^{184}Os(n,γ) E=th 1974Pr15

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

^{185}Os Levels

E(level)[†]	J^{π}[‡]	Comments
0.0	$1/2^{-}$[#]	
37.31 *13*	$3/2^{-}$[#]	
97.49 *13*	$5/2^{-}$[#]	
102.3 *6*	$7/2^{-}$[a]	
128.06 *9*	$3/2^{-}$[@]	
198.23 *25*	$7/2^{-}$[#]	
222.45 *15*	$5/2^{-}$[@]	
260.7 *6*	$9/2^{-}$[a]	
318.3 *4*	$9/2^{-}$[#]	
352.04 *16*	$7/2^{-}$[@]	
406.50 *24*	$1/2^{-}$[&]	
468.72 *22*	$3/2^{-}$[&]	
504.6 *3*	$5/2^{-}$[&]	
539.4? *6*		
626.6? *6*		
642.0 *4*	$3/2^{-}$[b]	
646.3 *3*	$7/2^{-}$[&]	
746.4 *4*	$5/2^{-}$[b]	
797.0 *6*		
843.0 *4*	$3/2^{-}$	
879.7 *6*		
965.3 *6*		
1061.2 *6*		
1116.3 *6*	$3/2^{-}$	
1178.7 *7*		
1209.4 *10*		
1353.4 *10*		
1418.4 *10*		
1506.4 *10*		
1540.4 *10*		
(6624.5 *3*)	$1/2^{+}$	Neutron capture state. J^{π}: $1/2^{+}$ from s-wave n capture on even-even target.

[†] From least-squares fit to Eγ's.
[‡] Assignments of 1974Pr15, based on their γ and ce data, and previously known J^{π}'s. See Adopted Levels for adopted J^{π} assignments.
[#] 1/2[510] rotational band.
[@] 3/2[512] rotational band.
[&] 1/2[521] rotational band. Authors band assignments, not adopted in Adopted Levels because the J=5/2 member is assigned as the 9/2 member of a different band in Adopted Levels, Gammas.
[a] 7/2[503] rotational band.
[b] K-2 γ-vibrational band built on 7/2[503] Authors band assignments, not adopted in Adopted Levels.

^{184}Os(n,γ) E=th 1974Pr15 (continued)

γ(^{185}Os)

E_γ ‡	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Comments
(37.4#)		37.31	3/2−	0.0	1/2−	
60.2@ *1*		97.49	5/2−	37.31	3/2−	
62.2@ *2*		468.72	3/2−	406.50	1/2−	
x83.7@b						ce line observed at 70.7 keV *4* was assigned by 1974Pr15 as L1(83.7γ) or K(144.6γ), or both.
x84.7@b						ce line observed at 71.7 keV *2* was assigned by 1974Pr15 as L1(84.7γ) or K(145.6γ), or both.
90.6@ *2*		128.06	3/2−	37.31	3/2−	
(94.5#)		222.45	5/2−	128.06	3/2−	
97.5@ *2*		97.49	5/2−	0.0	1/2−	
100.5@ *4*		198.23	7/2−	97.49	5/2−	
x103.1@b						ce line observed at 90.1 keV *2* was assigned by 1974Pr15 as L1(103.1γ) or K(164.0γ), or both.
104.4@ *2*		746.4	5/2−	642.0	3/2−	
(119.5#)		318.3	9/2−	198.23	7/2−	
(124.9#)		222.45	5/2−	97.49	5/2−	
x127.2@ *2*						ce lines observed at 53.3 keV *2* and 54.2 keV *1* were assigned by 1974Pr15 as K(127.2γ) and K(128.1γ), while a photon was observed by 1974PrZY at 127.8 keV. Ice′s were not given and spectra taken were not shown. The 127.8-keV photon peak is assumed to be the 128.1 keV *1* transition seen in the ce spectrum.
128.1 *1*	16.8	128.06	3/2−	0.0	1/2−	
(129.4#)		352.04	7/2−	222.45	5/2−	
141.8@ *5*		646.3	7/2−	504.6	5/2−	
x144.6@b *4*						
x145.6@b *2*						
153.6& *3*		352.04	7/2−	198.23	7/2−	
158.4 *1*	26.8	260.7	9/2−	102.3	7/2−	
160.6@		198.23	7/2−	37.31	3/2−	ce line at 86.7 keV *2* was assigned by 1974Pr15 as L3(97.6γ)+K(160.6γ).
x164.0b						ce line observed at 90.1 keV *2* was assigned by 1974Pr15 as L1(103.1γ) or K(164.0γ), or both.
177.6@ *3*		646.3	7/2−	468.72	3/2−	
181.6a	4.6	1061.2		879.7		
184.2@ *6*		406.50	1/2−	222.45	5/2−	
185.3& *2*		222.45	5/2−	37.31	3/2−	
200.8@ *2*		843.0	3/2−	642.0	3/2−	
220.9@ *4*		318.3	9/2−	97.49	5/2−	
222.4 *2*	24.7	222.45	5/2−	0.0	1/2−	
223.9@ *2*		352.04	7/2−	128.06	3/2−	
x239.7	3.5					E_γ: Eγ=240.1 keV *7* seen in ce spectrum.
246.4 *5*	1.1	468.72	3/2−	222.45	5/2−	
x251.6@ *2*						
254.8 *2*	16.5	352.04	7/2−	97.49	5/2−	
x256.3@ *4*						
278.3a	3.7	406.50	1/2−	128.06	3/2−	
282.9 *6*	1.4	504.6	5/2−	222.45	5/2−	
x300.2a	7.7					
307.4 *8*	1.9	504.6	5/2−	198.23	7/2−	E_γ: Eγ=306.0 keV seen in γ spectrum.

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^{184}Os(n,γ) E=th 1974Pr15 (continued)

γ(^{185}Os) (continued)

E_γ ‡	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Comments
314.1[a]	2.6	352.04	7/2−	37.31	3/2−	
x322.7[a]	10					
336.0[a]	2.1	1178.7		843.0	3/2−	
342.9[a]	4.4	468.72	3/2−	128.06	3/2−	Energy fit in level scheme is poor.
x357.1[&] *9*						
(368.8)		406.50	1/2−	37.31	3/2−	Transition was not resolved from 371.5γ of ^{191}Os.
x376.8[d] *9*	5.5[d]					
376.8[d] *9*	5.5[d]	504.6	5/2−	128.06	3/2−	I_γ: multiplet with Eγ=377.5 keV in γ spectrum of 1974PrZY.
382.7[a]	2.2	1178.7		797.0		
x387.5[@] *9*						
406.2[d] *5*	21[d]	406.50	1/2−	0.0	1/2−	E_γ: Eγ=407.3 keV seen in γ spectrum.
406.2[d] *5*	21[d]	504.6	5/2−	97.49	5/2−	
411.8[@] *10*		539.4?		128.06	3/2−	
x417.7[@] *10*						
419.5[a]	8.7	1061.2		642.0	3/2−	
431.2 *4*	100	468.72	3/2−	37.31	3/2−	
447.6[a]	4.2	646.3	7/2−	198.23	7/2−	
x460.8[@] *10*						
x462.5[a]	10.2					
468.5[&] *10*		468.72	3/2−	0.0	1/2−	
491.9[a]	1.9	843.0	3/2−	352.04	7/2−	
501.7[a]	1.8	539.4?		37.31	3/2−	E_γ: Eγ=500.9 keV *10* seen in ce spectrum.
x508.2[a]	8.0					
513.3[@] *8*		642.0	3/2−	128.06	3/2−	
522.2[@] *10*		1061.2		539.4?		
523.9[c] *10*		626.6?		102.3	7/2−	Transition seen in ce spectrum only.
523.9[c] *10*		746.4	5/2−	222.45	5/2−	
539.6[d]	24.6[d]	539.4?		0.0	1/2−	E_γ: from γ-ray spectrum. Eγ=538.7 keV *5* seen in ce spectrum.
539.6[d]	24.6[d]	642.0	3/2−	102.3	7/2−	
547.9[@] *10*		646.3	7/2−	97.49	5/2−	
x551.8 *6*	31.4					Multiplet in γ spectrum.
589.7 *7*	30.4	626.6?		37.31	3/2−	
x592.9[@] *10*						
609.3[a]	4.2	646.3	7/2−	37.31	3/2−	
620.6[a]	3.5	843.0	3/2−	222.45	5/2−	
626.3[a]	7.4	626.6?		0.0	1/2−	
643.2[a]	10.1	746.4	5/2−	102.3	7/2−	Probable multiplet.
669.2[a]	8.3	797.0		128.06	3/2−	
741.7[a]	5.3	843.0	3/2−	102.3	7/2−	
746.3[a]	3.4	843.0	3/2−	97.49	5/2−	
751.5[a]	11.4	879.7		128.06	3/2−	
759.9[a]	2.8	797.0		37.31	3/2−	
x775.9[a]	4.0					
837.5[a]	3.5	965.3		128.06	3/2−	
842.1[a]	7.2	879.7		37.31	3/2−	
x848.9[a]	3.5					
965.0[a]	4.8	965.3		0.0	1/2−	
1014.6[a]	4.5	1116.3	3/2−	102.3	7/2−	Probable multiplet.
1078.3[a]	4.4	1116.3	3/2−	37.31	3/2−	

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^{184}Os(n,γ) E=th 1974Pr15 (continued)

$\gamma(^{185}Os)$ (continued)

E_γ ‡	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	E_γ ‡	I_γ †	E_i(level)	J_i^π	E_f	J_f^π
5084	12	(6624.5)	$1/2^+$	1540.4		5744	10	(6624.5)	$1/2^+$	879.7	
5118	8	(6624.5)	$1/2^+$	1506.4		5781	5	(6624.5)	$1/2^+$	843.0	$3/2^-$
5206	6	(6624.5)	$1/2^+$	1418.4		5827	3	(6624.5)	$1/2^+$	797.0	
5271	7	(6624.5)	$1/2^+$	1353.4		5983	7	(6624.5)	$1/2^+$	642.0	$3/2^-$
5415	5	(6624.5)	$1/2^+$	1209.4		6156	48	(6624.5)	$1/2^+$	468.72	$3/2^-$
5447	7	(6624.5)	$1/2^+$	1178.7		6217	4	(6624.5)	$1/2^+$	406.50	$1/2^-$
5508	8	(6624.5)	$1/2^+$	1116.3	$3/2^-$	6496	9	(6624.5)	$1/2^+$	128.06	$3/2^-$
5564	10	(6624.5)	$1/2^+$	1061.2		6588	100	(6624.5)	$1/2^+$	37.31	$3/2^-$
5659	5	(6624.5)	$1/2^+$	965.3							

† Secondary γ-ray intensities are relative to 100 for 431.3γ. Primary γ-ray intensities are relative to 100 for 6588γ.
‡ From 1974Pr15 (s ce), 1974PrZY (semi γ). Transitions given with no $\Delta E\gamma$ are from the γ spectrum only.
# Transition was not observed in (n,γ) reaction. See ^{185}Ir decay.
@ Transition seen in ce spectrum only (1974PrZY).
& γ line was not resolved from strong ^{188}Os and ^{190}Os γ lines; energy from ce line (1974Pr15).
a Transition seen in γ spectrum only.
b Assignment of transition to ^{185}Os is uncertain.
c Multiply placed.
d Multiply placed with undivided intensity.
x γ ray not placed in level scheme.

^{184}Os(n,γ) E=th 1974Pr15

Level Scheme

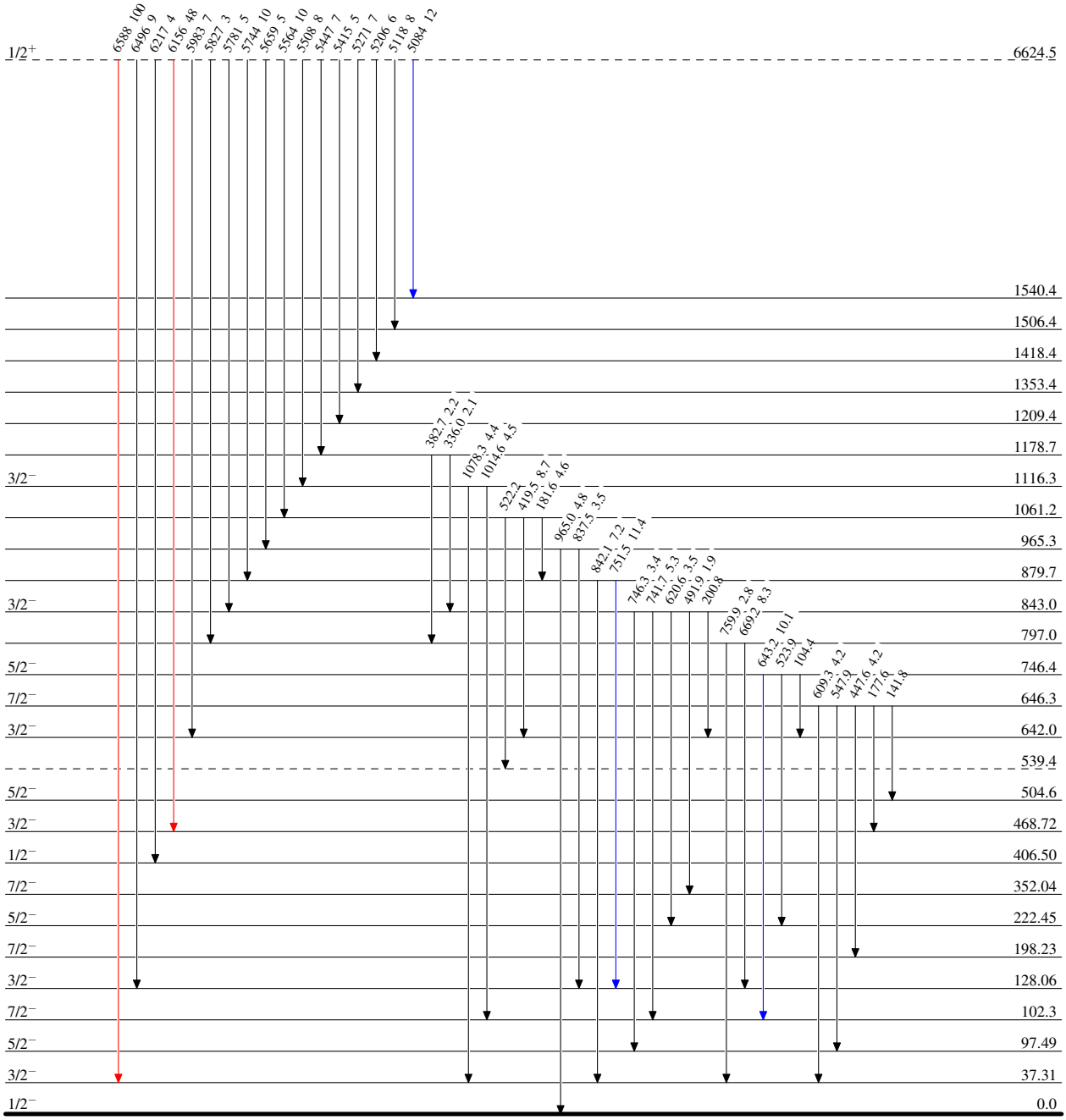
Intensities: Relative I_γ

Legend

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

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

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



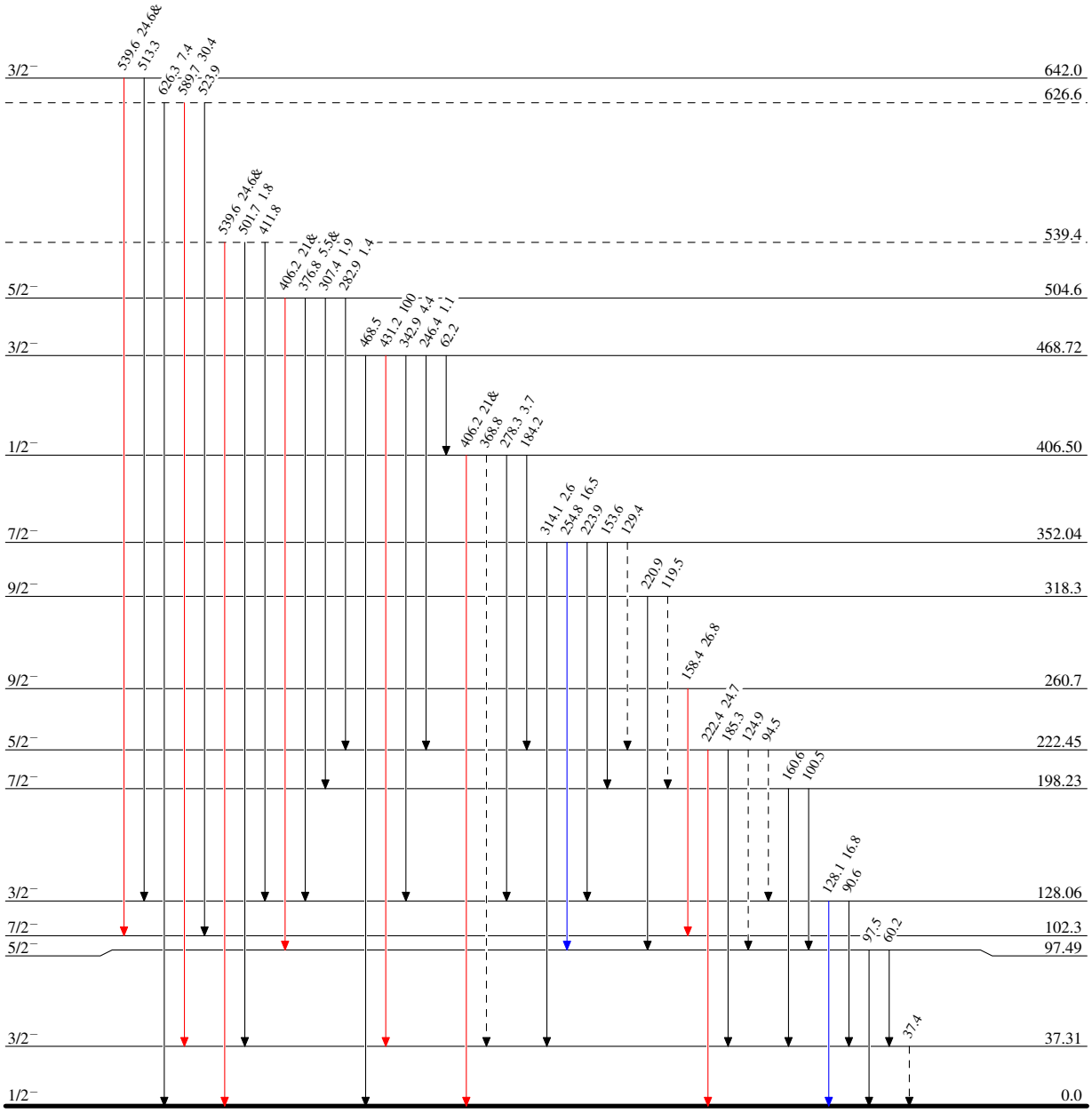
$^{185}_{76}Os_{109}$

^{184}Os(n,γ) E=th 1974Pr15

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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)



$^{185}_{76}Os_{109}$