

$^{184}\text{W}(\text{n},\gamma)$ E=thermal 1973PrYV

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

Additional information 1.

1973PrYV: Measured E_γ , I_γ , $\gamma\gamma$ -coin, ce. Detectors: 18 cm³ Ge(Li), FWHM=2.0 keV at 200 keV; and 27 cm³ Ge(Li), FWHM=5.5 keV at 5 MeV.

Others: 1953Ki45, 1962Tr04, 1987Kn08, 1988Ho06.

 ^{185}W Levels

E(level) [†]	J ^π [‡]	Comments
0.0	3/2 ⁻	
23.4 3	1/2 ⁻	
65.5 4	5/2 ⁻	
93.5 3	3/2 ⁻	
173.7 4	7/2 ⁻	
187.9 3	5/2 ⁻	
242.5 3	7/2 ⁻	
390.3 10	(9/2 ⁻)	
663.6 3	3/2 ⁻	
730.0 5	3/2 ⁻	
768.39 25	1/2 ⁻ , 3/2 ⁻	
774 1	1/2, 3/2, 5/2 ⁺	
822.77 24	1/2 ⁻ , 3/2 ⁻	
1006.8 4	1/2 ⁻	
1062.5 4	(5/2 ⁺)	
1181.54 24	1/2 ⁻	
1219.1 3	3/2 ⁻	
1246 1		
1285.5 7	1/2 ⁻ , 3/2 ⁻	
1359.2 10		
1441.2 9	1/2 ⁻ , 3/2 ⁻	
1503.5 5	1/2, 3/2, 5/2 ⁺	
1535.4 9	(1/2 ⁻ , 3/2)	
1572.3 10	(3/2 ⁻)	
1657 1	(1/2, 3/2)	
1881.2 10	1/2 ⁽⁻⁾ , 3/2, 5/2 ⁺	
5753.7 3	1/2 ⁺	Neutron capture state.

[†] Deduced by evaluator from a least-squares fit to γ -ray energies.

[‡] From Adopted Levels.

 $\gamma(^{185}\text{W})$

E_γ	$I_\gamma^{\#}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	E_γ	$I_\gamma^{\#}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}
107.8 9	1.9	173.7	7/2 ⁻	65.5	5/2 ⁻	^x 221.2 9	1.9				
^x 110.4 5	4.0					239.5 9	2.0	1062.5	(5/2 ⁺)	822.77	1/2 ⁻ , 3/2 ⁻
147.8 9	1.3	390.3	(9/2 ⁻)	242.5	7/2 ⁻	244.0 10	1.0	242.5	7/2 ⁻	0.0	3/2 ⁻
^x 151.0 7	1.5					^x 248.0 10	1.0				
164.9 9	1.7	187.9	5/2 ⁻	23.4	1/2 ⁻	^x 265.6 3	11.0				
173.5 5	13.3	173.7	7/2 ⁻	0.0	3/2 ⁻	^x 272.8 3	13.7				
177.0 10	20.2	242.5	7/2 ⁻	65.5	5/2 ⁻	^x 294.0 8	2.0				
188.4 8	4.0	187.9	5/2 ⁻	0.0	3/2 ⁻	^x 312.0 8	1.5				

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$^{184}\text{W}(\text{n},\gamma)$ E=thermal 1973PrYV (continued) $\gamma(^{185}\text{W})$ (continued)

E_γ	$I_\gamma^\#$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
$^{x316.0\ 8}$	2.0				
$^{x416.9\ 5}$	18.1				
$^{x418.4\ 4}$	23.7				
$^{x450.7\ 3}$	31.3				
$^{x463.8\ 3}$	8.0				
$^{x482.6\ 13}$	4.2				
517.3 13	24.0	1181.54	1/2 ⁻	663.6	3/2 ⁻
570.1 3	44.7	663.6	3/2 ⁻	93.5	3/2 ⁻
580.5 @ $\ddagger$ 3	31.0 @	768.39	1/2 ⁻ , 3/2 ⁻	187.9	5/2 ⁻
580.5 @ $\ddagger$ & 3	31.0 @	822.77	1/2 ⁻ , 3/2 ⁻	242.5	7/2 ⁻
636.6 4	64.4	730.0	3/2 ⁻	93.5	3/2 ⁻
640.1 4	80.2	663.6	3/2 ⁻	23.4	1/2 ⁻
664.2 4	100.0	663.6	3/2 ⁻	0.0	3/2 ⁻
675.2 4	28.4	768.39	1/2 ⁻ , 3/2 ⁻	93.5	3/2 ⁻
$^{x715.4\ 5}$	11.5				
$^{x734.0\ 4}$	24.6				
744.7 4	44.5	768.39	1/2 ⁻ , 3/2 ⁻	23.4	1/2 ⁻
757.5 4	70.6	822.77	1/2 ⁻ , 3/2 ⁻	65.5	5/2 ⁻
768.3 4	22.7	768.39	1/2 ⁻ , 3/2 ⁻	0.0	3/2 ⁻
$^{x788.1\ 3}$	35.0				
$^{x804.0\ 3}$	23.1				
822.5 3	100.1	822.77	1/2 ⁻ , 3/2 ⁻	0.0	3/2 ⁻
840.0 5	20.0	1503.5	1/2, 3/2, 5/2 ⁺	663.6	3/2 ⁻
888.8 4	37.8	1062.5	(5/2 ⁺)	173.7	7/2 ⁻
$^{x894.6\ 4}$	52.9				
$^{x903.3\ 4}$	63.8				
912.6 4	112.0	1006.8	1/2 ⁻	93.5	3/2 ⁻
$^{x944.3\ 5}$	31.0				
$^{x949.1\ 7}$	11.5				
975.7 6	23.9	1219.1	3/2 ⁻	242.5	7/2 ⁻
993.0 $\ddagger$ 6	10.0	1181.54	1/2 ⁻	187.9	5/2 ⁻
1007.4 6	32.7	1006.8	1/2 ⁻	0.0	3/2 ⁻
$^{x1027.8\ 6}$	40.0				
1031.9 6	45.0	1219.1	3/2 ⁻	187.9	5/2 ⁻
$^{x1048.0\ 10}$	10.0				
$^{x1075.0\ 10}$	10.0				
1098.0 10	10.0	1285.5	1/2 ⁻ , 3/2 ⁻	187.9	5/2 ⁻
$^{x1104.0\ 10}$	10.0				
1110.0 $\ddagger$ 10	10.0	1285.5	1/2 ⁻ , 3/2 ⁻	173.7	7/2 ⁻
$^{x1122.6\ 5}$	34.0				
1126.4 5	68.2	1219.1	3/2 ⁻	93.5	3/2 ⁻
1153.3 5	15.5	1219.1	3/2 ⁻	65.5	5/2 ⁻
1158.4 4	37.1	1181.54	1/2 ⁻	23.4	1/2 ⁻
$^{x1165.1\ 3}$	80.0				
$^{x1173.7\ 3}$	31.4				
1181.6 3	117.0	1181.54	1/2 ⁻	0.0	3/2 ⁻
1195.7 3	46.1	1219.1	3/2 ⁻	23.4	1/2 ⁻
1330.4 $\ddagger$ 19	43.0	1503.5	1/2, 3/2, 5/2 ⁺	173.7	7/2 ⁻
1345.6 @ 20	30.0 @	1441.2	1/2 ⁻ , 3/2 ⁻	93.5	3/2 ⁻
1345.6 @ $\ddagger$ 20	30.0 @	1535.4	(1/2 ⁻ , 3/2)	187.9	5/2 ⁻
1408.0 20	37.6	1503.5	1/2, 3/2, 5/2 ⁺	93.5	3/2 ⁻
$^{x1452.0\ 20}$	37.0				
$^{x1458.3\ 20}$	35.0				
3872.5 $\ddagger$ 10	11.0	5753.7	1/2 ⁺	1881.2	1/2 ⁽⁻⁾ , 3/2, 5/2 ⁺

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$^{184}\text{W}(\text{n},\gamma)$ E=thermal **1973PrYV** (continued) $\gamma(^{185}\text{W})$ (continued)

E_γ	I_γ #	$E_i(\text{level})$	J_i^π	E_f	J_f^π
4096.7 [†]	10	6.1	5753.7	1/2 ⁺	1657 (1/2,3/2)
4181.4 [†]	10	9.5	5753.7	1/2 ⁺	1572.3 (3/2 ⁻)
4218.3 [†]	9	50.0	5753.7	1/2 ⁺	1535.4 (1/2 ⁻ ,3/2)
4312.5 [†]	9	43.0	5753.7	1/2 ⁺	1441.2 1/2 ⁻ ,3/2 ⁻
4394.5 [†]	10	12.2	5753.7	1/2 ⁺	1359.2
4468.2 [†]	8	33.0	5753.7	1/2 ⁺	1285.5 1/2 ⁻ ,3/2 ⁻
4507.7 [†]	10	6.0	5753.7	1/2 ⁺	1246
4534.6 [†]	4	111.4	5753.7	1/2 ⁺	1219.1 3/2 ⁻
4572.2 [†]	4	153.0	5753.7	1/2 ⁺	1181.54 1/2 ⁻
4691.2 [†]	5	11.3	5753.7	1/2 ⁺	1062.5 (5/2 ⁺)
4746.9 [†]	5	86.0	5753.7	1/2 ⁺	1006.8 1/2 ⁻
4930.9 [†]	4	43.5	5753.7	1/2 ⁺	822.77 1/2 ⁻ ,3/2 ⁻
4979.7 [†]	10	24.4	5753.7	1/2 ⁺	774 1/2,3/2,5/2 ⁺
4985.3 [†]	4	27.8	5753.7	1/2 ⁺	768.39 1/2 ⁻ ,3/2 ⁻
5023.7 [†]	6	9.6	5753.7	1/2 ⁺	730.0 3/2 ⁻
5090.1 [†]	4	100.0	5753.7	1/2 ⁺	663.6 3/2 ⁻
5660.2 [†]	4	2.6	5753.7	1/2 ⁺	93.5 3/2 ⁻
5730.3 [†]	4	5.2	5753.7	1/2 ⁺	23.4 1/2 ⁻
5753.7 [†]	3	56.5	5753.7	1/2 ⁺	0.0 3/2 ⁻

[†] Energies and relative intensities for E_γ 's greater than 3.0 MeV are from the table of prompt γ 's in **1973PrYV**. The evaluator has recalculated the E_γ 's from the low energy levels with $S(\text{n})=5753.7$ 3 (**2003Au03**).

[‡] Not observed in $^{184}\text{W}(\text{n},\gamma)$ E=thermal: γ coin; not in adopted gammas.

Primary and secondary γ -ray intensities are relative to 100 for 5092 γ and 664.2 γ , respectively. $\Delta I_\gamma=10\text{-}15\%$ for strong lines, and up to 100% for weak lines.

@ Multiply placed with undivided intensity.

& Placement of transition in the level scheme is uncertain.

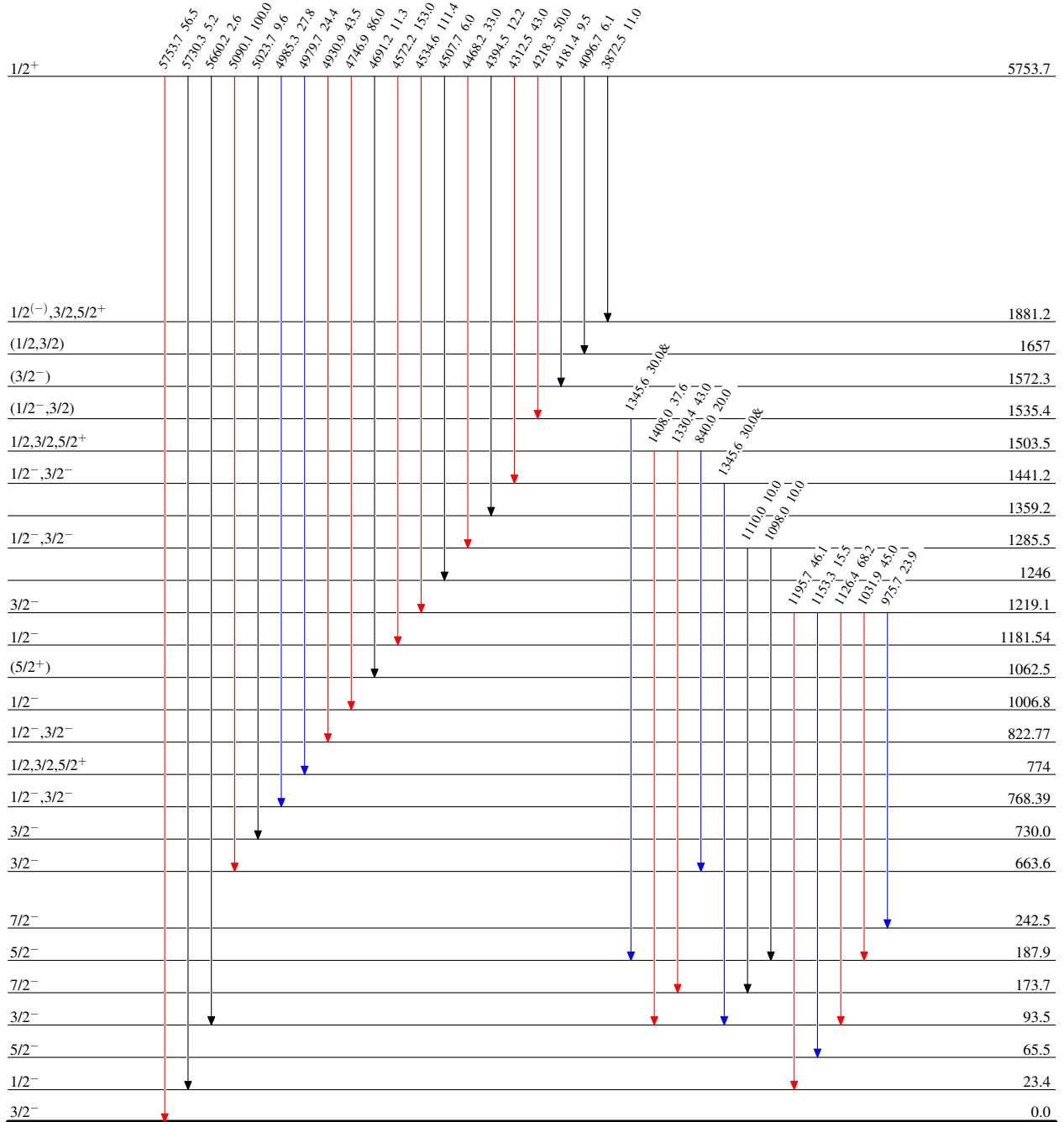
^x γ ray not placed in level scheme.

$^{184}\text{W}(\text{n},\gamma) \text{E=thermal}$ 1973PrYV

Level Scheme

Legend

Intensities: Primary and secondary I_γ are relative to 100 for 5092 γ and 664.2 γ , respectively. 664.2 γ , respectively. $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 & Multiply placed: undivided intensity given $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 $I_\gamma > 10\% \times I_\gamma^{\text{max}}$



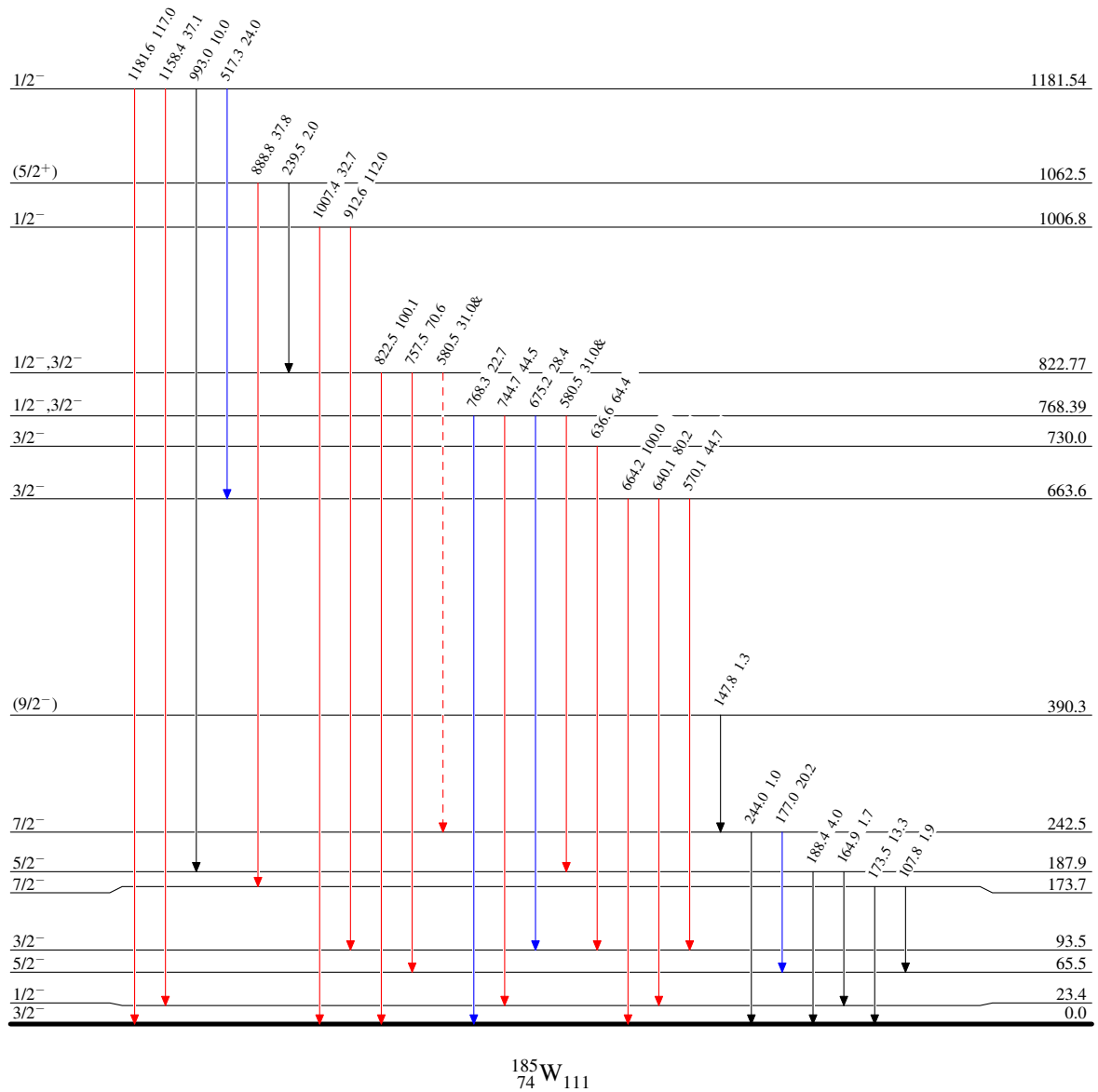
$^{184}\text{W}(\text{n},\gamma)$ E=thermal 1973PrYV

Level Scheme (continued)

Intensities: Primary and secondary I_γ are relative to 100 for 5092 γ and 664.2 γ , respectively. 664.2 γ , respectively. $I_\gamma < 10\% \times I_\gamma^{\text{max}}$ & Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- $\longrightarrow$ γ Decay (Uncertain)

 $^{185}_{74}\text{W}_{111}$