

(HI,xnγ) 1994Zh18

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

1994Zh18: ¹²²Te(³⁵Cl,4nγ) at 174 MeV, measured γγ coincidences.

1985Ko30: ¹⁴⁴Sm(¹⁴N,5nγ) at 80-120 MeV, measured excitation functions, prompt and delayed γγ coincidence. Observed γ's of 167, 212, 382, 680, and 751 keV and placed them tentatively in a cascade in order of increasing energy. These γ's are not reported by 1994Zh18 and, therefore, are not included here.

All data are from 1994Zh18.

¹⁵³Tm Levels

1996Zh09 and 1994Zh18 also discuss the configuration assignments included here and 1998Zh23 report model calculations in this mass region.

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
0.0 ^b	11/2 ⁻	3423.2	31/2 ⁺	4541.0 ^a	39/2 ⁺	6127.9 ^{&}	47/2 ⁺
790.7 ^b	15/2 ⁻	3608.1 ^b	31/2 ⁻	4704.3	39/2	6195.6 ^c	47/2 ⁻
1438.9 ^b	19/2 ⁻	3635.5 ^c	31/2 ⁻	4873.4	41/2	6666.7 ^a	51/2 ⁺
1785.9 ^b	23/2 ⁻	3659.9	31/2 ⁺	4918.7 ^c	43/2 ⁻	6900.4 ^c	51/2 ⁻
1879.3 ^c	25/2 ⁻	3912.1 ^c	33/2 ⁻	5179.9	41/2	7206.5	49/2
2239.9 ^c	27/2 ⁻	3995.7 ^{&}	35/2 ⁺	5317.3	41/2	7352.9	51/2
2811.5 [#]	27/2 ⁽⁺⁾	4130.9 ^b	35/2 ⁻	5349.3	43/2	7723.8	53/2
3016.5 [#]	29/2 ⁺	4149.2	37/2 ⁺	5579.9	43/2	7976.4	55/2
3088.8 [@]	31/2 ⁺	4187.1 ^c	37/2 ⁻	5956.4	45/2	8134.5	55/2
3249.2 ^c	29/2 ⁻	4335.2 ^b	39/2 ⁻	6077.9	47/2	9168.8	57/2

[†] From fit to γ energies.

[‡] J^π and configuration assignments are from 1994Zh18 and are based on the associated model calculations (see Adopted Levels, Gammas for adopted values). The sequence of levels in a cascade assigned by 1994Zh18 do not have the common "band" sequence of J values.

[#] Member of configuration=(π h⁵_{11/2})(ν f²_{7/2})(ν i_{13/2}) + (3⁻ octupole vibration on ν f²_{7/2}).

[@] Configuration=(π h⁵_{11/2})(ν f_{7/2})(ν i_{13/2}).

[&] Member of configuration=(π h⁴_{11/2})(π d_{3/2})(ν f²_{7/2}).

^a Member of configuration=(π h⁴_{11/2})(π d_{3/2})(ν f_{7/2})(ν h_{9/2}).

^b Seq.(A): conf=(π h⁵_{11/2})(ν f²_{7/2}).

^c Seq.(B): conf=(π h⁵_{11/2})(ν f_{7/2})(ν h_{9/2}).

γ(¹⁵³Tm)

E _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	E _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π
72.2	3088.8	31/2 ⁺	3016.5	29/2 ⁺	204.1	4335.2	39/2 ⁻	4130.9	35/2 ⁻
93.4	1879.3	25/2 ⁻	1785.9	23/2 ⁻	204.8	3016.5	29/2 ⁺	2811.5	27/2 ⁽⁺⁾
121.7	6077.9	47/2	5956.4	45/2	236.7	3659.9	31/2 ⁺	3423.2	31/2 ⁺
148.2	4335.2	39/2 ⁻	4187.1	37/2 ⁻	252.6	7976.4	55/2	7723.8	53/2
153.5	4149.2	37/2 ⁺	3995.7	35/2 ⁺	262.6	5579.9	43/2	5317.3	41/2
169.5 [‡]	4873.4	41/2	4704.3	39/2	275.3	4187.1	37/2 ⁻	3912.1	33/2 ⁻
171.5	6127.9	47/2 ⁺	5956.4	45/2	332.5	4873.4	41/2	4541.0	39/2 ⁺
191.4	4187.1	37/2 ⁻	3995.7	35/2 ⁺	335.7	3995.7	35/2 ⁺	3659.9	31/2 ⁺

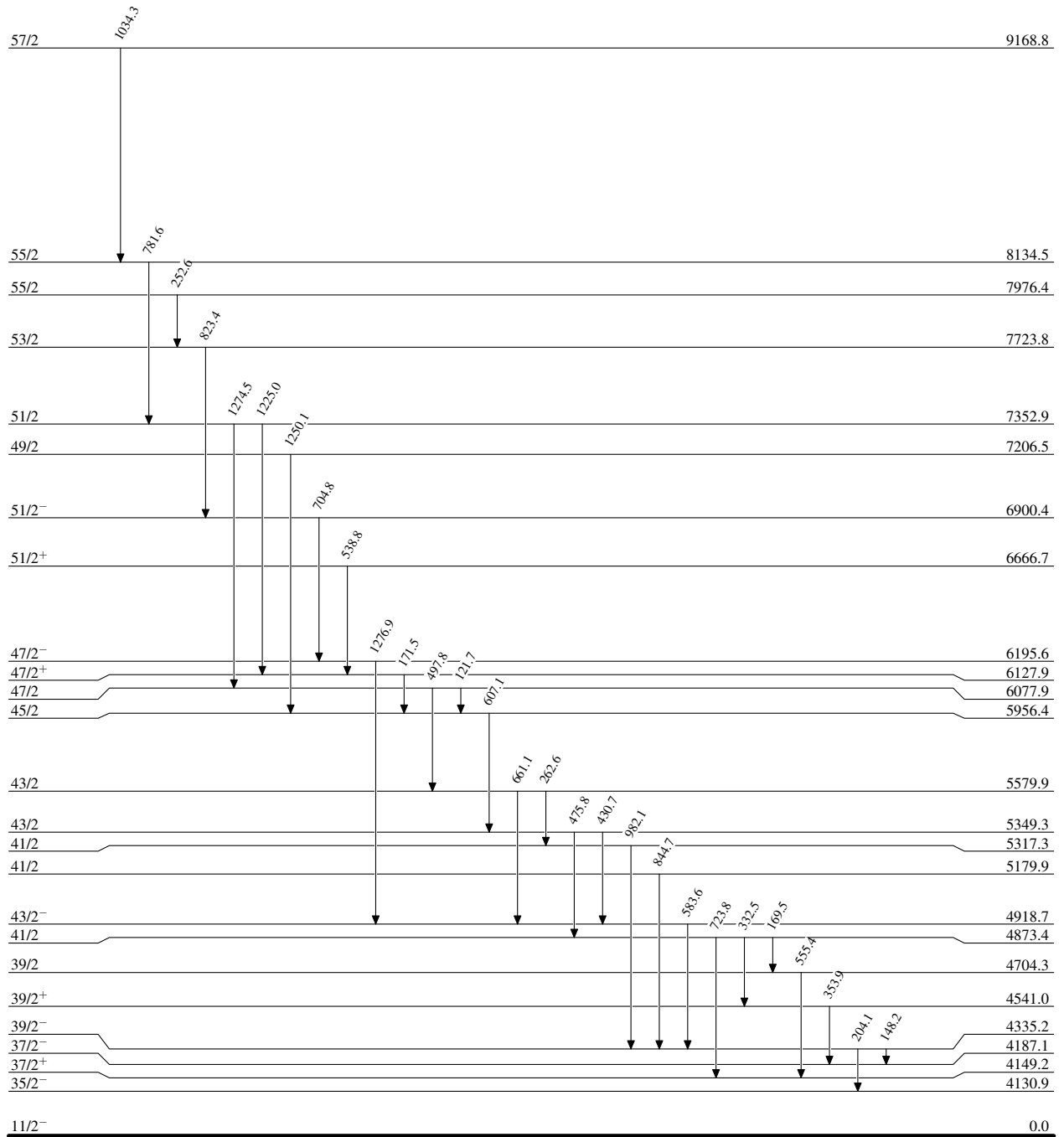
Continued on next page (footnotes at end of table)

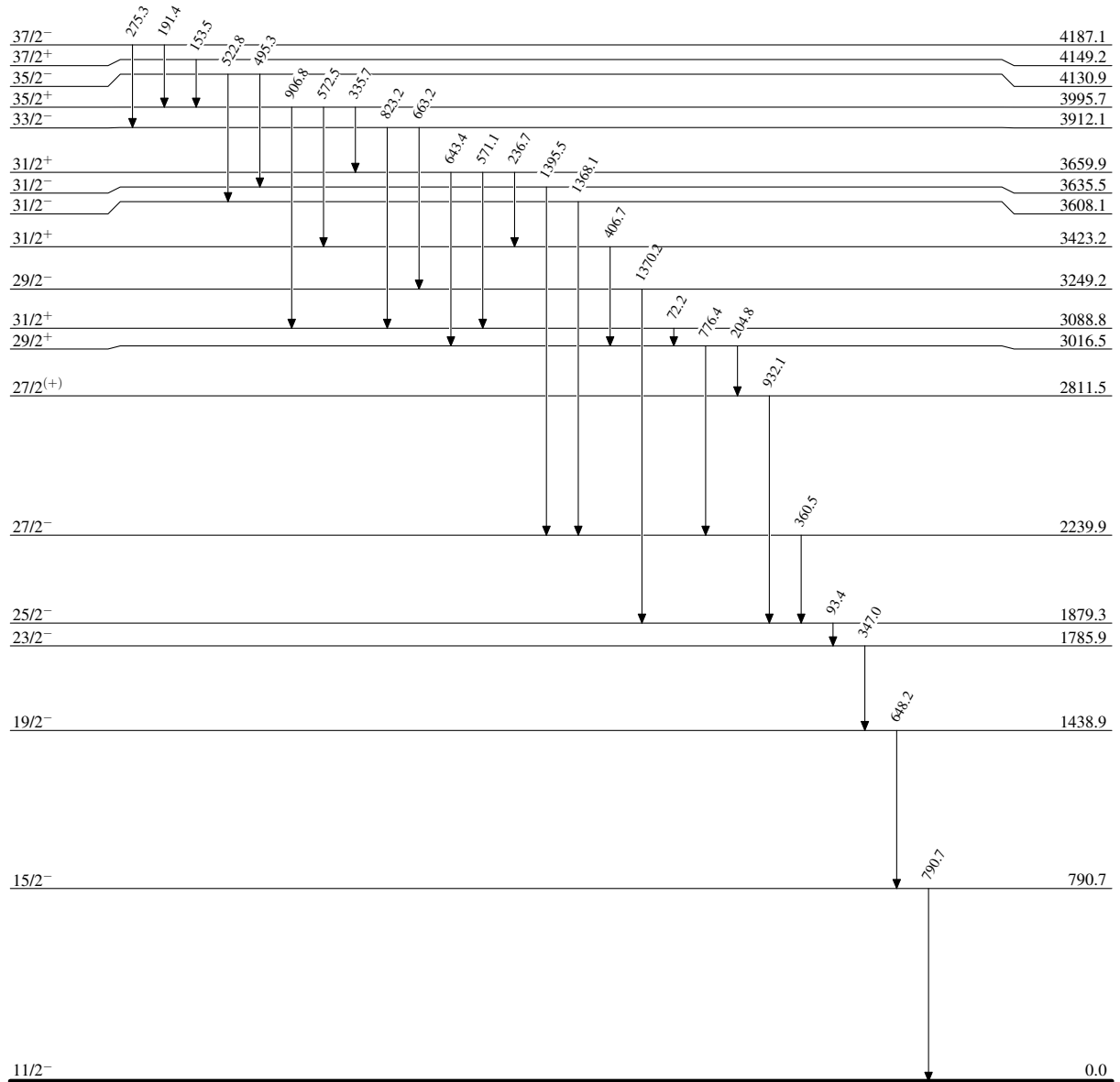
(HI,xn γ) 1994Zh18 (continued) $\gamma(^{153}\text{Tm})$ (continued)

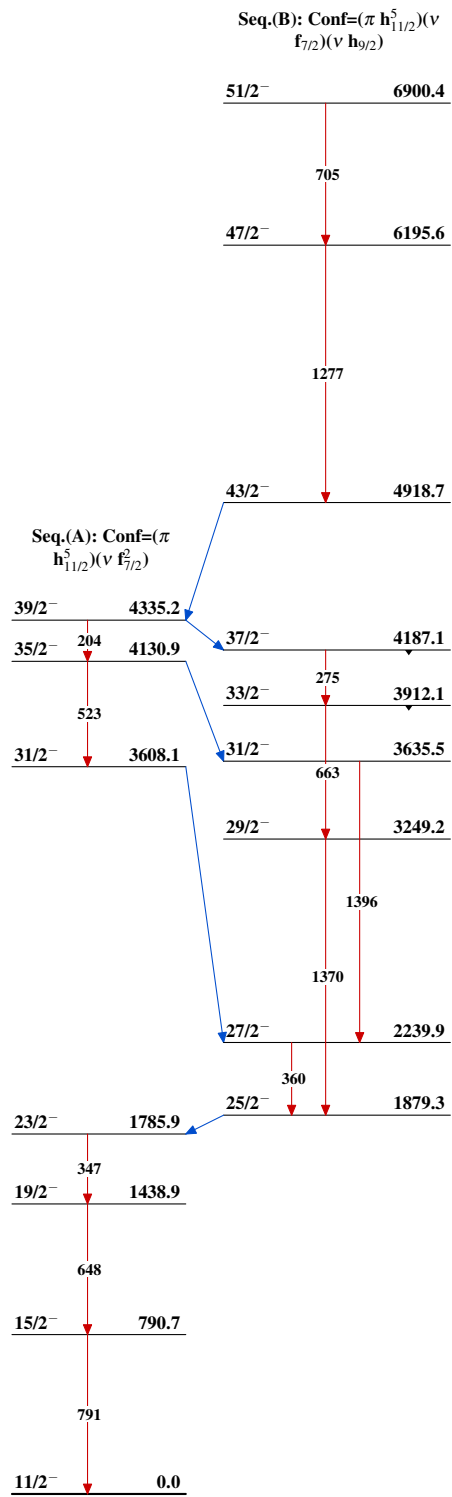
E_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
347.0	1785.9	23/2 ⁻	1438.9	19/2 ⁻	704.8	6900.4	51/2 ⁻	6195.6	47/2 ⁻
353.9	4541.0	39/2 ⁺	4187.1	37/2 ⁻	723.8	4873.4	41/2	4149.2	37/2 ⁺
360.5	2239.9	27/2 ⁻	1879.3	25/2 ⁻	776.4	3016.5	29/2 ⁺	2239.9	27/2 ⁻
406.7	3423.2	31/2 ⁺	3016.5	29/2 ⁺	781.6	8134.5	55/2	7352.9	51/2
430.7	5349.3	43/2	4918.7	43/2 ⁻	790.7	790.7	15/2 ⁻	0.0	11/2 ⁻
475.8	5349.3	43/2	4873.4	41/2	823.2	3912.1	33/2 ⁻	3088.8	31/2 ⁺
495.3	4130.9	35/2 ⁻	3635.5	31/2 ⁻	823.4	7723.8	53/2	6900.4	51/2 ⁻
497.8	6077.9	47/2	5579.9	43/2	844.7	5179.9	41/2	4335.2	39/2 ⁻
522.8	4130.9	35/2 ⁻	3608.1	31/2 ⁻	906.8	3995.7	35/2 ⁺	3088.8	31/2 ⁺
538.8	6666.7	51/2 ⁺	6127.9	47/2 ⁺	932.1	2811.5	27/2 ⁽⁺⁾	1879.3	25/2 ⁻
555.4	4704.3	39/2	4149.2	37/2 ⁺	982.1	5317.3	41/2	4335.2	39/2 ⁻
571.1	3659.9	31/2 ⁺	3088.8	31/2 ⁺	1034.3	9168.8	57/2	8134.5	55/2
572.5	3995.7	35/2 ⁺	3423.2	31/2 ⁺	1225.0	7352.9	51/2	6127.9	47/2 ⁺
583.6	4918.7	43/2 ⁻	4335.2	39/2 ⁻	1250.1	7206.5	49/2	5956.4	45/2
607.1	5956.4	45/2	5349.3	43/2	1274.5	7352.9	51/2	6077.9	47/2
643.4	3659.9	31/2 ⁺	3016.5	29/2 ⁺	1276.9	6195.6	47/2 ⁻	4918.7	43/2 ⁻
648.2	1438.9	19/2 ⁻	790.7	15/2 ⁻	1368.1	3608.1	31/2 ⁻	2239.9	27/2 ⁻
661.1	5579.9	43/2	4918.7	43/2 ⁻	1370.2	3249.2	29/2 ⁻	1879.3	25/2 ⁻
663.2	3912.1	33/2 ⁻	3249.2	29/2 ⁻	1395.5	3635.5	31/2 ⁻	2239.9	27/2 ⁻

[†] No tabular information is given in 1994Zh18; E_γ are from decay scheme drawing.

[‡] Computed from level energies; decay drawing shows γ , but no E_γ shown.

(HI,xn γ) 1994Zh18Level Scheme $^{153}_{69}\text{Tm}_{84}$

(HI,xn) γ 1994Zh18Level Scheme (continued) $^{153}_{69}\text{Tm}_{84}$

(HI,xn γ) 1994Zh18 $^{153}\text{Tm}_{84}$