

$^{183}\text{W}(n,\gamma)$  E=2 keV 1974Gr11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111,275 (2010)	1-Oct-2009

1974Gr11: average resonance capture; energy distribution of neutron beam is approximately Gaussian with the peak intensity at 1.95 keV and FWHM $\approx$ 0.7 keV.

 $^{184}\text{W}$  Levels

E(level) <sup>†‡</sup>	J $\pi$ #	Comments
0.0	0 <sup>+</sup>	E(level): 1974Gr11 deduced a value of $-0.14$ 19.
110.79 18	2 <sup>+</sup>	
903.307 9	2 <sup>+</sup>	E(level): from Adopted Levels.
1002.08 15	0 <sup>+</sup>	
1121.16 15	2 <sup>+</sup>	
1131.2 8	(2) <sup>-</sup>	
1321.75 21	(0) <sup>+</sup>	
1385.3 5	2 <sup>+</sup>	
1430.70 23	2 <sup>+</sup>	
1614.03 17	(1) <sup>+</sup>	
1626.86 21	(1) <sup>+</sup>	
1713.6 4	(0) <sup>+</sup>	
1774.6 3	(2) <sup>+</sup>	
1808.2 5	(2) <sup>+</sup>	
1877.4 4	(2) <sup>+</sup>	
1995.7? 10	(1) <sup>-</sup>	
2013.5 4	(2) <sup>+</sup>	
2031.3 12	0 <sup>+</sup>	
2035.3 10	1 <sup>+</sup> ,2 <sup>+</sup>	
2061.7 5		
2098.6 11	(1) <sup>+</sup>	
2104.2 14	(2) <sup>+</sup>	
2111.5 12		
2126.6 10		
2168.11 23	(1) <sup>+</sup>	
2194.7? 10		
2223.2? 4	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	E(level): primary $\gamma$ may be a double-escape peak (1974Gr11).
2246.59 26	(2) <sup>+</sup>	
2295.3 4	(2) <sup>+</sup>	
2352.1 8	(1) <sup>-</sup>	
2370.2 4	(1) <sup>+</sup>	
2392.3 3		
2401.8 6		
2421.5 7	(0) <sup>+</sup>	
2438.5 6		
2458.6 8	1	
2484.3 10		
2490 3	(4 <sup>-</sup> ,5,6)	
2509.8 6		
2518.8 4		
2532.4 6		
2554.0 5		
2572.6 6		
2582.0? 23		
2592.8 5		
2615.6 11		
2622.2 22		

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$^{183}\text{W}(n,\gamma)$  E=2 keV **1974Gr11** (continued) $^{184}\text{W}$  Levels (continued)

E(level) <sup>†‡</sup>	J <sup>π</sup> <sup>#</sup>	Comments
2629.7 4		
2652.1 5		
2675.5 7		
2693.4 4		
2704.5 9		
2719.4 5		
2757.9 6		
2766.3 5		
2798.6 5		
2815.9 7		
2845.4 11		
2853.6 6		
2892.8 7	1	
2919.2 9		
2937.8 14	(0 <sup>+</sup> )	
2948.7 5		
2968.2 6	(1 <sup>+</sup> )	
2981.4 5		
3027.1 8		
3070.1? 15		
3082.4 6	1	
3105.3 5		
3134.4 4		
3184.9 7		
3215.5 7		
3226.6 8		
3249.6 6		
3262.6 8		
3290.7 7		
3314.4 6		
3369.5 10		
3392.2 9		
3399.9 7		
3420.8 9		
3442.3 10		
3455.4 12		
3465.4 7	1	
3507.9 10	(1)	
3684.5 6		
(≈7413)		E(level): energy centroid of capture state ( <b>1974Gr11</b> ).

<sup>†</sup> From E<sub>γ</sub>, assuming that the 6509.5γ feeds the level adopted at 903.307 9.

<sup>‡</sup> From E<sub>γ</sub>, except As noted.

<sup>#</sup> From Adopted Levels.

γ( $^{184}\text{W}$ )

I<sub>γ</sub> normalization: Obtained from known absolute intensities in thermal capture, and assumption that sum I(γ) for a group of randomly selected secondary transitions will be approximately equal in thermal and 2-keV capture. **1974Gr11** obtain I(7302γ+7413γ)=4.0 per 100 neutron captures in  $^{183}\text{W}$ .

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$^{183}\text{W}(n,\gamma)$  E=2 keV **1974Gr11** (continued) $\gamma(^{184}\text{W})$  (continued)

$E_\gamma$	$I_\gamma$ #	$E_i$ (level)	$E_f$	$J_f^\pi$	$I_\gamma/(E_\gamma^5)^\dagger$
3728.3	8	34 7 ( $\approx 7413$ )	3684.5		
3904.8	12	18 5 ( $\approx 7413$ )	3507.9	(1)	
3947.4	9	22 4 ( $\approx 7413$ )	3465.4	1	
3957.3	14	12 3 ( $\approx 7413$ )	3455.4		
3970.4	12	17 5 ( $\approx 7413$ )	3442.3		
3991.9	11	22 7 ( $\approx 7413$ )	3420.8		
4012.9	9	23 5 ( $\approx 7413$ )	3399.9		
4020.6	11	17 5 ( $\approx 7413$ )	3392.2		
4043.3	@ 12	22 7 ( $\approx 7413$ )	3369.5		
4098.3	8	22 4 ( $\approx 7413$ )	3314.4		
4122.0	9	18 4 ( $\approx 7413$ )	3290.7		
4150.1	10	18 5 ( $\approx 7413$ )	3262.6		
4163.1	8	29 6 ( $\approx 7413$ )	3249.6		
4186.1	10	17 3 ( $\approx 7413$ )	3226.6		
4197.3	9	19 4 ( $\approx 7413$ )	3215.5		
4227.9	9	19 6 ( $\approx 7413$ )	3184.9		
4278.4	7	28 4 ( $\approx 7413$ )	3134.4		
4307.4	8	31 5 ( $\approx 7413$ )	3105.3		
4330.3	9	23 5 ( $\approx 7413$ )	3082.4	1	
4342.7	@ 17	8 3 ( $\approx 7413$ )	3070.1?		
4385.7	10	16 5 ( $\approx 7413$ )	3027.1		
4431.3	8	20 3 ( $\approx 7413$ )	2981.4		
4444.6	8	17 3 ( $\approx 7413$ )	2968.2	(1 <sup>+</sup> )	
4464.0	8	20 4 ( $\approx 7413$ )	2948.7		
4474.9	15	11 3 ( $\approx 7413$ )	2937.8	(0 <sup>+</sup> )	
4493.6	11	16 3 ( $\approx 7413$ )	2919.2		85 17
4519.9	9	17 3 ( $\approx 7413$ )	2892.8	1	89 18
4559.2	8	18 4 ( $\approx 7413$ )	2853.6		89 18
4567.3	13	8.9 27 ( $\approx 7413$ )	2845.4		45 12
4596.9	9	12.8 26 ( $\approx 7413$ )	2815.9		62 12
4614.1	8	21 3 ( $\approx 7413$ )	2798.6		100 15
4646.4	8	21 3 ( $\approx 7413$ )	2766.3		95 14
4654.9	8	20 4 ( $\approx 7413$ )	2757.9		89 18
4693.3	8	18.1 27 ( $\approx 7413$ )	2719.4		80 12
4708.2	10	8.6 26 ( $\approx 7413$ )	2704.5		37 11
4719.4	7	21.8 22 ( $\approx 7413$ )	2693.4		93 9
4737.3	9	11.9 24 ( $\approx 7413$ )	2675.5		50 10
4760.6	7	20 3 ( $\approx 7413$ )	2652.1		77 8
4783.1	7	28 4 ( $\approx 7413$ )	2629.7		111 17
4790.5	22	5.3 21 ( $\approx 7413$ )	2622.2		21 8
4797.2	13	11 3 ( $\approx 7413$ )	2615.6		43 13
4820.0	8	16.3 24 ( $\approx 7413$ )	2592.8		63 9
4830.8	@ 24	3.5 18 ( $\approx 7413$ )	2582.0?		13 7
4840.2	8	12.2 18 ( $\approx 7413$ )	2572.6		46 7
4858.8	8	12.4 19 ( $\approx 7413$ )	2554.0		46 7
4880.3	9	11.0 22 ( $\approx 7413$ )	2532.4		40 8
4894.0	7	27 5 ( $\approx 7413$ )	2518.8		96 19
4903.0	8	15 3 ( $\approx 7413$ )	2509.8		53 11
4923	3	4.7 24 ( $\approx 7413$ )	2490	(4 <sup>-</sup> ,5,6)	16 8
4928.5	12	9 3 ( $\approx 7413$ )	2484.3		32 10
4954.1	9	12.9 19 ( $\approx 7413$ )	2458.6	1	43 6
4974.2	8	7.5 15 ( $\approx 7413$ )	2438.5		25 5
4991.2	9	10.7 21 ( $\approx 7413$ )	2421.5	(0 <sup>+</sup> )	35 7
5010.9	8	10.0 15 ( $\approx 7413$ )	2401.8		32 5
5020.4	6	21.9 22 ( $\approx 7413$ )	2392.3		69 7
5042.5	7	19.2 19 ( $\approx 7413$ )	2370.2	(1 <sup>+</sup> )	59 6

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$^{183}\text{W}(n,\gamma) E=2 \text{ keV}$  **1974Gr11** (continued) $\gamma(^{184}\text{W})$  (continued)

$E_\gamma$	$I_\gamma^\#$	$E_i(\text{level})$	$E_f$	$J_f^\pi$	$I_\gamma/(E_\gamma^5)^\dagger$
5060.7 10	8.3 17	( $\approx 7413$ )	2352.1	(1) <sup>-</sup>	25 5
5117.4 7	10.6 16	( $\approx 7413$ )	2295.3	(2) <sup>+</sup>	30 5
5166.2 6	23.8 24	( $\approx 7413$ )	2246.59	(2) <sup>+</sup>	65 7
5189.6 <sup>‡@</sup> 7	16.5 17	( $\approx 7413$ )	2223.2?	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	44 5
5218.1 <sup>@</sup> 12	3.7 11	( $\approx 7413$ )	2194.7?		10 3
5244.7 6	34.6 24	( $\approx 7413$ )	2168.11	(1) <sup>+</sup>	88 6
5286.1 12	4.9 10	( $\approx 7413$ )	2126.6		12.0 24
5301.3 13	9.1 18	( $\approx 7413$ )	2111.5		22 4
5308.5 15	18 4	( $\approx 7413$ )	2104.2	(2) <sup>+</sup>	41 8
5314.2 13	15 3	( $\approx 7413$ )	2098.6	(1) <sup>+</sup>	35 7
5351.0 8	13.6 20	( $\approx 7413$ )	2061.7		31 3
5377.5 12	18 4	( $\approx 7413$ )	2035.3	1 <sup>+</sup> ,2 <sup>+</sup>	41 8
5381.5 14	16 3	( $\approx 7413$ )	2031.3	0 <sup>+</sup>	36 7
5399.3 7	14.8 15	( $\approx 7413$ )	2013.5	(2) <sup>+</sup>	32 3
5417.0 <sup>@</sup> 12	3.7 11	( $\approx 7413$ )	1995.7?	(1) <sup>-</sup>	7.9 24
5535.4 7	11.9 24	( $\approx 7413$ )	1877.4	(2) <sup>+</sup>	23 5
5604.6 8	11.1 17	( $\approx 7413$ )	1808.2	(2) <sup>+</sup>	20 3
5638.2 6	28 3	( $\approx 7413$ )	1774.6	(2) <sup>+</sup>	49 5
5699.1 7	15.6 16	( $\approx 7413$ )	1713.6	(0) <sup>+</sup>	26.1 26
5785.9 6	36.0 25	( $\approx 7413$ )	1626.86	(1) <sup>+</sup>	56 4
5798.8 6	63 4	( $\approx 7413$ )	1614.03	(1) <sup>+</sup>	96 7
5982.1 6	42 3	( $\approx 7413$ )	1430.70	2 <sup>+</sup>	55 4
6027.4 8	15.8 24	( $\approx 7413$ )	1385.3	2 <sup>+</sup>	19 3
6091.0 6	28.9 20	( $\approx 7413$ )	1321.75	(0) <sup>+</sup>	34.0 24
6281.5 10	7.3 15	( $\approx 7413$ )	1131.2	(2) <sup>-</sup>	7.4 15
6291.6 6	80 4	( $\approx 7413$ )	1121.16	2 <sup>+</sup>	81 4
6410.7 6	65 3	( $\approx 7413$ )	1002.08	0 <sup>+</sup>	59 3
6509.5 6	50.2 25	( $\approx 7413$ )	903.307	2 <sup>+</sup>	42.5 21
7302.0 6	112 6	( $\approx 7413$ )	110.79	2 <sup>+</sup>	54 3
7412.9 6	100.0	( $\approx 7413$ )	0.0	0 <sup>+</sup>	44.4

<sup>†</sup> Reduced photon intensity (i.e.,  $I_\gamma/(E_\gamma^5)$ ) for  $E(n)=2 \text{ keV}$ . Data are from [1974Gr11](#).

<sup>‡</sup> May be a double-escape peak ([1974Gr11](#)).

<sup>#</sup> For intensity per 100 neutron captures, multiply by 0.019.

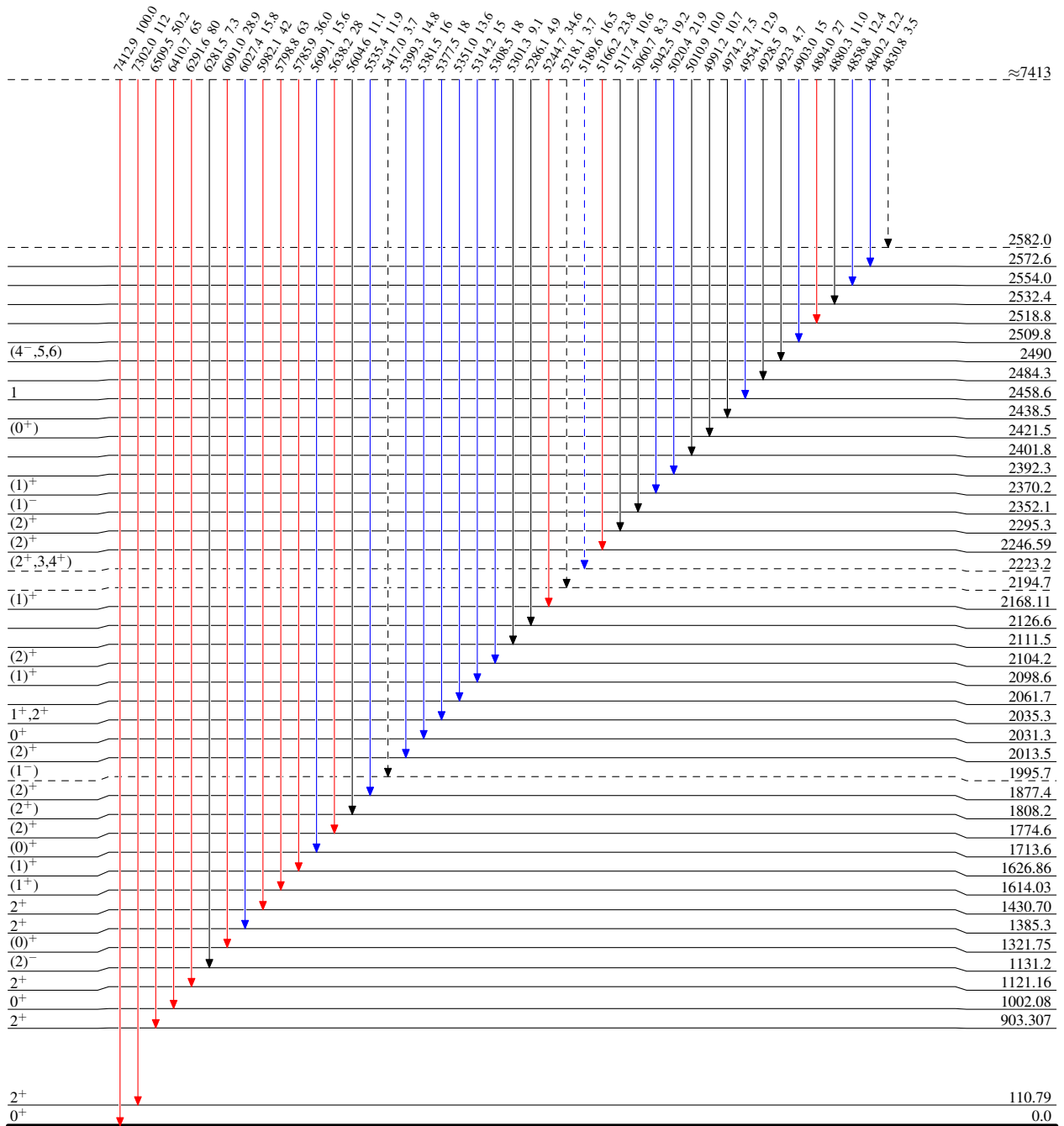
<sup>@</sup> Placement of transition in the level scheme is uncertain.

$^{183}\text{W}(n,\gamma) E=2\text{ keV}$  1974Gr11

Legend

Level Scheme  
Intensities: Relative  $I_\gamma$

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



<sup>183</sup>W(n,γ) E=2 keV 1974Gr11

Legend

Level Scheme (continued)

Intensities: Relative I<sub>γ</sub>

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>
- - - - - γ Decay (Uncertain)

