* if π=− (1999Hu01).
3254.6 *4*	(1/2,3/2)	0.52 *15*	2.6 *6*	B(M1)=0.045 *13* if π=+; B(E1)=0.00050 *14* if π=− (1999Hu01).
3274.5 *8*	(1/2,3/2)	0.60 *14*	7.6 *18*	B(M1)=0.052 *12* if π=+; B(E1)=0.00057 *13* if π=− (1999Hu01).
3286.5 *3*	(1/2,3/2)	0.58 *8*	7.3 *10*	B(M1)=0.050 *7* if π=+; B(E1)=0.00055 *8* if π=− (1999Hu01).
3299.6 *6*	(1/2,3/2)	0.8 *3*	4.8 *15*	B(M1)=0.067 *27* if π=+; B(E1)=0.0007 *3* if π=− (1999Hu01).
3308.4 *9*	(1/2,3/2)	0.25 *9*	3.2 *12*	B(M1)=0.022 *8* if π=+; B(E1)=0.00024 *9* if π=− (1999Hu01).
3341.2 *7*	(1/2,3/2)	0.76 *19*	6.7 *14*	B(M1)=0.066 *16* if π=+; B(E1)=0.00073 *18* if π=− (1999Hu01).
3376.4 *4*	(1/2,3/2)	0.63 *13*	4.0 *6*	B(M1)=0.054 *11* if π=+; B(E1)=0.00060 *12* if π=− (1999Hu01).
3383.9 *6*	(1/2,3/2)	0.41 *7*	5.2 *9*	B(M1)=0.035 *6* if π=+; B(E1)=0.00039 *7* if π=− (1999Hu01).
3419.2 *5*	(1/2,3/2)	0.42 *9*	5.4 *12*	B(M1)=0.036 *8* if π=+; B(E1)=0.00040 *9* if π=− (1999Hu01).
3436.3 *8*	(1/2,3/2)	0.56 *24*	4.4 *19*	B(M1)=0.048 *21* if π=+; B(E1)=0.00053 *23* if π=− (1999Hu01).
3442.0 *10*	(1/2,3/2)	0.24 *14*	3.2 *18*	B(M1)=0.021 *12* if π=+; B(E1)=0.00023 *13* if π=− (1999Hu01).
3458.6 *7*	(1/2,3/2)	0.28 *15*	3.7 *19*	B(M1)=0.024 *13* if π=+; B(E1)=0.00027 *14* if π=− (1999Hu01).
3475.7 *3*	(1/2,3/2)	1.13 *27*	4.8 *9*	B(M1)=0.098 *23* if π=+; B(E1)=0.00108 *25* if π=− (1999Hu01).
3480.3 *3*	(1/2,3/2)	0.42 *6*	5.5 *8*	B(M1)=0.036 *5* if π=+; B(E1)=0.00040 *6* if π=− (1999Hu01).
3497.0 *4*	(1/2,3/2)	0.17 *7*	2.4 *10*	B(M1)=0.015 *6* if π=+; B(E1)=0.000017 *7* if π=− (1999Hu01).
3527.0 *7*	(1/2,3/2)	0.35 *14*	2.0 *6*	B(M1)=0.030 *12* if π=+; B(E1)=0.00033 *13* if π=− (1999Hu01).
3538.7 *6*	(1/2,3/2)	0.22 *6*	2.9 *9*	B(M1)=0.019 *5* if π=+; B(E1)=0.00021 *6* if π=− (1999Hu01).
3541.9 *6*	(1/2,3/2)	0.53 *15*	3.6 *10*	B(M1)=0.046 *13* if π=+; B(E1)=0.00051 *14* if π=− (1999Hu01).
3573.3 *4*	(1/2,3/2)	0.30 *18*	4.5 *10*	B(M1)=0.026 *16* if π=+; B(E1)=0.00029 *18* if π=− (1999Hu01).
3613.0 *3*	(1/2,3/2)	0.28 *8*	3.9 *11*	B(M1)=0.024 *7* if π=+; B(E1)=0.00027 *8* if π=− (1999Hu01).
3624.8 *3*	(1/2,3/2)	1.18 *18*	5.8 *8*	B(M1)=0.102 *16* if π=+; B(E1)=0.00113 *18* if π=− (1999Hu01).
3724.7 *5*	(1/2,3/2)	0.69 *13*	4.9 *9*	B(M1)=0.060 *11* if π=+; B(E1)=0.00066 *12* if π=− (1999Hu01).
3736.2 *7*	(1/2,3/2)	0.21 *8*	3.0 *12*	B(M1)=0.018 *7* if π=+; B(E1)=0.00020 *8* if π=− (1999Hu01).
3741.7 *4*	(1/2,3/2)	0.29 *8*	4.2 *12*	B(M1)=0.025 *7* if π=+; B(E1)=0.00028 *8* if π=− (1999Hu01).
3766.3 *7*	(1/2,3/2)	0.25 *7*	3.5 *10*	B(M1)=0.021 *6* if π=+; B(E1)=0.00023 *7* if π=− (1999Hu01).
3795.7 *11*	(1/2,3/2)	0.29 *23*	1.6 *11*	B(M1)=0.025 *20* if π=+; B(E1)=0.00028 *22* if π=− (1999Hu01).
3806.7 *6*	(1/2,3/2)	0.16 *6*	2.4 *8*	B(M1)=0.014 *5* if π=+; B(E1)=0.00015 *6* if π=− (1999Hu01).
3862.5 *6*	(1/2,3/2)	0.24 *8*	3.6 *11*	B(M1)=0.021 *7* if π=+; B(E1)=0.00023 *8* if π=− (1999Hu01).
3875.3 *7*	(1/2,3/2)	0.33 *9*	5.0 *14*	B(M1)=0.029 *8* if π=+; B(E1)=0.00032 *9* if π=− (1999Hu01).
3916.8 *6*	(1/2,3/2)	0.29 *8*	4.4 *13*	B(M1)=0.025 *7* if π=+; B(E1)=0.00028 *8* if π=− (1999Hu01).
3950.2 *7*	(1/2,3/2)	0.31 *6*	4.7 *8*	B(M1)=0.027 *5* if π=+; B(E1)=0.00030 *6* if π=− (1999Hu01).
4103.6 *5*	(1/2,3/2)	0.12 *5*	1.7 *8*	B(M1)=0.010 *4* if π=+; B(E1)=0.00011 *4* if π=− (1999Hu01).
4190.2 *10*	(1/2,3/2)	0.43 *27*	2.5 *12*	B(M1)=0.037 *23* if π=+; B(E1)=0.00041 *25* if π=− (1999Hu01).
4279.7 *4*	(1/2,3/2)	0.17 *6*	2.8 *9*	B(M1)=0.015 *5* if π=+; B(E1)=0.00017 *6* if π=− (1999Hu01).
4764.5 *14*	(1/2,3/2)	0.12 *7*	2.1 *12*	B(M1)=0.010 *6* if π=+; B(E1)=0.00011 *7* if π=− (1999Hu01).
4789.8 *11*	(1/2,3/2)	0.17 *8*	3.2 *15*	B(M1)=0.015 *7* if π=+; B(E1)=0.00017 *8* if π=− (1999Hu01).
4853.0 *11*	(1/2,3/2)	0.14 *8*	2.6 *16*	B(M1)=0.012 *7* if π=+; B(E1)=0.00013 *8* if π=− (1999Hu01).
4865.5 *8*	(1/2,3/2)	0.30 *20*	2.3 *21*	B(M1)=0.026 *17* if π=+; B(E1)=0.00029 *19* if π=− (1999Hu01).
4954.0 *5*	(1/2,3/2)	0.49 *12*	9.2 *21*	B(M1)=0.042 *10* if π=+; B(E1)=0.00046 *11* if π=− (1999Hu01).
5211.5 *6*	(1/2,3/2)	0.61 *12*	12.4 *23*	B(M1)=0.053 *10* if π=+; B(E1)=0.00059 *11* if π=− (1999Hu01).
5507 *3*	(1/2,3/2)	0.5 *5*	10 *11*	B(M1)=0.04 *5* if π=+; B(E1)=0.0005 *5* if π=− (1999Hu01).
5529.9 *6*	(1/2,3/2)	1.2 *4*	26 *9*	B(M1)=0.11 *4* if π=+; B(E1)=0.0012 *4* if π=− (1999Hu01).
5593.3 *11*	(1/2,3/2)	1.1 *8*	14 *9*	B(M1)=0.09 *7* if π=+; B(E1)=0.0010 *8* if π=− (1999Hu01).
5598.3 *4*	(1/2,3/2)	0.7 *4*	14 *8*	B(M1)=0.06 *3* if π=+; B(E1)=0.0006 *3* if π=− (1999Hu01).

[†] Authors′ values, except as noted. From spectrum obtained at 4.5 MeV bremsstrahlung endpoint energy if E(level)<4300, from 7.0 MeV bremsstrahlung endpoint energy spectrum otherwise.

[‡] D excitation from $1/2^+$ g.s. expected.

[#] (J+1/2)$\Gamma_{\gamma 0}/E_\gamma^3$ (meV/MeV^3); deduced by 1999Hu01 from measured scattering cross section and branching.

[@] Integrated scattering cross section (eV b).

[&] From Adopted Levels (rounded off to nearest 0.1 keV).

^{169}Tm(γ,γ') 1999Hu01 (continued)

$\gamma(^{169}Tm)$

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π
1510.6	(1/2,3/2)	1510.6	100	0.0	$1/2^+$
1527.5	(1/2,3/2)	1527.5	100	0.0	$1/2^+$
1864.6	(1/2,3/2)	1856.2	68 *18*	8.4	
		1864.6	32	0.0	$1/2^+$
1910.5	(1/2,3/2)	1792.3	41 *4*	118.2	
		1902.1	19 *2*	8.4	
		1910.5	40	0.0	$1/2^+$
1922.3	(1/2,3/2)	1804.1	56 *26*	118.2	
		1922.3	44	0.0	$1/2^+$
1963.7	(1/2,3/2)	1963.7	100	0.0	$1/2^+$
1978.4	(1/2,3/2)	1978.4	100	0.0	$1/2^+$
1991.7	(1/2,3/2)	1983.3	44 *20*	8.4	
		1991.7	56	0.0	$1/2^+$
2075.5	(1/2,3/2)	2067.1	53 *39*	8.4	
		2075.5	47	0.0	$1/2^+$
2168.7	(1/2,3/2)	2160.3	58 *22*	8.4	
		2168.7	42	0.0	$1/2^+$
2190.6	(1/2,3/2)	2190.6	100	0.0	$1/2^+$
2215.3	(1/2,3/2)	2215.3	100	0.0	$1/2^+$
2236.1	(1/2,3/2)	2117.9	36 *10*	118.2	
		2236.1	64	0.0	$1/2^+$
2262.5	(1/2,3/2)	2144.3	58 *18*	118.2	
		2262.5	42	0.0	$1/2^+$
2293.8	(1/2,3/2)	2293.8	100	0.0	$1/2^+$
2306.3	(1/2,3/2)	2306.3	100	0.0	$1/2^+$
2312.2	(1/2,3/2)	2194.0	52 *19*	118.2	
		2312.2	48	0.0	$1/2^+$
2386.6	(1/2,3/2)	2386.6	100	0.0	$1/2^+$
2455.8	(1/2,3/2)	2447.4	30 *19*	8.4	
		2455.8	70	0.0	$1/2^+$
2466.0	(1/2,3/2)	2466.0	100	0.0	$1/2^+$
2492.0	(1/2,3/2)	2373.8	32 *9*	118.2	
		2492.0	68	0.0	$1/2^+$
2553.4	(1/2,3/2)	2435.2	61 *26*	118.2	
		2553.4	39	0.0	$1/2^+$
2571.4	(1/2,3/2)	2571.4	100	0.0	$1/2^+$
2598.6	(1/2,3/2)	2598.6	100	0.0	$1/2^+$
2602.8	(1/2,3/2)	2602.8	100	0.0	$1/2^+$
2687.0	(1/2,3/2)	2687.0	100	0.0	$1/2^+$
2749.4	(1/2,3/2)	2741.0	49 *21*	8.4	
		2749.4	51	0.0	$1/2^+$
2756.4	(1/2,3/2)	2756.4	100	0.0	$1/2^+$
2769.1	(1/2,3/2)	2760.7	29 *8*	8.4	
		2769.1	71	0.0	$1/2^+$
2786.5	(1/2,3/2)	2786.5	100	0.0	$1/2^+$
2814.2	(1/2,3/2)	2805.8	47 *42*	8.4	
		2814.2	53	0.0	$1/2^+$
2818.6	(1/2,3/2)	2818.6	100	0.0	$1/2^+$
2843.1	(1/2,3/2)	2843.1	100	0.0	$1/2^+$
2861.1	(1/2,3/2)	2861.1	100	0.0	$1/2^+$
2943.3	(1/2,3/2)	2825.1	27 *24*	118.2	
		2934.9	43 *30*	8.4	
		2943.3	30	0.0	$1/2^+$
2996.2	(1/2,3/2)	2878.0	53 *14*	118.2	
		2996.2	47	0.0	$1/2^+$
3127.6	(1/2,3/2)	3127.6	100	0.0	$1/2^+$
3175.6	(1/2,3/2)	3175.6	100	0.0	$1/2^+$
3185.0	(1/2,3/2)	3185.0	100	0.0	$1/2^+$
3187.5	(1/2,3/2)	3187.5	100	0.0	$1/2^+$
3191.3	(1/2,3/2)	3182.9	45 *18*	8.4	
		3191.3	55	0.0	$1/2^+$
3199.7	(1/2,3/2)	3199.7	100	0.0	$1/2^+$
3204.8	(1/2,3/2)	3086.6	36 *12*	118.2	
		3204.8	64	0.0	$1/2^+$
3254.6	(1/2,3/2)	3246.2	59 *31*	8.4	
		3254.6	41	0.0	$1/2^+$
3274.5	(1/2,3/2)	3274.5	100	0.0	$1/2^+$
3286.5	(1/2,3/2)	3286.5	100	0.0	$1/2^+$
3299.6	(1/2,3/2)	3291.2	51 *38*	8.4	
		3299.6	49	0.0	$1/2^+$
3308.4	(1/2,3/2)	3308.4	100	0.0	$1/2^+$
3341.2	(1/2,3/2)	3332.8	32 *12*	8.4	
		3341.2	68	0.0	$1/2^+$
3376.4	(1/2,3/2)	3368.0	51 *17*	8.4	
		3376.4	49	0.0	$1/2^+$
3383.9	(1/2,3/2)	3383.9	100	0.0	$1/2^+$
3419.2	(1/2,3/2)	3419.2	100	0.0	$1/2^+$
3436.3	(1/2,3/2)	3318.1	40 *26*	118.2	
		3436.3	60	0.0	$1/2^+$
3442.0	(1/2,3/2)	3442.0	100	0.0	$1/2^+$
3458.6	(1/2,3/2)	3458.6	100	0.0	$1/2^+$
3475.7	(1/2,3/2)	3467.3	68 *28*	8.4	
		3475.7	32	0.0	$1/2^+$
3480.3	(1/2,3/2)	3480.3	100	0.0	$1/2^+$
3497.0	(1/2,3/2)	3497.0	100	0.0	$1/2^+$
3527.0	(1/2,3/2)	3518.6	58 *42*	8.4	
		3527.0	42	0.0	$1/2^+$
3538.7	(1/2,3/2)	3538.7	100	0.0	$1/2^+$
3541.9	(1/2,3/2)	3423.7	50 *21*	118.2	
		3541.9	50	0.0	$1/2^+$
3573.3	(1/2,3/2)	3573.3	100	0.0	$1/2^+$
3613.0	(1/2,3/2)	3613.0	100	0.0	$1/2^+$
3624.8	(1/2,3/2)	3506.6	35 *9*	118.2	
		3616.4	30 *8*	8.4	
		3624.8	35	0.0	$1/2^+$
3724.7	(1/2,3/2)	3606.5	50 *13*	118.2	
		3724.7	50	0.0	$1/2^+$
3736.2	(1/2,3/2)	3736.2	100	0.0	$1/2^+$
3741.7	(1/2,3/2)	3741.7	100	0.0	$1/2^+$
3766.3	(1/2,3/2)	3766.3	100	0.0	$1/2^+$
3795.7	(1/2,3/2)	3787.3	62 *79*	8.4	
		3795.7	38	0.0	$1/2^+$
3806.7	(1/2,3/2)	3806.7	100	0.0	$1/2^+$
3862.5	(1/2,3/2)	3862.5	100	0.0	$1/2^+$
3875.3	(1/2,3/2)	3875.3	100	0.0	$1/2^+$
3916.8	(1/2,3/2)	3916.8	100	0.0	$1/2^+$
3950.2	(1/2,3/2)	3950.2	100	0.0	$1/2^+$
4103.6	(1/2,3/2)	4103.5	100	0.0	$1/2^+$
4190.2	(1/2,3/2)	4181.7	64 *67*	8.4	
		4190.1	36	0.0	$1/2^+$

Continued on next page (footnotes at end of table)

^{169}Tm(γ,γ') 1999Hu01 (continued)

$\gamma(^{169}Tm)$ (continued)

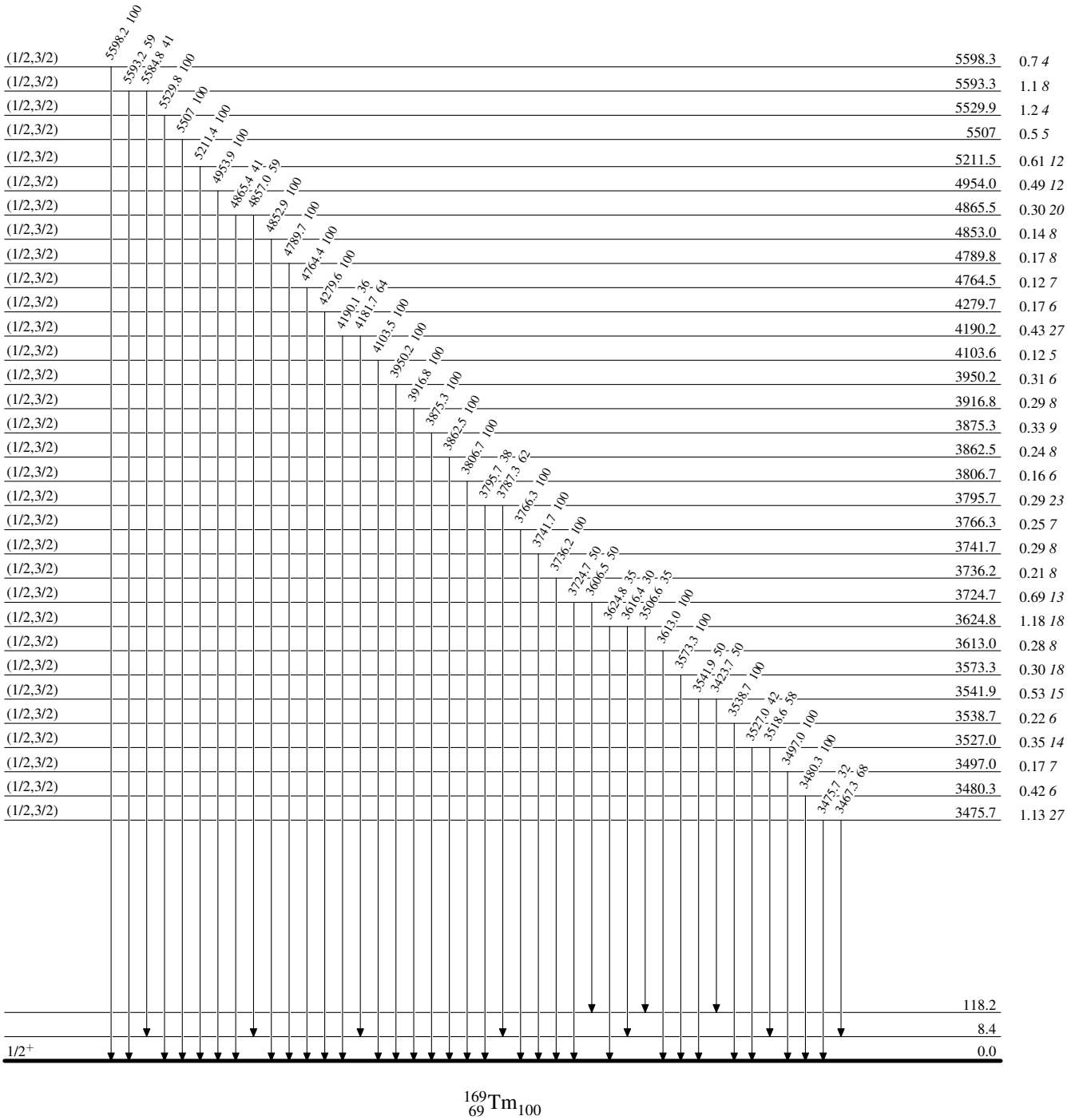
E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π
4279.7	(1/2,3/2)	4279.6	100	0.0	$1/2^+$	5211.5	(1/2,3/2)	5211.4	100	0.0	$1/2^+$
4764.5	(1/2,3/2)	4764.4	100	0.0	$1/2^+$	5507	(1/2,3/2)	5507	100	0.0	$1/2^+$
4789.8	(1/2,3/2)	4789.7	100	0.0	$1/2^+$	5529.9	(1/2,3/2)	5529.8	100	0.0	$1/2^+$
4853.0	(1/2,3/2)	4852.9	100	0.0	$1/2^+$	5593.3	(1/2,3/2)	5584.8	41 *48*	8.4	
4865.5	(1/2,3/2)	4857.0	59 *65*	8.4				5593.2	59	0.0	$1/2^+$
		4865.4	41	0.0	$1/2^+$	5598.3	(1/2,3/2)	5598.2	100	0.0	$1/2^+$
4954.0	(1/2,3/2)	4953.9	100	0.0	$1/2^+$						

† Not given by authors; deduced from authors' level energies (corrected for recoil).
‡ Percent photon branching from level (from authors' Γ_i/Γ for transitions to 8.4 and 118.2 levels, when present).

^{169}Tm(γ,γ′) 1999Hu01

Level Scheme

Intensities: % photon branching from each level

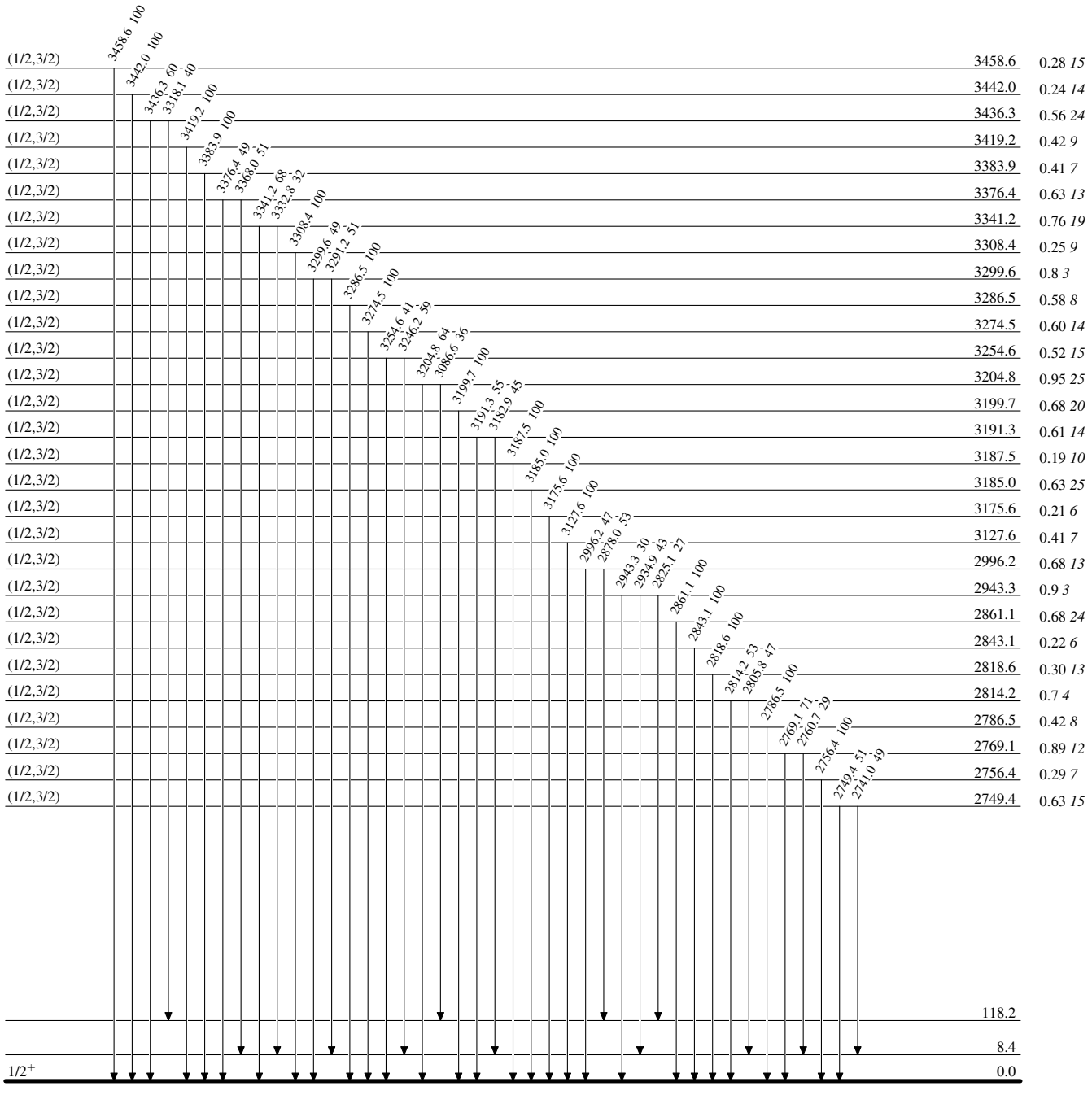


$^{169}_{69}Tm_{100}$

^{169}Tm(γ,γ′) 1999Hu01

Level Scheme (continued)

Intensities: % photon branching from each level



$^{169}_{69}Tm_{100}$

^{169}Tm(γ,γ') 1999Hu01

Level Scheme (continued)

Intensities: % photon branching from each level