Energy levels and branching ratios [89Fi11].

$^{184}_{76}$Os

E^* [keV]	J^π	L (p,t)	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0.0[a]	0^+	0	2278	>5.6·10^{13} yr	76Sh15
119.80(9)[a]	2^+		373	1.184(13) ns	02Sh21
383.77(10)[a]	4^+		81.8	46(13) ps	76Sh15
774.14(12)[a]	6^+		20.6		76Sh15
942.78(11)[b]	2^+		88.2		76Sh15
1042(5)	0^+	0	191		76Sh15
1081.02(11)[b]	$\langle 3\rangle^+$				02Sh21
1208(5)			56.9		76Sh15
1225.04(12)[b]	4^+		37.2		76Sh15
1274.86(19)[a]	8^+				02Sh21
1406.7(2)					
1428.30(12)[b]	$\langle 5\rangle^+$				02Sh21
1445.72(11)	$\langle 2\text{–}4\rangle^+$				
1500.63(14)	$3^+,4^+$				
1543.94(12)[c]	3^-		40.1		02Sh21
1613.18(15)[b]	$\langle 6^+\rangle$				02Sh21
1620.72(12)[c]	$\langle 4\rangle^-$				02Sh21
1631.55(12)	$\langle 4^+,5^+\rangle$				
1637.7(2)					
1697.98(16)	2^+				
1707.57(13)	$\langle 3,4\rangle^-$				
1718.17(12)[c]	5^-				02Sh21
1832.78(13)[c]	$\langle 6^-\rangle$				02Sh21
1836.29(13)	$4^+,5,6^+$				
1840.37(13)	$\langle 4^+,5,6^-\rangle$				
1871.1(6)[a]	10^+				02Sh21
1877.60(17)	$4^+,5,6^+$				
1916.3(5)					
1958.2(3)[c]	$\langle 7^-\rangle$				02Sh21
1982(5)	0^+	0	27.8		76Sh15
2045.9(4)					
2191.0(4)					
2268(5)	0^+	0	28.9		76Sh15
2324.63(20)					
2366.2(4)	$9^+,10^+$			20(5) ns	
2399.05(13)					
2446.65(13)	$\langle 5^+\rangle$				
2547.0(8)	12^+				
2609.2(5)	$\langle 10,11\rangle^+$				
2719.88(20)	$4^+,5,6^+$				
2862.4(4)	$\langle 11,12\rangle^+$				
3129.7(5)	$\langle 12,13\rangle^+$				
3259.9(9)	14^+				
3357.9(10)	14^+				
3788.8(10)	16^+				

(continued) **$^{184}_{76}$Os**

E^* [keV]	J^π	L (p,t)	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
4044.2(10)	$\langle 16\rangle^+$				
4346.4(12)	18^+				
4797.8(12)	$\langle 18\rangle^+$				
4997.9(14)	20^+				
5737.9(15)	22^+				

Additional data on this isotope can be found in [04Ra0A, 02Wh01, 02Sh21, 94Ki01].

Abundance: 0.02(1)%

Integral values of (p,t) cross section were measured in [76Sh15].

The decay scheme with seven bands of levels extending up to 7494 keV is given in [02Wh01] and the partial decay scheme with 9 bands of levels with energies up to 8465 keV is given in [02Sh21].

a,b,c mark levels belonging to the ground-state band, γ and octupole bands considered in [02Sh21].

Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [89Fi11]. Part 2 **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	0.0	119.8	384	774	943	1081.02	1225.04	1274.86	1406.7	1428.30
[keV]	J_f^π:	0^+	2^+	4^+	6^+	2^+	$\langle 3\rangle^+$	4^+	8^+		$\langle 5\rangle^+$
119.80(9)[a]	2^+	100									
383.77(10)[a]	4^+		100								
774.14(12)[a]	6^+			100							
942.78(11)[b]	2^+	49(3)	47(2)	4.8(9)							
1081.02(11)[b]	$\langle 3\rangle^+$		88(6)	12.0(8)							
1225.04(12)[b]	4^+		43(3)	56(3)		1.30(10)					
1274.86(19)[a]	8^+				100						
1406.7(2)				x	x						
1428.30(12)[b]	$\langle 5\rangle^+$			84(7)	11.6(8)		4.3(3)				
1445.72(11)	$\langle 2\text{–}4\rangle^+$		11.5(10)	33(4)		40(3)	15(1)				
1500.63(14)	$3^+,4^+$		21(5)	56(5)		18(5)	4.3(13)				
1543.94(12)[c]	3^-		5.2(5)	19.0(13)		76(5)					
1613.18(15)[b]	$\langle 6^+\rangle$			46(3)	54(4)						
1620.72(12)[c]	$\langle 4\rangle^-$			23.4(17)			76(5)				
1631.55(12)	$\langle 4^+,5^+\rangle$			45(3)	8.1(7)		12(2)	15.2(10)			2.9(4)
1637.7(2)										x	
1697.98(16)	2^+	26(2)	32(3)	15(3)							
1707.57(13)	$\langle 3,4\rangle^-$			21(2)			71(5)	3.0(10)			
1718.17(12)[c]	5^-			21(2)	24(2)			52(4)			
1832.78(13)[c]	$\langle 6^-\rangle$				2.3(11)						12.9(9)
1836.29(13)	$4^+,5,6^+$			40(3)	21(4)			39(3)			
1840.37(13)	$\langle 4^+,5,6^-\rangle$				38(3)						20(2)
1871.1(6)[a]	10^+								100		
1877.60(17)	$4^+,5,6^+$			29(3)	51(8)						9.1(11)

(continued) **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	0.0	119.8	384	774	943	1081.02	1225.04	1274.86	1406.7	1428.30
[keV]	J_f^π:	0^+	2^+	4^+	6^+	2^+	$\langle 3\rangle^+$	4^+	8^+		$\langle 5\rangle^+$
1916.3(5)					x						x
1958.2(3)[c]	$\langle 7^-\rangle$				x				x		
2324.63(20)				14(1)							19(2)
2366.2(4)	9^+,10^+								34		
2399.05(13)				4.0(5)							6.8(6)
2446.65(13)	$\langle 5^+\rangle$			37(3)	30(2)						
2719.88(20)	4^+,5,6^+			9(1)	24(2)						18(1)

Energy levels and branching ratios [89Fi11]. Part 3 **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1445.72	1500.63	1543.94	1613.18	1620.72	1631.55	1707.57	1718.17	1832.78	1836.29
[keV]	J_f^π:		3^+,4^+	3^-	$\langle 6^+\rangle$	$\langle 4\rangle^-$	$\langle 4^+,5^+\rangle$	$\langle 3,4\rangle^-$	5^-	$\langle 6^-\rangle$	4^+,5,6^+
1620.72(12)[c]	$\langle 4\rangle^-$			0.8(4)							
1631.55(12)	$\langle 4^+,5^+\rangle$	16(3)									
1697.98(16)	2^+		27(2)								
1707.57(13)	$\langle 3,4\rangle^-$			5.5(6)							
1718.17(12)[c]	5^-			1.44(12)		1.9(4)					
1832.78(13)[c]	$\langle 6^-\rangle$					63(4)			21.6(3)		
1840.37(13)	$\langle 4^+,5,6^-\rangle$	14(1)				17(2)	11.3(8)				
1877.60(17)	4^+,5,6^+		10.7(11)								
1958.2(3)[c]	$\langle 7^-\rangle$				33				28	39	
2324.63(20)											49(9)
2399.05(13)		18(2)				25(2)	27(3)	19(1)			
2446.65(13)	$\langle 5^+\rangle$					10.4(8)	5.9(5)		1.5(2)	10.8(8)	
2719.88(20)	4^+,5,6^+								21(2)	29(3)	

Energy levels and branching ratios [89Fi11]. Part 4 **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1840.37	1871.1	1958.2	2045.9	2191.0	2366.2	2547.0	2609.2	2862.4	3259.9
[keV]	J_f^π:		10^+	$\langle 7^-\rangle$			9^+,10^+	12^+			14^+
2045.9(4)				x							
2191.0(4)					x						
2324.63(20)		18(5)									
2366.2(4)	9^+,10^+		16			50					
2446.65(13)	$\langle 5^+\rangle$	4.1(3)									
2547.0(8)	12^+		100								
2609.2(5)	$\langle 10,11\rangle^+$						x				

(continued) **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1840.37	1871.1	1958.2	2045.9	2191.0	2366.2	2547.0	2609.2	2862.4	3259.9
[keV]	J_f^π:		10^+	$\langle 7^- \rangle$			9^+,10^+	12^+			14^+
2862.4(4)	$\langle 11,12 \rangle^+$						x		x		
3129.7(5)	$\langle 12,13 \rangle^+$								x	x	
3259.9(9)	14^+							100			
3357.9(10)	14^+							100			
3788.8(10)	16^+										56(12)
4044.2(10)	$\langle 16 \rangle^+$										60(20)

Energy levels and branching ratios [89Fi11]. Part 5 **$^{184}_{76}$Os**

E^*	J^π	Branching ratios in percentage				
	E_f^*:	3357.9	3788.8	4044.2	4346.4	4997.9
[keV]	J_f^π:	14^+	16^+	$\langle 16 \rangle^+$	18^+	20^+
3788.8(10)	16^+	44(12)				
4044.2(10)	$\langle 16 \rangle^+$	40(20)				
4346.4(12)	18^+		100			
4797.8(12)	$\langle 18 \rangle^+$			100		
4997.9(14)	20^+				100	
5737.9(15)	22^+					100

Energy levels and branching ratios [95Br04, 05Wu07]. **$^{185}_{76}$Os**

E^*	$2J^\pi$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
						E_f^*:	0.0	37.4	97.4	102.3	127.9
[keV]		(p,t)	μb/sr	Γ_{cm}		$2J_f^\pi$:	1^-	3^-	$\langle 5 \rangle^-$	$\langle 7^- \rangle$	$\langle 3 \rangle^-$
0.0	1^-	0	940*	93.6(5) d	76Sh15						
37.45(6)	3^-		85.3		76Sh15		100				
97.47(6)	5^-		111		76Sh15		38	62			
102.4(1)	7^-			3.0(4) μs	05Wu07			x	x		
127.9(1)	3^-		19.0		76Sh15		35(14)	64(6)	1.0(4)		
198.2(1)	7^-		17.0		76Sh15			42(5)	58(6)		
222.4(1)	5^-		42.1		76Sh15		56(6)	29(3)	1.1(4)		13(2)
260.6(1)	9^-									100	
275.5(1)	11^-			0.78(5) μs	05Wu07						
317.9(1)	9^-				05Wu07				96(10)		
351.7(1)	7^-				05Wu07			4.8(5)	70(7)		11.2(11)
402.4(1)	9^+				05Wu07					46(5)	
406.6(2)	$\langle 1^-,3 \rangle$						x				x
414.2(1)	13^+				05Wu07						
448.7(1)	11^-									24	

(continued) **$^{185}_{76}$Os**

E^*	$2J^\pi$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	37.4	97.4	102.3	127.9
[keV]		(p,t)	μb/sr	Γ_{cm}	$2J_f^\pi$:	1^-	3^-	$\langle 5\rangle^-$	$\langle 7^-\rangle$	$\langle 3\rangle^-$
468.8(2)	$\langle 1^-,3\rangle$					x	95			4.2
476.5(1)	11^-									
505.3(2)	9^-		14.5		05Wu07			x		x
539.4(6)						x	x			x
590.3(11)	15^-				05Wu07					
591.3(12)	11^+				05Wu07					
599(7)	$\langle 3^-\rangle$		153		76Sh15					
626.7(5)						19	81		x	
642.2(3)	$\langle 3^-,5^+\rangle$								x	x
646.3(2)							x	x		
660.3(1)	13^-									
666.2(1)	13^-									
679(7)			13.8		76Sh15					
706.8(1)	11^-									
729.3(1)	$\langle 5^-,7^-\rangle$						29(3)			10(1)
746.5(12)									x	
776.3(11)	17^+									
781.9(1)	13^+									
797.1(7)	$1,3,5^+$						25			75
802(7)	$\langle 5^-\rangle$		152		76Sh15					
843.3(2)	$\langle 3^-,5^+\rangle$							24	38	
865.0(1)	15^-									
879.6(7)	$1–5^+$						39			61
903.0(2)	13^-				05Wu07					
907.3(1)	15^-				05Wu07					
965.2(4)	$\langle 1,3\rangle$					58				42
1024.6(1)	19^+				05Wu07					
1025.0(1)	15^+				05Wu07					
1061.6(7)	$1–5^+$				05Wu07					
1070(7)	1^-	0	156		76Sh15					
1116.4(4)	$\langle 3^-,5^+\rangle$						49		51	
1116.9(1)	17^-									
1123(7)	$\langle 3^-\rangle$		33.8		76Sh15					
1173.5(1)	17^-									
1176.7(1)	17^+									
1179.6(4)	$\langle 1,3,5^+\rangle$									
1179.6(1)	15^-									
1213(7)	1^-	0	74.9		76Sh15					
1222.1(1)	21^+									
1275(7)	$\langle 3^-\rangle$		55.6		76Sh15					
1322.0(1)	17^+				05Wu07					
1353.7(1)	19^-				05Wu07					
1354	$1,3.5^+$				05Wu07					
1403.7(3)	17^-				05Wu07					
1419	$1,3,5^+$									

(continued) **$^{185}_{76}$Os**

E^* [keV]	$2J^\pi$	L (p,t)	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	37.4	97.4	102.3	127.9
					$2J_f^\pi$:	1^-	3^-	$\langle 5\rangle^-$	$\langle 7^-\rangle$	$\langle 3\rangle^-$
1442.0(1)	$\langle 17^+\rangle$				05Wu07					
1461.5(1)	19^-									
1507	$1,3,5^+$									
1519.3(1)	19^+				05Wu07					
1541	$1,3,5^+$									
1552.3(1)	19^+				05Wu07					
1565.6(1)	23^+									
1591.3(1)	19^+				05Wu07					
1647.2(1)	21^+				05Wu07					
1670.4(1)	21^-									
1733.3(6)	$\langle 21^+\rangle$				05Wu07					
1744.4(1)	25^+									
1745.5(1)	21^-				05Wu07					
1756.0(1)	19^-				05Wu07					
1769.4(1)	21^-				05Wu07		58			25
1769.8(1)	5^+				05Wu07					
1844.5(1)	21^+				05Wu07					
1866.4(2)	5^+						62	0.4		15
1907.6(2)	5^+						63			<19
1929.5(1)	23^-									
1937.0(2)	$\langle 19^+\rangle$				05Wu07					
1966.2(1)	$\langle 21^+\rangle$				05Wu07					
1981.1(2)	$\langle 21^+\rangle$				05Wu07					
1987.1(1)	23^-				05Wu07					
1994.1(4)	21^-				05Wu07					
2000.5(1)	23^+				05Wu07					
2003.4(2)	5^+						10			44
2034.4(2)	$\langle 21^+\rangle$				05Wu07					
2040.2(8)	$\langle 21^+\rangle$				05Wu07					
2095.4(1)	23^-				05Wu07					
2108.1(1)	23^+				05Wu07					
2157.1(8)	$\langle 21^-\rangle$				05Wu07					
2164.4(2)	$\langle 23\rangle^+$				05Wu07					
2197.8(2)	$\langle 23^-\rangle$				05Wu07					
2204.2(1)	27^+				05Wu07					
2249.3(1)	25^+				05Wu07					
2264.3(1)	25^-				05Wu07					
2280.8(1)	25^+				05Wu07					
2305.0(2)	25^-									
2350.7(1)	29^+				05Wu07					
2386.8(1)	25^+				05Wu07					
2402.9(4)	$\langle 23\rangle^-$				05Wu07					
2435.1(2)	25^-				05Wu07					
2511.4(2)	$\langle 25^+\rangle$				05Wu07					
2552.0(1)	27^-				05Wu07					

(continued)

$^{185}_{76}$Os

E^* [keV]	$2J^\pi$	L (p,t)	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	37.4	97.4	102.3	127.9
					$2J_f^\pi$:	1^-	3^-	$\langle 5\rangle^-$	$\langle 7^-\rangle$	$\langle 3\rangle^-$
2571.4(1)	27^-				05Wu07					
2575.4(1)	27^+				05Wu07					
2602.2(1)	27^-				05Wu07					
2654.3(5)	$\langle 25\rangle^-$				05Wu07					
2790.2(2)	27^-				05Wu07					
2848.6(1)	29^-				05Wu07					
2885.4(1)	$\langle 29\rangle^+$				05Wu07					
2898.7(2)	$\langle 29^-\rangle$				05Wu07					
2928.7(1)	31^+				05Wu07					
2941.7(1)	$\langle 27\rangle$				05Wu07					
2969.1(1)	$\langle 29\rangle^+$				05Wu07					
2987.4(2)	$\langle 29\rangle^+$				05Wu07					
2989.1(2)	29^-				05Wu07					
3038.0(1)	33^+				05Wu07					
3067.2(5)	$\langle 27\rangle^-$				05Wu07					
3138.0(2)	$\langle 29\rangle^-$				05Wu07					
3140.0(1)	31^-				05Wu07					
3213.3(2)	31^-				05Wu07					
3219.7(1)	$\langle 31\rangle^+$				05Wu07					
3225.3(2)	31^-				05Wu07					
3309.3(1)	$\langle 31\rangle^+$				05Wu07					
3332.7(6)	$\langle 29^-\rangle$				05Wu07					
3377.4(2)	$\langle 29^+\rangle$				05Wu07					
3461.1(2)	33^-				05Wu07					
3511.8(2)	$\langle 31\rangle^-$				05Wu07					
3537.1(2)	$\langle 31^+\rangle$				05Wu07					
3544.6(2)	$\langle 33\rangle$				05Wu07					
3552.4(2)	$\langle 33\rangle^+$				05Wu07					
3663.4(11)	$\langle 33\rangle^+$				05Wu07					
3694.4(2)	33^-				05Wu07					
3702.9(6)	35^-				05Wu07					
3718.8(2)	35^+				05Wu07					
3787.5(2)	37^+				05Wu07					
3807.1(2)	$\langle 33\rangle^+$				05Wu07					
3816.8(2)	$\langle 33\rangle^-$				05Wu07					
3872.2(2)	$\langle 35\rangle^-$				05Wu07					
3877.0(2)	$\langle 33\rangle$				05Wu07					
3889.4(2)	$\langle 33\rangle$				05Wu07					
3893.4(2)	$\langle 35\rangle^-$				05Wu07					
3904.6(2)	$\langle 35\rangle^+$				05Wu07					
4011.2(2)	$\langle 35\rangle^+$				05Wu07					
4101.2(2)	$\langle 37\rangle^-$				05Wu07					
4164.9(2)	$\langle 35\rangle$				05Wu07					
4209.0(2)					05Wu07					
4246.9(2)	$\langle 37\rangle^+$				05Wu07					

(continued) **$^{185}_{76}$Os**

E^*	$2J^\pi$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
						E_f^*: 0.0	37.4	97.4	102.3	127.9
[keV]		(p,t)	μb/sr	Γ_{cm}		$2J_f^\pi$: 1^-	3^-	$\langle 5\rangle^-$	$\langle 7^-\rangle$	$\langle 3\rangle^-$
4277.8(2)	$\langle 35\rangle$				05Wu07					
4300.1(3)	$\langle 35\rangle$				05Wu07					
4304.5(6)	$\langle 39\rangle^-$				05Wu07					
4428.4(11)	$\langle 37\rangle^-$				05Wu07					
4432.3(2)	$\langle 37\rangle$				05Wu07					
4528.4(2)	39^+				05Wu07					
4536.3(3)	$\langle 39\rangle^-$				05Wu07					
4553.9(2)	41^+				05Wu07					
4581.1(3)	$\langle 39\rangle$				05Wu07					
4630.4(11)	$\langle 39\rangle^-$				05Wu07					
4647.2(2)	$\langle 39\rangle^+$				05Wu07					
4732.2(3)	$\langle 39\rangle$				05Wu07					
4792.8(2)	$\langle 41\rangle^-$				05Wu07					
4882.5(2)					05Wu07					
4976.5(6)	$\langle 43\rangle^-$				05Wu07					
5007.1(3)	$\langle 41\rangle$				05Wu07					
5204.4(15)	$\langle 41\rangle^-$				05Wu07					
5235.3(2)	$\langle 43\rangle^-$				05Wu07					
5274.4(2)	$\langle 43\rangle^+$				05Wu07					
5285.4(2)	45^+				05Wu07					
5426.4(15)					05Wu07					
5432.0(3)					05Wu07					
5542.1(2)	$\langle 45\rangle^-$				05Wu07					
5713.4(7)	$\langle 47\rangle^-$				05Wu07					
5785.8(3)					05Wu07					
5962.3(3)					05Wu07					
6017.0(2)	$\langle 27\rangle^+$				05Wu07					
6046.2(2)	$\langle 49\rangle^+$				05Wu07					
6203.3(3)					05Wu07					
6285.5(3)					05Wu07					
6338.8(3)	$\langle 49\rangle^-$				05Wu07					
6349.8(3)					05Wu07					
6506.5(7)	$\langle 51\rangle^-$				05Wu07					
6580.1(3)					05Wu07					
6586.6(3)					05Wu07					
6803.5(3)					05Wu07					
6835.8(4)	$\langle 51\rangle^+$				05Wu07					
6886.1(3)	$\langle 53\rangle^+$				05Wu07					
7006.9(4)					05Wu07					
7033.1(11)					05Wu07					
7099.0(4)					05Wu07					

(continued) **$^{185}_{76}$Os**

E^*	$2J^\pi$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
						E_f^*:	0.0	37.4	97.4	102.3	127.9
[keV]		(p,t)	μb/sr	Γ_{cm}		$2J_f^\pi$:	1^-	3^-	$\langle 5\rangle^-$	$\langle 7^-\rangle$	$\langle 3\rangle^-$
7358.5(12)	$\langle 55\rangle^-$				05Wu07						
	05Wu07		76Sh15		Ref.						

Additional data on this isotope can be found in [05Wu07, 04Wh01, 04Sh08].
18 bands (A-R marked here as a-r) are assigned to excited states of this nucleus in [05Wu07].
* Integral values of (p,t) cross section was measured in [76Sh15].

Energy levels and branching ratios [95Br04, 05Wu07]. Part 2 **$^{185}_{76}$Os**

E^*	$2J^\pi$		Branching ratios in percentage									
		E_f^*:	198	222.4	260.5	275.7	317.8	351.7	402.6	406.6	414.4	448.7
[keV]		$2J_f^\pi$:	$\langle 7\rangle^-$	$\langle 5\rangle^-$	$\langle 9^-\rangle$	$\langle 11^+\rangle$	$\langle 9\rangle^-$	$\langle 7\rangle^-$	$\langle 9^+\rangle$	$\langle 1^-,3\rangle$	$\langle 13^+\rangle$	$\langle 11^-\rangle$
222.4(1)	5^-		0.6(3)									
275.5(1)	11^-				x							
317.9(1)	9^-		4.4(5)									
351.7(1)	7^-		10.7(11)	≈3			0.07(3)					
402.4(1)	9^+				6(2)	48(14)						
406.6(2)	$\langle 1^-,3\rangle$			x								
414.2(1)	13^+					x						
448.7(1)	11^-				76							
468.8(2)	$\langle 1^-,3\rangle$			1.0						x		
476.5(1)	11^-		x				x					
505.3(2)	9^-		57	43								
590.3(11)	15^-					32					68	
591.3(12)	11^+								x			
646.3(2)			x									
660.3(1)	13^-				18		58					23
666.2(1)	13^-				43		11					47
706.8(1)	11^-							x				
729.3(1)	$\langle 5^-,7^-\rangle$			47(5)				14(1)				
746.5(12)				x								
776.3(11)	17^+										53	
781.9(1)	13^+								≈21			
843.3(2)	$\langle 3^-,5^+\rangle$			25				14				
907.3(1)	15^-											70
1769.4(1)	21^-		5.6					11.4				
1866.4(2)	5^+		22									
1907.6(2)	5^+		18	16								
2003.4(2)	5^+		41	<37				5				

Energy levels and branching ratios [95Br04, 05Wu07]. Part 3 **$^{185}_{76}$Os**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	468.8	476.5	505.3	539.5	590.6	591.5	641.5	660.4	666.3	729.4
[keV]		$2J_f^\pi$:	$\langle 1^-,3\rangle$	$\langle 11^-\rangle$			$\langle 15^+\rangle$	$\langle 11^+\rangle$	$\langle 3^-,5^+\rangle$	$\langle 13^-\rangle$	$\langle 13^-\rangle$	$\langle 5^-,7^-\rangle$
646.3(2)			x		x							
746.5(12)									x			
776.3(11)	17^+						47					
781.9(1)	13^+							79				
843.3(2)	$\langle 3^-,5^+\rangle$								x			
865.0(1)	15^-			95						5.0		
907.3(1)	15^-										30	
1061.6(7)	$1–5^+$					x			65			
1116.9(1)	17^-									x		
1173.5(1)	17^-										62	
1769.4(1)	21^-											<10
1907.6(2)	5^+											4

Energy levels and branching ratios [95Br04, 05Wu07]. Part 4 **$^{185}_{76}$Os**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	776.6	782.4	797.2	843.4	865.2	879.5	907.6	1024.8	1117.3	1173.7
[keV]		$2J_f^\pi$:	$\langle 17^+\rangle$	$\langle 13^+\rangle$		$\langle 3^-,5^+\rangle$	$\langle 15^-\rangle$		$\langle 15^-\rangle$	$\langle 19^+\rangle$	$\langle 17^-\rangle$	$\langle 17^-\rangle$
1024.6(1)	19^+		[100]									
1025.0(1)	15^+			[100]								
1061.6(7)	$1–5^+$							35				
1173.5(1)	17^-								38			
1179.6(4)	$\langle 1,3,5^+\rangle$				51	49						
1222.1(1)	21^+		91							9		
1353.7(1)	19^-						x					
1461.5(1)	19^-											[100]
1565.6(1)	23^+									x		
1670.4(1)	21^-										x	

Energy levels and branching ratios [95Br04, 05Wu07]. Part 5 **$^{185}_{76}$Os**

E^*	$2J^\pi$		Branching ratios in percentage		
		E_f^*:	1222.6	1354.2	1671.4
[keV]		$2J_f^\pi$:	$\langle 21^+\rangle$	19^-	21^-
1744.4(1)	25^+		x		
1929.5(1)	23^-			100	
2305.0(2)	25^-				x

Energy levels and branching ratios [03Ba44]. **$^{186}_{76}$Os**

E^* [keV]	J^π	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	0^+	0	587	2.0(11)·10^{15} yr	75Th04
137.16(1)*	2^+	2	86	875(15) ps	75Th04
434.09(2)*	4^+		19	26.5(12) ps	75Th04
767.48(2)*	2^+		21	1.77(+4-14) ps	75Th04
868.94(4)*	6^+		1.3	3.03(+7-13) ps	75Th04
910.47(2)*	3^+				
1061.0(10)*	0^+	0	13		75Th04
1070.48(3)*	4^+			1.75(+10-14) ps	
1208.44(20)	2^+		5.4		75Th04
1275.61(3)	5^+				
1351.93(7)*	4^+		2.5	3.2(+10-7) ps	75Th04
1420.94(6)*	8^+			0.99(5) ps	
1452.9(4)	$\langle 3^+ \rangle$				
1456(2)	0^+	0	5.6		75Th04
1460.92(17)	4^+				
1480.07(8)	$\langle 3 \rangle^-$		8.7		75Th04
1491.29(4)*	6^+			1.74(+10-14) ps	
1559.83(19)	$\langle 5 \rangle^+$				
1571(2)			3.5		
1623.2(4)					
1628.54(11)	5^-		2.3	<1 ns	
1640.81(11)			3.3		
1653.58(11)	2^+,3,4^+		3.3		
1704.6(6)	$\langle 4^+ \rangle$				
1750.8(7)	$\langle 7^+ \rangle$				
1754.50(7)	$2^{\langle + \rangle}$				
1771.9(6)	$\langle 6^- \rangle$				
1774.65(21)	$\langle 7^- \rangle$			8.36(24) ns	
1775.8(4)	4^+,5^+		3.6		
1812.62(19)*	$\langle 6 \rangle^+$				
1848.42(8)	2^+,3				
1916.1(6)	4^+,5,6^+		2.2		
1937(2)			2.9		
1939.0(6)	$\langle 7^- \rangle$		incl		
1953(2)	$\langle 0^+ \rangle$	$\langle 0 \rangle$	3.9		
1968.3(3)	$\langle 8^- \rangle$				
1976.0(10)					
1990(2)	0^+	0	3.4		
2015.5(7)*	$\langle 8^+ \rangle$			2.3(+4-5) ps	
2031.3(4)	4^+				
2056.64(23)	5^+,6^+		5.6		
2067.95(12)*	10^+			0.41(+8-16) ps	
2081.55(20)	4^+				
2119.9(10)					
2133.7(8)	$\langle 8^- \rangle$				

(continued) **$^{186}_{76}$Os**

E^* [keV]	J^π	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
2135.1(7)	$3^+,4^+,5^+$				
2165.5(3)	$\langle 9^- \rangle$			5.7(4) ns	
2188.0(4)	$\langle 9^- \rangle$				
2222.8(7)	4^+				
2234(3)					
2257.9(11)	$\langle 8^+ \rangle$				
2302.9(10)					
2317.4(13)	$\langle 9^+ \rangle$				
2350.0(9)	$\langle 9^- \rangle$				
2377.1(6)	$5^+,6^+$				
2431.1(3)	$\langle 10^- \rangle$				
2435.1(5)	$\langle 10^- \rangle$				
2559.7(19)					
2562.7(3)	$\langle 10^+ \rangle$			<1 ns	
2587.6(11)	$\langle 10^- \rangle$				
2599.2(5)	$4^{\langle + \rangle}$–$6^{\langle + \rangle}$				
2606.3(5)	$\langle 5^+,6^+ \rangle$				
2620.0(5)	$5^+,6^+$				
2624.9(13)*	$\langle 10^+ \rangle$			1.2(+3-7) ps	
2666.5(9)	$\langle 6 \rangle^+$				
2698.4(6)	$\langle 11^- \rangle$				
2714.2(6)	$\langle 11^- \rangle$				
2773.8(5)	$\langle 4^+ \rangle$				
2781.26(15)*	12^+			0.28(+13-4) ps	
2788.0(15)	$\langle 10^+ \rangle$				
2805.7(4)	$\langle 11^+ \rangle$				
2852.1(12)	$\langle 11^- \rangle$				
2919.89(15)	$1,2^+$				
2956.4(16)	$\langle 11^+ \rangle$				
2958.4(18)	X^+				
2977.0(7)	$\langle 12^- \rangle$				
2978.4(5)					
3006.8(7)	$\langle 12^- \rangle$				
3038.8(4)	$\langle 12^+ \rangle$				
3110.1(10)					
3123.2(15)	$\langle 12^- \rangle$				
3185.1(10)					
3186.1(6)	$\langle 12^+ \rangle$				
3214.5(5)					
3221.0(8)	$\langle 12^+ \rangle$				
3226.3(5)					
3252.7(5)	$\langle 6^+ \rangle$				
3268.9(3)					
3288.5(8)	$\langle 13^- \rangle$				
3293.3(7)	$\langle 13^+ \rangle$				

(continued) **$^{186}_{76}$Os**

E^* [keV]	J^π	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
3296.2(16)	$\langle 12^+ \rangle$				
3308.9(8)	$\langle 13^- \rangle$				
3414.3(4)	$\langle 4^+ \rangle$				
3425.4(16)	$\langle 13^- \rangle$				
3431.5(6)	$\langle 13^+ \rangle$				
3439.77(18)*	14^+			≥1 ps	
3505.9(12)	$\langle 13 \rangle$				
3557.2(12)	$\langle 14^- \rangle$				
3557.7(6)*	14^+				
3623.5(9)	$\langle 14^- \rangle$				
3628.5(19)	$\langle 13^+ \rangle$				
3730.5(9)	$\langle 15^+ \rangle$				
3760.8(18)	$\langle 14^- \rangle$				
3815.9(6)	$\langle 15^+ \rangle$				
3934.29(21)	$\langle 16^+ \rangle$				
3940.2(9)	$\langle 15^- \rangle$				
3945.8(8)	$\langle 15^- \rangle$				
4062.3(19)	$\langle 15^- \rangle$				
4099.3(9)	$\langle 16^+ \rangle$				
4169.6(16)	$\langle 16^- \rangle$				
4241.5(12)	$\langle 16^+ \rangle$				
4283.8(11)	$\langle 16^- \rangle$				
4350.7(8)	$\langle 16^+ \rangle$				
4413.4(8)	$\langle 17^+ \rangle$				
4482.8(10)	$\langle 17^+ \rangle$				
4487.0(21)	$\langle 16^- \rangle$				
4493.69(23)	$\langle 18^+ \rangle$			<0.5 ns	
4504.3(11)	$\langle 18^+ \rangle$				
4623.8(8)	$\langle 17^- \rangle$				
4637.1(10)	$\langle 17^- \rangle$				
4760.1(21)	$\langle 17^- \rangle$				
4818.5(19)	$\langle 18^- \rangle$				
4868.9(11)	$\langle 18^+ \rangle$				
4956.46(24)	$\langle 19^+ \rangle$				
4962.8(16)	$\langle 18^+ \rangle$				
5024.70(25)	$\langle 18^- \rangle$			<2 ns	
5106.3(13)	$\langle 19^+ \rangle$				
5167.1(15)	$\langle 20^+ \rangle$				
5242.9(11)	$\langle 19^- \rangle$				
5330.9(3)	$\langle 19^- \rangle$			<1 ns	
5373.33(24)	$\langle 20^+ \rangle$				
5489.7(21)	$\langle 20^- \rangle$				
5495.5(6)	$\langle 20^+ \rangle$				
5500.0(3)	$\langle 20^+ \rangle$				
5559.5(9)	$\langle 20^- \rangle$				

(continued) **$^{186}_{76}$Os**

E^* [keV]	J^π	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
5563.8(3)	$\langle 20^- \rangle$				
5669.8(15)	$\langle 20^+ \rangle$				
5700.8(3)	$\langle 21^+ \rangle$				
5781.0(19)	$\langle 20^+ \rangle$				
5831.9(3)	$\langle 21^- \rangle$				
5888.0(17)	$\langle 21^+ \rangle$				
5901.1(9)	$\langle 21^- \rangle$				
5914.8(18)	$\langle 22^+ \rangle$				
5921.8(11)	$\langle 21^+ \rangle$				
5922.2(12)	$\langle 21^+ \rangle$				
6026.0(8)	$\langle 22^+ \rangle$				
6030.0(7)	$\langle 22^+ \rangle$				
6063.2(11)	$\langle 22^+ \rangle$				
6150.9(12)	$\langle 24^+ \rangle$				
6185.4(24)	$\langle 22^- \rangle$				
6446.4(15)	$\langle 22^+ \rangle$				
6472.4(16)	$\langle 25^+ \rangle$				
6486.9(9)	$\langle 24^+ \rangle$				
6727.4(21)	$\langle 24^+ \rangle$				
6946.6(19)	$\langle 26^+ \rangle$				
6988.1(14)	$\langle 26^+ \rangle$				
6992.0(14)	$\langle 25^+ \rangle$				
7141.9(17)	$\langle 28^+ \rangle$			<2 ns	
7476.4(17)	$\langle 26^+ \rangle$				
7582.7(23)	$\langle 26^+ \rangle$				
7709.3(20)	$\langle 30^+ \rangle$				
7748.7(20)	$\langle 30^+ \rangle$				
7777.4(20)	$\langle 30^+ \rangle$				
13030(90)	1^-			3.13(24) MeV	
15260(90)	1^-			3.38(21) MeV	
			75Th04		Ref.

Additional data on this isotope can be found in [99Wh01, 99Wh02].
Abundance: 1.59(3) %.
* E2 collective properties of these low-lying states are considered in [96Wu07].
Energy systematics of ground-state bands for A-even osmium isotopes can be found in [01Wh01].
Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [03Ba44]. Part 2

$^{186}_{76}$Os

E^*	J^π					Branching ratios in percentage					
		E_f^*:	0.0	137.1	434	767	869	910.471	1070.48	1208.44	1275.61	1351.93
[keV]		J_f^π:	0^+	2^+	4^+	2^+	6^+	3^+	4^+	2^+	5^+	4^+
137.16(1)*	2^+		100									
434.09(2)*	4^+			100								
767.48(2)*	2^+		53.2(10)	46.7(7)	0.10(3)							
868.94(4)*	6^+				100							
910.47(2)*	3^+			90.5(23)	6.5(3)	3.00(11)						
1061.0(10)*	0^+			100								
1070.48(3)*	4^+			45(2)	51(3)	3.6(3)		0.52(4)				
1208.44(20)	2^+		x	100								
1275.61(3)	5^+				82(4)		3.8(2)	14.5(7)				
1351.93(7)*	4^+			2.31(9)	1.76(8)	68(3)		27(3)	1.2(3)			
1420.94(6)*	8^+						100					
1452.9(4)	$\langle 3^+ \rangle$					[100]						
1460.92(17)	4^+			39(4)	41(2)		11(3)			9(3)		
1480.07(8)	$\langle 3 \rangle^-$			14(1)	12.1(10)	45(14)		20(7)	8.4(8)			
1491.29(4)*	6^+				33(2)		35(2)		31(2)		1.1(1)	
1559.83(19)	$\langle 5 \rangle^+$							44(2)	37(2)		2(1)	16.4(10)
1623.2(4)								[100]				
1628.54(11)	5^-						18.3(5)		16.3(5)		10.6(3)	55(2)
1640.81(11)						55(4)		45(5)				
1653.58(11)	$2^+,3,4^+$					25(7)		37(2)				38(7)
1704.6(6)	$\langle 4^+ \rangle$			43(14)	57(18)							
1750.8(7)	$\langle 7^+ \rangle$						55(2)				45(2)	
1754.50(7)	$2^{\langle + \rangle}$		21(2)	19(2)		50		10.7(6)				
1771.9(6)	$\langle 6^- \rangle$						14.9(8)					
1774.65(21)	$\langle 7^- \rangle$						2.25(12)					
1775.8(4)	$4^+,5^+$				14(2)		34(12)		52(12)			x
1812.62(19)*	$\langle 6 \rangle^+$				23(6)		34(3)					
1848.42(8)	$2^+,3$			30(3)	10(1)	15(1)		33(2)	12(1)			
1916.1(6)	$4^+,5,6^+$						39(5)		61(19)			
1976.0(10)											100	
2015.5(7)*	$\langle 8^+ \rangle$						20.3(10)					
2031.3(4)	4^+			9(2)	34(3)	31(3)		19(3)				7(3)
2056.64(23)	$5^+,6^+$				22(2)		48(6)				12(4)	
2081.55(20)	4^+				44(2)	15(5)	3.7(11)	14(2)	6.9(7)		10.9(7)	5.5(11)
2119.9(10)							100					
2135.1(7)	$3^+,4^+,5^+$				100							
2222.8(7)	4^+				36(4)							
2234(3)					100							
2302.9(10)							100					
2377.1(6)	$5^+,6^+$				40(13)		60(5)					
2559.7(19)							100					
2599.2(5)	$4^{\langle + \rangle}$–$6^{\langle + \rangle}$				x		x					
2606.3(5)	$\langle 5^+,6^+ \rangle$				22(5)		78(7)					
2620.0(5)	$5^+,6^+$				43(5)		57(3)					
2666.5(9)	$\langle 6 \rangle^+$											51(15)

(continued) **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	0.0	137.1	434	767	869	910.471	1070.48	1208.44	1275.61	1351.93
[keV]	J_f^π:	0^+	2^+	4^+	2^+	6^+	3^+	4^+	2^+	5^+	4^+
2773.8(5)	$\langle 4^+ \rangle$			100							
2919.89(15)	$1,2^+$	16(3)									
2978.4(5)				100							
3110.1(10)				100							
3185.1(10)				100							
3214.5(5)				100							
3226.3(5)						100					
3252.7(5)	$\langle 6^+ \rangle$					100					
3268.9(3)			3.8(6)	63(6)		32.9(13)					
3414.3(4)	$\langle 4^+ \rangle$			24(5)						27(5)	

Energy levels and branching ratios [03Ba44]. Part 3 **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1420.94	1460.92	1491.29	1559.83	1628.54	1704.6	1750.8	1754.50	1771.9	1774.65
[keV]	J_f^π:	8^+	4^+	6^+	$\langle 5 \rangle^+$	5^-	$\langle 4^+ \rangle$	$\langle 7^+ \rangle$	$2^{\langle + \rangle}$	$\langle 6^- \rangle$	$\langle 7^- \rangle$
1771.9(6)	$\langle 6^- \rangle$					85(3)					
1774.65(21)	$\langle 7^- \rangle$					98(3)					
1812.62(19)*	$\langle 6 \rangle^+$		43(3)								
1939.0(6)	$\langle 7^- \rangle$					55(2)				45(2)	
1968.3(3)	$\langle 8^- \rangle$										100
2015.5(7)*	$\langle 8^+ \rangle$			80(3)							
2056.64(23)	$5^+,6^+$			9(3)			8(3)				
2067.95(12)*	10^+	100									
2133.7(8)	$\langle 8^- \rangle$									75(2)	
2188.0(4)	$\langle 9^- \rangle$										47(2)
2317.4(13)	$\langle 9^+ \rangle$							100			
2562.7(3)	$\langle 10^+ \rangle$	2.34(12)									
2666.5(9)	$\langle 6 \rangle^+$				49(6)						
2919.89(15)	$1,2^+$								25(6)		
2958.4(18)	X^+			100							

Energy levels and branching ratios [03Ba44]. Part 4 **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1775.8	1812.62	1848.42	1939.0	1968.3	2015.5	2067.95	2081.55	2133.7	2165.5
[keV]	J_f^π:	$4^+,5^+$	$\langle 6 \rangle^+$	$2^+,3$	$\langle 7^- \rangle$	$\langle 8^- \rangle$	$\langle 8^+ \rangle$	10^+	4^+	$\langle 8^- \rangle$	$\langle 9^- \rangle$
2133.7(8)	$\langle 8^- \rangle$				25.4(10)						
2165.5(3)	$\langle 9^- \rangle$				1.89(9)	98(3)					

(continued) **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1775.8	1812.62	1848.42	1939.0	1968.3	2015.5	2067.95	2081.55	2133.7	2165.5
[keV]	J_f^π:	4^+,5^+	$\langle 6\rangle^+$	2^+,3	$\langle 7^-\rangle$	$\langle 8^-\rangle$	$\langle 8^+\rangle$	10^+	4^+	$\langle 8^-\rangle$	$\langle 9^-\rangle$
2188.0(4)	$\langle 9^-\rangle$					53(2)					
2222.8(7)	4^+	64(32)									
2257.9(11)	$\langle 8^+\rangle$		100								
2350.0(9)	$\langle 9^-\rangle$				80(2)					19.9(8)	
2431.1(3)	$\langle 10^-\rangle$					35.7(12)					55(2)
2435.1(5)	$\langle 10^-\rangle$					29.2(9)					49(1)
2562.7(3)	$\langle 10^+\rangle$										96(3)
2587.6(11)	$\langle 10^-\rangle$									82(2)	
2624.9(13)*	$\langle 10^+\rangle$						100				
2714.2(6)	$\langle 11^-\rangle$										1.35(6)
2781.26(15)*	12^+							100			
2919.89(15)	$1,2^+$			59(5)							
3038.8(4)	$\langle 12^+\rangle$							31.1(9)			
3186.1(6)	$\langle 12^+\rangle$							39(1)			
3221.0(8)	$\langle 12^+\rangle$							100			
3414.3(4)	$\langle 4^+\rangle$								49(11)		

Energy levels and branching ratios [03Ba44]. Part 5 **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	2188.0	2257.9	2317.4	2350.0	2431.1	2435.1	2562.7	2587.6	2624.9	2698.4
[keV]	J_f^π:	$\langle 9^-\rangle$	$\langle 8^+\rangle$	$\langle 9^+\rangle$	$\langle 9^-\rangle$	$\langle 10^-\rangle$	$\langle 10^-\rangle$	$\langle 10^+\rangle$	$\langle 10^-\rangle$	$\langle 10^+\rangle$	$\langle 11^-\rangle$
2431.1(3)	$\langle 10^-\rangle$	9.2(4)									
2435.1(5)	$\langle 10^-\rangle$	21.4(7)									
2562.7(3)	$\langle 10^+\rangle$					1.96(12)					
2587.6(11)	$\langle 10^-\rangle$				17.6(7)						
2698.4(6)	$\langle 11^-\rangle$	80(2)				13.7(6)	6.2(3)				
2714.2(6)	$\langle 11^-\rangle$					32.0(11)	67(2)				
2788.0(15)	$\langle 10^+\rangle$		100								
2805.7(4)	$\langle 11^+\rangle$							100			
2852.1(12)	$\langle 11^-\rangle$				84(3)				16.2(7)		
2956.4(16)	$\langle 11^+\rangle$			100							
2977.0(7)	$\langle 12^-\rangle$					45(2)	33.7(11)				21.6(9)
3006.8(7)	$\langle 12^-\rangle$					17.9(7)	22.3(8)				
3038.8(4)	$\langle 12^+\rangle$							21.8(8)			
3123.2(15)	$\langle 12^-\rangle$								100		
3186.1(6)	$\langle 12^+\rangle$							48(1)			
3288.5(8)	$\langle 13^-\rangle$										92(4)
3296.2(16)	$\langle 12^+\rangle$									100	

Energy levels and branching ratios [03Ba44]. Part 6 **$^{186}_{76}$Os**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	2714.2	2781.26	2805.7	2852.1	2956.4	2977.0	3006.8	3038.8	3123.2	3186.1
[keV]		J_f^π:	$\langle 11^- \rangle$	12^+	$\langle 11^+ \rangle$	$\langle 11^- \rangle$	$\langle 11^+ \rangle$	$\langle 12^- \rangle$	$\langle 12^- \rangle$	$\langle 12^+ \rangle$	$\langle 12^- \rangle$	$\langle 12^+ \rangle$
3006.8(7)	$\langle 12^- \rangle$		60(2)									
3038.8(4)	$\langle 12^+ \rangle$				47(1)							
3186.1(6)	$\langle 12^+ \rangle$				13.4(6)							
3288.5(8)	$\langle 13^- \rangle$							8.2(5)				
3293.3(7)	$\langle 13^+ \rangle$				52(2)					48(2)		
3308.9(8)	$\langle 13^- \rangle$		57(2)						43.1(14)			
3425.4(16)	$\langle 13^- \rangle$					100						
3431.5(6)	$\langle 13^+ \rangle$				46(1)					28.1(8)		22.8(7)
3439.77(18)*	14^+			96(3)						3.0(11)		
3505.9(12)	$\langle 13 \rangle$											100
3557.2(12)	$\langle 14^- \rangle$							94(3)				
3557.7(6)*	14^+			100								
3623.5(9)	$\langle 14^- \rangle$								70(2)			
3628.5(19)	$\langle 13^+ \rangle$						100					
3760.8(18)	$\langle 14^- \rangle$										100	

Energy levels and branching ratios [03Ba44]. Part 7 **$^{186}_{76}$Os**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	3221.0	3288.5	3293.3	3308.9	3425.4	3431.5	3439.77	3557.2	3557.7	3623.5
[keV]		J_f^π:	$\langle 12^+ \rangle$	$\langle 13^- \rangle$	$\langle 13^+ \rangle$	$\langle 13^- \rangle$	$\langle 13^- \rangle$	$\langle 13^+ \rangle$	14^+	$\langle 14^- \rangle$	14^+	$\langle 14^- \rangle$
3431.5(6)	$\langle 13^+ \rangle$		2.8(2)									
3439.77(18)*	14^+				0.80(3)							
3557.2(12)	$\langle 14^- \rangle$			5.7(6)								
3623.5(9)	$\langle 14^- \rangle$					29.6(9)						
3730.5(9)	$\langle 15^+ \rangle$							100				
3815.9(6)	$\langle 15^+ \rangle$				78(2)				10.3(6)		11.6(4)	
3934.29(21)	$\langle 16^+ \rangle$								97(3)		1.41(7)	
3940.2(9)	$\langle 15^- \rangle$			100								
3945.8(8)	$\langle 15^- \rangle$					82(3)						18.2(7)
4062.3(19)	$\langle 15^- \rangle$						100					
4169.6(16)	$\langle 16^- \rangle$									100		
4241.5(12)	$\langle 16^+ \rangle$										100	
4283.8(11)	$\langle 16^- \rangle$											91(3)
4350.7(8)	$\langle 16^+ \rangle$								56(3)		44(3)	

Energy levels and branching ratios [03Ba44]. Part 8 **$^{186}_{76}$Os**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	3730.5	3760.8	3815.9	3934.29	3940.2	3945.8	4062.3	4099.3	4169.6	4241.5
[keV]		J_f^π:	$\langle 15^+ \rangle$	$\langle 14^- \rangle$	$\langle 15^+ \rangle$	$\langle 16^+ \rangle$	$\langle 15^- \rangle$	$\langle 15^- \rangle$	$\langle 15^- \rangle$	$\langle 16^+ \rangle$	$\langle 16^- \rangle$	$\langle 16^+ \rangle$
3934.29(21)	$\langle 16^+ \rangle$				1.28(5)							
4099.3(9)	$\langle 16^+ \rangle$		100									
4283.8(11)	$\langle 16^- \rangle$							8.9(5)				
4413.4(8)	$\langle 17^+ \rangle$				81(2)	19.3(7)						
4482.8(10)	$\langle 17^+ \rangle$		28.4(10)							72(2)		
4487.0(21)	$\langle 16^- \rangle$			100								
4493.69(23)	$\langle 18^+ \rangle$					98(3)				1.86(6)		
4504.3(11)	$\langle 18^+ \rangle$					100						
4623.8(8)	$\langle 17^- \rangle$						31.3(11)	69(2)				
4637.1(10)	$\langle 17^- \rangle$						64(2)	36.2(11)				
4760.1(21)	$\langle 17^- \rangle$								100			
4818.5(19)	$\langle 18^- \rangle$										100	
4868.9(11)	$\langle 18^+ \rangle$									46(2)		
4962.8(16)	$\langle 18^+ \rangle$											100

Energy levels and branching ratios [03Ba44]. Part 9 **$^{186}_{76}$Os**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	4413.4	4482.8	4493.69	4504.3	4623.8	4818.5	4868.9	4956.46	4962.8	5024.70
[keV]		J_f^π:	$\langle 17^+ \rangle$	$\langle 17^+ \rangle$	$\langle 18^+ \rangle$	$\langle 18^+ \rangle$	$\langle 17^- \rangle$	$\langle 18^- \rangle$	$\langle 18^+ \rangle$	$\langle 19^+ \rangle$	$\langle 18^+ \rangle$	$\langle 18^- \rangle$
4868.9(11)	$\langle 18^+ \rangle$			54(2)								
4956.46(24)	$\langle 19^+ \rangle$				100							
5024.70(25)	$\langle 18^- \rangle$				100							
5106.3(13)	$\langle 19^+ \rangle$		100									
5167.1(15)	$\langle 20^+ \rangle$					100						
5242.9(11)	$\langle 19^- \rangle$											100
5330.9(3)	$\langle 19^- \rangle$						50(2)					50(2)
5373.33(24)	$\langle 20^+ \rangle$				80(2)					20.2(6)		
5489.7(21)	$\langle 20^- \rangle$							100				
5495.5(6)	$\langle 20^+ \rangle$				26.1(9)					74(2)		
5500.0(3)	$\langle 20^+ \rangle$				26.8(9)					73(2)		
5563.8(3)	$\langle 20^- \rangle$											100
5669.8(15)	$\langle 20^+ \rangle$								100			
5781.0(19)	$\langle 20^+ \rangle$										100	

Energy levels and branching ratios [03Ba44]. Part 10 **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	5106.3	5167.1	5330.9	5373.33	5489.7	5495.5	5500.0	5559.5	5700.8	5914.8
[keV]	J_f^π:	$\langle 19^+ \rangle$	$\langle 20^+ \rangle$	$\langle 19^- \rangle$	$\langle 20^+ \rangle$	$\langle 20^- \rangle$	$\langle 20^+ \rangle$	$\langle 20^+ \rangle$	$\langle 20^- \rangle$	$\langle 21^+ \rangle$	$\langle 22^+ \rangle$
5559.5(9)	$\langle 20^- \rangle$			100							
5700.8(3)	$\langle 21^+ \rangle$				31.6(10)		19.7(8)	49(1)			
5831.9(3)	$\langle 21^- \rangle$			100							
5888.0(17)	$\langle 21^+ \rangle$	100									
5901.1(9)	$\langle 21^- \rangle$			44(2)					56(2)		
5914.8(18)	$\langle 22^+ \rangle$		100								
5921.8(11)	$\langle 21^+ \rangle$							100			
5922.2(12)	$\langle 21^+ \rangle$						100				
6026.0(8)	$\langle 22^+ \rangle$				68(2)		31.8(12)				
6030.0(7)	$\langle 22^+ \rangle$				37.3(12)		18.4(6)	44(1)			
6063.2(11)	$\langle 22^+ \rangle$									100	
6185.4(24)	$\langle 22^- \rangle$					100					
6727.4(21)	$\langle 24^+ \rangle$										100

Energy levels and branching ratios [03Ba44]. Part 11 **$^{186}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	5921.8	6026.0	6030.0	6150.9	6472.4	6486.9	6727.4	6988.1	6992.0	7141.9
[keV]	J_f^π:	$\langle 21^+ \rangle$	$\langle 22^+ \rangle$	$\langle 22^+ \rangle$	$\langle 24^+ \rangle$	$\langle 25^+ \rangle$	$\langle 24^+ \rangle$	$\langle 24^+ \rangle$	$\langle 26^+ \rangle$	$\langle 25^+ \rangle$	$\langle 28^+ \rangle$
6150.9(12)	$\langle 24^+ \rangle$			100							
6446.4(15)	$\langle 22^+ \rangle$	100									
6472.4(16)	$\langle 25^+ \rangle$				100						
6486.9(9)	$\langle 24^+ \rangle$		29.3(9)	71(2)							
6946.6(19)	$\langle 26^+ \rangle$					100					
6988.1(14)	$\langle 26^+ \rangle$						100				
6992.0(14)	$\langle 25^+ \rangle$						100				
7141.9(17)	$\langle 28^+ \rangle$								100		
7476.4(17)	$\langle 26^+ \rangle$									100	
7582.7(23)	$\langle 26^+ \rangle$							100			
7709.3(20)	$\langle 30^+ \rangle$										100
7748.7(20)	$\langle 30^+ \rangle$										100
7777.4(20)	$\langle 30^+ \rangle$										100

Energy levels and branching ratios [91Fi02]. **$^{187}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ μb/sr	L (d,d′)	σ (d,d′) μb/sr	L (d,t)	$d\sigma/d\Omega$ μb/sr	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	1^-				86000					Stable	
9.746(24)	3^-							0	1495	2.38(18) ns	76Sh15
74.33(3)	3^-	1				1		0	224*	20(6) ps	73Mo04
75.04(3)	5^-	3	363(22)		948(151)	3	701(38)			2.16(16) ns	73Mo04
100.55(7)	7^-	3	125(10)			3	270(16)			112(6) ns	73Mo04
117(2)						⟨3⟩	16(3)				
187.40(4)	5^-			2	1392(79)					101(21) ps	73Mo04
190.60(7)	7^-								207		76Sh15
257.17(10)	11^+									231(2) μs	
263.3(3)	⟨9^-⟩										
333.26(8)	⟨7^-⟩	3	57(6)		41(6)	3	74(6)				73Mo04
341.5(4)	⟨9^-⟩								14.9		76Sh15
350(1)				2	15(5)	>5	5(2)				73Mo04
419.0(3)	⟨13^+⟩	≥5	26(2)			6	48(5)				73Mo04
442(3)	⟨1,3⟩$^+$	1	38(3)								73Mo04
445.04(16)	⟨7,9⟩$^-$										
459.5(3)	⟨11^-⟩										
464(1)	⟨1,3^-⟩	⟨0,1⟩	31(4)								73Mo04
501.45(4)	3^-	1	91(8)			1	85(7)		36.5		73Mo04
508.22(21)	⟨9^-⟩										
511.6(4)	⟨11^-⟩										
536.56(21)											
556.90(11)	9^+					3	13(3)				
586.31(5)	5^-										
596.45(8)	1^-,3^-	1	109(9)			1	300(17)				73Mo04
611(3)							19(3)				
618.0(3)	⟨15^+⟩					≥5					
641.87(21)											
664.13(6)	3^-	1	64(7)	2	93(5)				21.9		73Mo04
670(5)		1									73Mo04
684.0(3)	⟨11^-,13^-⟩										
684.5(4)	⟨13^-⟩										
711.23(12)	5^-	3	100(9)			3					73Mo04
725.74(5)	3^-			2	59(9)			0	113		73Mo04
727.1(3)	⟨11^+⟩										
745(5)									127		76Sh15
757(4)							67(6)		incl		76Sh15
817.5(3)	⟨17^+⟩					≥5	6(2)				
838(4)							50(5)				
885.5(5)	⟨13^+⟩					6	20(3)				
934.8(3)	⟨15^-⟩					>5	9(2)				
935.02(7)	5^-	3	80(8)				11(3)				73Mo04
941.82(9)	⟨5^+,7^-⟩		incl				incl				73Mo04
964(5)		1	68(7)			1					73Mo04
987.28(4)	3^-	1	175(13)								73Mo04

(continued) **$^{187}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ μb/sr	L (d,d′)	σ (d,d′) μb/sr	L (d,t)	$d\sigma/d\Omega$ μb/sr	L (p,t)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
1005(6)											
1053(6)						≥5	6(2)				
1069(5)											
1084.2(4)	$\langle 19^+ \rangle$										
1090.39(6)	5^-										
1112.14(8)	3^-	1	61(7)				20(3)				73Mo04
1210.5(5)	$\langle 17^- \rangle$	≥5	16(2)								73Mo04
1227(5)								⟨3⟩	37.8		76Sh15
1248(5)		3	19(2)								73Mo04
1278(5)		1	23(2)								73Mo04
1354(3)											
1369(5)											
1563(5)											
1613(2)		3	35(4)								73Mo04
1647(12)											
1657(5)	$\langle 3^- \rangle$							0	85.5		76Sh15
1784(1)		≥5	63(7)								73Mo04
1843(2)		3	56(7)								73Mo04
1881(2)		3									73Mo04
2097(2)		1	119(10)								73Mo04
2266(2)		≥5	133(13)								73Mo04
			73Mo04		73Mo04		73Mo04				Ref.

Additional data on this isotope can be found in [97Br18].
Abundance: 1.6(3) %.
* Integral values of (p,t) cross section measured in [76Sh15].
Presented values of (d,p), (d,t) and (d,d′) cross sections were measured at 90° in [73Mo04], data for angles 60°, 125° and 150° can be found therein.
Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [91Fi02]. Part 2 **$^{187}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	0.0	9.7	74.3	75.0	100.5	187.40	190.60	257.17	263.3	333.26
[keV]	$2J_f^\pi$:	1^-	3^-	3^-	5^-	7^-	5^-	7^-	11^+	$\langle 9^- \rangle$	$\langle 7^- \rangle$
9.746(24)	3^-	100									
74.33(3)	3^-	74(17)	26(5)								
75.04(3)	5^-	46(9)	54(11)								
100.55(7)	7^-		4.5(16)		96(48)						
187.40(4)	5^-	37.7(13)	56(2)	4.5(3)	0.86(8)	1.0(7)					
190.60(7)	7^-		79(6)		21(3)						
257.17(10)	11^+					100					
263.3(3)	$\langle 9^- \rangle$					100					

(continued) **$^{187}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	0.0	9.7	74.3	75.0	100.5	187.40	190.60	257.17	263.3	333.26
[keV]	$2J_f^\pi$:	1^-	3^-	3^-	5^-	7^-	5^-	7^-	11^+	$\langle 9^- \rangle$	$\langle 7^- \rangle$
333.26(8)	$\langle 7^- \rangle$		x		89(17)		10.8(11)				
341.5(4)	$\langle 9^- \rangle$							100			
419.0(3)	$\langle 13^+ \rangle$								100		
445.04(16)	$\langle 7,9 \rangle^-$					100					
459.5(3)	$\langle 11^- \rangle$					36(7)				64(13)	
501.45(4)	3^-	12.3(8)	10.7(4)	35(1)	2.1(4)	33(1)	7.0(2)				
508.22(21)	$\langle 9^- \rangle$							[71(14)]			[29(5)]
511.6(4)	$\langle 11^- \rangle$							100			
536.56(21)		60(12)		40(8)							
556.90(11)	9^+					17(3)			83(4)		
586.31(5)	5^-		35(1)		4.7(8)	30(1)	15(1)	5.6(1)			5(2)
596.45(8)	$1^-,3^-$		54(3)	46(2)							
618.0(3)	$\langle 15^+ \rangle$								52(10)		
641.87(21)					50(10)		50(10)				
664.13(6)	3^-	15.1(9)	39(10)		33(2)						
684.5(4)	$\langle 13^- \rangle$									24(5)	
711.23(12)	5^-	2.15(19)	1.4(3)	6.9(10)		88(4)					
725.74(5)	3^-	41(2)	21(1)	35(2)							
935.02(7)	5^-	8(3)		9.7(7)	42(9)		35(2)				
941.82(9)	$\langle 5^+,7^- \rangle$					45(2)					
987.28(4)	3^-	22.8(8)	25.5(8)	39(2)		1.04(6)	7.2(3)	0.11(2)			0.7(7)
1090.39(6)	5^-	2.3(2)	14(1)		10(1)		34(2)	15(2)			23(2)
1112.14(8)	3^-	33(2)	10.9(6)	25(1)							

Energy levels and branching ratios [91Fi02]. Part 3 **$^{187}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	419.0	445.04	459.5	501.45	556.90	586.31	596.45	618.0	664.13	684.0
[keV]	$2J_f^\pi$:	$\langle 13^+ \rangle$	$\langle 7,9 \rangle^-$	$\langle 11^- \rangle$	3^-	9^+	5^-	$1^-,3^-$	$\langle 15^+ \rangle$	3^-	
586.31(5)	5^-				4.4(5)						
618.0(3)	$\langle 15^+ \rangle$	48(9)									
664.13(6)	3^-				13(1)						
684.0(3)	$\langle 11^-,13^- \rangle$		100								
684.5(4)	$\langle 13^- \rangle$			76(15)							
711.23(12)	5^-		1.67(10)								
725.74(5)	3^-				3.6(2)						
727.1(3)	$\langle 11^+ \rangle$	39(8)				61(12)					
817.5(3)	$\langle 17^+ \rangle$	52(10)							48(9)		
934.8(3)	$\langle 15^- \rangle$			51(11)							49(10)
935.02(7)	5^-						4.9(5)				
941.82(9)	$\langle 5^+,7^- \rangle$				8.6(11)	41(5)	4.9(5)				
987.28(4)	3^-						x			2.03(7)	

(continued) **$^{187}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	419.0	445.04	459.5	501.45	556.90	586.31	596.45	618.0	664.13	684.0
[keV]	$2J_f^\pi$:	$\langle 13^+\rangle$	$\langle 7,9\rangle^-$	$\langle 11^-\rangle$	3^-	9^+	5^-	1^-,3^-	$\langle 15^+\rangle$	3^-	
1084.2(4)	$\langle 19^+\rangle$								50(10)		
1112.14(8)	3^-							23(1)		8.1(4)	

Energy levels and branching ratios [91Fi02]. Part 4 **$^{187}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage						
	E_f^*:	684.5	711.23	725.74	727.1	817.5		934.8
[keV]	$2J_f^\pi$:	$\langle 13^-\rangle$	5^-	3^-	$\langle 11^+\rangle$	$\langle 17^+\rangle$		$\langle 15^-\rangle$
885.5(5)	$\langle 13^+\rangle$				100			
987.28(4)	3^-		0.30(7)	1.45(8)				
1084.2(4)	$\langle 19^+\rangle$					50(10)		
1210.5(5)	$\langle 17^-\rangle$	x						100

Energy levels and branching ratios [02Si10]. **$^{188}_{76}$Os**

E^*	J^π	L	$d\sigma/d\Omega$	L	σ (p,t)	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
									E_f^*:	0.0	155	478	633	790
[keV]		(d,t)	μb/sr	(p,t)	μb/sr	μb/sr	Γ_{cm}		J_f^π:	0^+	2^+	4^+	2^+	3^+
0.0	0^+		28(5)	0	2255	815	Stable	76Sh15						
155.02(1)*	2^+		1018(32)		325	79	0.688(17) ns	76Sh15		100				
477.94(2)*	4^+		129(11)		40	15	17.7(10) ps	76Sh15			100			
633.01(1)*	2^+		119(15)		67	17	9.4(10) ps	76Sh15		55	45	0.33		
789.98(3)*	3^+		290(17)					75Th06			96	3.6	x	
940.3(2)*	$\langle 6\rangle^+$					1.5	2.95(17) ps	75Th04				100		
965.65(4)*	4^+		62(8)		31	5.4	6.0(5) ps	75Th06			34	44	14	8
1086.36(2)*	0^+			0	128	24	11.8(7) ps	76Sh15		x	89		11.0	
1180.86(22)	$\langle 5^+\rangle$		21(5)					75Th06				52		48
1279.1(1)*	$\langle 4\rangle^+$			$\langle 4,2\rangle$	17	2.1	3.9(8) ps	76Sh15			18		51	25
1304.82(4)	$\langle 2\rangle^+$		13(4)	$\langle 4,2\rangle$	20	5.0		75Th06		14	53	17	x	15
1413.78(9)	$\langle 3^-\rangle$			$\langle 3\rangle$	57	10		76Sh15					11	65
1424.8(2)*	$\langle 6\rangle^+$						3.5(10) ps					6		
1443.5(2)													100	
1457.53(4)	2^+		225(15)			1.5		75Th06		49	11	2.0	35	1.8
1462.51(3)	2^-									0.15	2.2	1.0	76	21
1478.04(3)	0^+			0	82	16		76Sh15		x	64		36	
1514.7(4)*	$\langle 8\rangle^+$		12(6)				0.88(6) ps	75Th06						
1516.1(3)	$\langle 5^+\rangle$													55
1566.7(3)						3.1		75Th04						100
1577(3)					14	incl		76Sh15		x	x		x	

(continued)

$^{188}_{76}$Os

E^* [keV]	J^π	L (d,t)	$d\sigma/d\Omega$ μb/sr	L (p,t)	σ (p,t) μb/sr	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage E_f^*: 0.0 155 478 633 790 J_f^π: 0^+ 2^+ 4^+ 2^+ 3^+
1620.48(5)	$\langle 2,3\rangle^+$		366(19)		33	5.0		75Th06	8 46 14 31
1668.66(19)	$\langle 5^-\rangle$					2.9		75Th04	
1685.29(5)	$\langle 2–4\rangle^+$		90(9)					75Th06	50 8 37
1685.5(7)	$\langle 7^+\rangle$		incl					75Th06	
1704.27(10)	0^+			0	26	6.2		76Sh15	x 76 24
1729.42(4)	2^+					1.3		75Th04	54 0.5 30 14
1746.5						1.8		75Th04	
1765.40(4)	0^+		91(15)	0	20	1.9		75Th06	x 54 46
1771.0(5)	$\langle 7^-\rangle$						14.0(10) ns		
1807.61(5)	$\langle 2\rangle^+$		291(25)			3.0		75Th06	2.3 10 7 42 31
1824.94(10)	0^+			0		3.5		75Th04	x 24 76
1842.92(5)	$\langle 1,2\rangle^+$		832(33)					75Th06	1.9 8.1 84
1855(5)									
1877.9(11)						1.0		75Th04	
1893						1.3		75Th04	
1936.9(3)						2.4		75Th04	100
1941.02(6)	$\langle 1^+,2^+\rangle$		382(25)					75Th06	1.9 19 62 16
1948.60(3)						2.6		75Th04	
1957.09(4)	$\langle 1,2^+\rangle$								29 69
1964.98(4)	2^+					1.0		75Th04	36 8 49 x
1966.1(10)	0^+								x
1973(3)			473(27)			1.8		75Th06	
1979.8(12)*	$\langle 8\rangle^+$						2.8(+33-4) ps		
1993.7(6)	$\langle 8^-\rangle$								
2015(2)			352(24)					75Th06	
2019.72(12)	$\langle \leq 3\rangle$								85
2022.44(13)	$\langle 1,2^+\rangle$					2.1		75Th04	78 22
2031.0(11)						2.2		75Th04	
2055.0(6)									
2068.61(8)	$\langle 1,2\rangle^+$		129(17)					75Th06	7 88
2085.47(9)	$\langle 1–3\rangle^+$								22 69 9
2099.06(5)	$\langle 1,2\rangle^+$		134(17)					75Th06	49 44 <1
2121.2(2)	$\langle 3^-\rangle$								x x
2124.2(3)									x
2166.03(10)	$\langle 2,3\rangle^+$								81 16
2169.8(6)*	$\langle 10\rangle^+$						0.39(5) ps		
2193.1(15)									x x
2204.73(8)	$\langle 2\rangle^+$		152(13)					75Th06	91 2.2 2.1 1.4
2214.62(5)	$\langle 1\rangle^+$								70 27 x
2228(10)									
2251.92(6)	2^+								4.5 74 0.8 10 5.3
2264(3)			328(20)					75Th06	
2286.23(16)	$\langle 1,2^+\rangle$								21 68 x
2299.85(23)	$\langle 1,2\rangle$								7 93
2308(3)			65(15)					75Th06	

(continued) **$^{188}_{76}$Os**

E^*	J^π	L	$d\sigma/d\Omega$	L	σ (p,t)	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
									E_f^*:	0.0	155	478	633	790
[keV]		(d,t)	μb/sr	(p,t)	μb/sr	μb/sr	Γ_{cm}		J_f^π:	0^+	2^+	4^+	2^+	3^+
2326.01(12)	$\langle 1,2^+\rangle$									46	39			
2347.4(3)	$\langle 1\rangle^+$									64	33			
2348.70(6)	$\langle 2\rangle^-$		169(15)					75Th06			22		66	9
2366.1(2)										x	x			
2374.2(3)										14	86			
2376.95(15)											91			
2415.87(10)	$2^+,3^+$										33	9	27	
2432(10)														
2451.3(11)			133(20)					75Th06						
2461.0(2)	$\langle 1,2^+\rangle$									61	39		x	
2491.3(3)											100			
2505.3(3)			102(18)					75Th06		100	x			
2520.60(20)	$\langle 1,2\rangle$									5	31	36	28	
2549.47(12)											82			x
2567(3)			858(31)					75Th06						
2581.80(24)	$\langle 1,2^+\rangle$									67	33			
2605(10)														
2622.70(20)	$\langle 1,2^+\rangle$									80	7	13		
2626.5(22)			186(25)					75Th06		x	x		x	
2658.6(3)										100	x		x	
2666(3)			326(25)					75Th06						
2704.0(2)			140(18)					75Th06		46	x			
2739.9(4)										65	10		25	
2765.7(2)										x			x	
2779.2(12)											x		x	
2817.8(2)			218(18)					75Th06		72	x			
2855.6(11)	$\langle 12^+\rangle$													
2866.1(2)														
2868.8(12)*	$\langle 12^+\rangle$						0.60(10) ps							
2878.8(5)										50	x		50	
2892.7(3)										58	42		x	
2923(10)														
2929.9(14)*	$\langle 12^+\rangle$						2.4(+42-6) ps							
2940(5)			197(20)					75Th06						
2969.8(11)										x	x			
3002.8(3)														
3012.2(9)										x			x	
3030.5(3)										x	x	100		
3070.4(3)										83	17			
3110.0(3)										100				
3140.0(6)										x	x			
3167.2(7)										x	x			
3176.8(3)										35	40		24	
3223.5(9)											x		x	
3238.8(3)											14		86	

(continued) **$^{188}_{76}$Os**

E^*	J^π	L	$d\sigma/d\Omega$	L	σ (p,t)	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
									E_f^*:	0.0	155	478	633	790
[keV]		(d,t)	μb/sr	(p,t)	μb/sr	μb/sr	Γ_{cm}		J_f^π:	0^+	2^+	4^+	2^+	3^+
3274.5(8)										39	61			
3337(10)														
3362(10)														
3434(10)														
3479(10)														
3567(10)														
3600(10)														
3622(10)														
3644(10)														
3732.0(8)											x		x	
3810(10)														
3837(10)														
3900(10)														
3984(10)														
4507.5(17)										x	x			
			75Th06		76Sh15	75Th04		Ref.						

Additional data on this isotope can be found in [02Wu03, 01Wu03, 00Sh48, 00Bo49, 75Th02].
Abundance: 13.29(8) %.
* E2 collective properties of these low-lying states are considered in [96Wu07].
Integral values of (p,t) cross section are from [76Sh15].
Cross sections σ (d,t) [75Th06] and σ (p,t) [75Th04] were measured at 45° and 25°, respectively; data on σ (d,p) [62Wa37] suffer from many impurity peaks and were not included [02Si10].
Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [02Si10]. Part 2 **$^{188}_{76}$Os**

E^*	J^π			Branching ratios in percentage								
		E_f^*:	940	965.65	1086.36	1180.86	1279.09	1304.82	1413.78	1424.84	1457.53	1462.51
[keV]		J_f^π:	$\langle 6\rangle^+$	4^+	0^+	$\langle 5^+\rangle$	$\langle 4\rangle^+$	$\langle 2\rangle^+$	$\langle 3^-\rangle$	$\langle 6\rangle^+$	2^+	2^-
965.65(4)*	4^+		$12(4)\cdot10^{-6}$									
1279.1(1)*	$\langle 4\rangle^+$			6(2)								
1304.82(4)	$\langle 2\rangle^+$				1.1(2)							
1413.78(9)	$\langle 3^-\rangle$			24(2)								
1424.8(2)*	$\langle 6\rangle^+$		35(9)	58(15)								
1457.53(4)	2^+			1.4(3)								
1514.7(4)*	$\langle 8\rangle^+$		100									
1516.1(3)	$\langle 5^+\rangle$			45(9)								
1620.48(5)	$\langle 2,3\rangle^+$										x	
1668.66(19)	$\langle 5^-\rangle$		19(6)	23(6)			39(18)		14(6)	6(2)		
1685.29(5)	$\langle 2\text{–}4\rangle^+$		x	5(2)		x						
1685.5(7)	$\langle 7^+\rangle$					100						
1704.27(10)	0^+				x							

(continued) **$^{188}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	940	965.65	1086.36	1180.86	1279.09	1304.82	1413.78	1424.84	1457.53	1462.51
[keV]	J_f^π:	$\langle 6\rangle^+$	4^+	0^+	$\langle 5^+\rangle$	$\langle 4\rangle^+$	$\langle 2\rangle^+$	$\langle 3^-\rangle$	$\langle 6\rangle^+$	2^+	2^-
1729.42(4)	2^+		0.7(2)				0.7(2)			0.5(1)	
1807.61(5)	$\langle 2\rangle^+$									8(3)	
1842.92(5)	$\langle 1,2\rangle^+$						2.4(3)			3.2(3)	
1948.60(3)											100
1957.09(4)	$\langle 1,2^+\rangle$						1.8(5)				
1964.98(4)	2^+		7(1)								
1979.8(12)*	$\langle 8\rangle^+$								100		
2019.72(12)	$\langle \leq 3\rangle$										15(3)
2099.06(5)	$\langle 1,2\rangle^+$			1.5(3)			0.4(1)			5	
2166.03(10)	$\langle 2,3\rangle^+$										3.3(11)
2204.73(8)	$\langle 2\rangle^+$						2.0(3)			0.89(19)	
2214.62(5)	$\langle 1\rangle^+$			0.24(4)			0.13(3)			1.5(2)	0.28(5)
2251.92(6)	2^+		0.42(15)				1.7(2)				
2286.23(16)	$\langle 1,2^+\rangle$									x	
2348.70(6)	$\langle 2\rangle^-$										2.7(4)
2704.0(2)											54(5)
2765.7(2)											x
2817.8(2)			28(2)								
2866.1(2)							26(3)				42(4)

Energy levels and branching ratios [02Si10]. Part 3 **$^{188}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1478.04	1514.7	1566.7	1620.48	1668.66	1685.29	1704.27	1729.42	1765.40	1771.0
[keV]	J_f^π:	0^+	$\langle 8\rangle^+$		$\langle 2,3\rangle^+$	$\langle 5^-\rangle$		0^+	2^+	0^+	$\langle 7^-\rangle$
1771.0(5)	$\langle 7^-\rangle$					100					
1824.94(10)	0^+	x									
1842.92(5)	$\langle 1,2\rangle^+$				x						
1964.98(4)	2^+						x				
1993.7(6)	$\langle 8^-\rangle$										100
2055.0(6)											100
2068.61(8)	$\langle 1,2\rangle^+$				4.4(9)						
2099.06(5)	$\langle 1,2\rangle^+$						0.4(1)				
2124.2(3)		100									
2169.8(6)*	$\langle 10\rangle^+$		100								
2214.62(5)	$\langle 1\rangle^+$	1.0(1)			0.36(6)						
2251.92(6)	2^+						2.7(4)		0.27(9)		
2286.23(16)	$\langle 1,2^+\rangle$						9(1)	1.9(4)			
2299.85(23)	$\langle 1,2\rangle$	x									
2326.01(12)	$\langle 1,2^+\rangle$								14(4)		
2347.4(3)	$\langle 1\rangle^+$									3(1)	
2348.70(6)	$\langle 2\rangle^-$						0.7(1)				

(continued) **$^{188}_{76}$Os**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	1478.04	1514.7	1566.7	1620.48	1668.66	1685.29	1704.27	1729.42	1765.40	1771.0
[keV]	J_f^π:	0^+	$\langle 8\rangle^+$		$\langle 2,3\rangle^+$	$\langle 5^-\rangle$		0^+	2^+	0^+	$\langle 7^-\rangle$
2366.1(2)					x						
2415.87(10)	$2^+,3^+$						31(5)				
2505.3(3)								<7.3			
2520.60(20)	$\langle 1,2\rangle$	x									
3002.8(3)				100							

Energy levels and branching ratios [02Si10]. Part 4 **$^{188}_{76}$Os**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1807.61	1824.94	1842.92	1964.98	2099.06	2166.03	2169.8	2251.92
[keV]	J_f^π:	$\langle 2\rangle^+$	0^+	$\langle 1,2\rangle^+$	2^+	$\langle 1,2\rangle^+$	$\langle 2,3\rangle^+$	$\langle 10\rangle^+$	2^+
2204.73(8)	$\langle 2\rangle^+$	x							
2214.62(5)	$\langle 1\rangle^+$			x		x			
2376.95(15)				5(2)	5(2)				
2520.60(20)	$\langle 1,2\rangle$								x
2549.47(12)							18(3)		
2765.7(2)					x				
2855.6(11)	$\langle 12^+\rangle$							100	
2866.1(2)			32(3)						
2868.8(12)*	$\langle 12^+\rangle$							x	
2929.9(14)*	$\langle 12^+\rangle$							100	

Energy levels and branching ratios [03Wu02]. **$^{189}_{76}$Os**

E^*	$2J^\pi$	L	σ (d,p)	σ (d,t)	L	σ (d,d′)	σ (d,p)	$d\sigma/d\Omega$	σ (d,t)	$d\sigma/d\Omega$	U^2	L	S_N	Ref.
[keV]		(d,p)	μb/sr	μb/sr	(d,d′)	μb/sr	μb/sr	(d,p)	μb/sr	(d,t)			(t,α)	
0.0	3^-	1	6(1)	10(1)		$86{\cdot}10^3$	13	16	14	10	0.6			76Be50
30.81(2)	9^-	5	9(1)	19(2)			21	26	23	16	0.5			75Mo29
36.18(1)	1^-													
69.53(1)	5^-	3	147(12)	245(7)	2	974(64)	213	262	348	252	0.48			75Mo29
95.25(1)	3^-	1	233(16)	451(10)	2	168(12)	303	370	671	497	0.40			75Mo29
97.35(3)	11^+													
216.66(2)	7^-	3	84(6)	252(7)			96	113	367	298	0.25			75Mo29
219.39(2)	7^-			incl	2	800(59)								75Mo29
233.56(1)	5^-				2	93(8)								75Mo29
275.92(2)	5^-	3	≈48	24(2)			60	69	63	54	0.54			75Mo29
288(3)	$\langle 13^+\rangle$	6	≈20	58(3)			31	36	45	37	0.4	6	2.7	73KlZZ
350.0(4)	$\langle 9^-\rangle$					≈25								75Mo29

(continued) **$^{189}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	σ (d,p) μb/sr	σ (d,t) μb/sr	L (d,d′)	σ (d,d′) μb/sr	σ (d,p) μb/sr	$d\sigma/d\Omega$ (d,p)	σ (d,t) μb/sr	$d\sigma/d\Omega$ (d,t)	U^2	L (t,α)	S_N (t,α)	Ref.
365.76(2)	5^-,7^-	3	64(5)	82(4)		≈23	79	88	133	122	0.40			75Mo29
427.93(4)	5^-,7^-				2	17(2)								75Mo29
438.72(2)	1^-,3^-	1	≈100	147(5)			243	265	220	214	0.52			75Mo29
444.22(3)	7^+	1	60(5)											75Mo29
498.79(2)	1^-,3^-			14(2)	2	72(6)								75Mo29
505.85(2)	1^-,3^-	1	10(3)	incl			34	36	28	26	0.55			75Mo29
531.54(3)	5^-	3	<5	20(3)	2	38(4)			36	38	0			75Mo29
550.03(2)	3^-			20(3)										
557.35(2)	3^-	1		incl	2	49(6)		20	40	43	0.3			75Mo29
562.69(5)														
594.9(3)	$\langle 11^- \rangle$					≈25								75Mo29
599.63(2)	3^-	1	193(14)	100(4)	⟨2⟩	≈6	310	321	158	172	0.62			75Mo29
622.01(3)	3^+,5^-	>3	<11	<5	>2	<1	26	27			1			75Mo29
630.6(3)	$\langle 9^- \rangle$													
634.2(5)														
667.4(4)														
672.13(3)	5^-				2	10(2)								75Mo29
673.1(5)	5													
679.89(2)	3^-	<5					28	28			1			75Mo29
688.42(3)	1^-,3^-	1		149(5)					254	306	0			
716.90(4)	5^-	3	18(2)	7(3)				≈30			1			75Mo29
716.99(3)	5^-,7^-		incl											
735.5(5)	1^-,3^-	1	12(2)	53(3)	2	79(6)		<10	71	90	<0.1			75Mo29
786(3)		>3					21	20	22	29	0.4			
792.10(4)	5			<5	>2	1.2(2)								75Mo29
794.3(4)														
817.0(10)	5^-,7^-	3	12(2)	49(3)	2	30(3)	13	12	81	111	0.09			75Mo29
849.73(5)	1^-,3^-						11	10			1			
877(3)	$\langle 13^+ \rangle$		13(2)				8	8	32	46	0.1	6	1.7	73KlZZ
892.8(18)									31	46	0			
908.04(3)	1^-,3^-	1,3	82(6)				84	78			1			75Mo29
939.65(4)	3^+													
957.3(24)							8	7						
990.14(4)	7^+													
994.62(2)	1^-,3^-	1	43(4)				39	36	16	26	0.55			75Mo29
996.4(4)	1^+,3^+													
1019(2)	$\langle 13^+ \rangle$			13(2)								6	1.9	73KlZZ
1028(3)									24	41	0			
1036.7(1)	$\langle 5^-,7,9^- \rangle$													
1056.0(1)	1^-,3^-						9	8	27	47	0.6			
1076.9(1)														
1107.8(18)							40	35			1			
1140.0(4)	1^-,3^-													
1149.4(1)	1^+,3^+													
1159.9(1)	3^-													

(continued) **$^{189}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	σ (d,p) μb/sr	σ (d,t) μb/sr	L (d,d′)	σ (d,d′) μb/sr	σ (d,p) μb/sr	$d\sigma/d\Omega$ (d,p)	σ (d,t) μb/sr	$d\sigma/d\Omega$ (d,t)	U^2	L	S_N (t,α)	Ref.
1163(4)							24	21		≈20	0.5			
1188.9(18)	1^-,3^-	1	27(3)					≈40			1			75Mo29
1190.4(1)	1^-,3^-													
1196.9(9)	1^+,3^+													
1206.7(1)														
1220.3(1)	1^-,3^-													
1226.3(1)	1^+,3^+													
1235.2(3)	1^-,3^-													
1242.8(43)														
1254.8(1)	1^-,3^-													
1267.4(1)	3^+													
1268.3(5)	1^+,3^+													
1269(1)		>3	11(2)											75Mo29
1277.7(1)														
1297.3(1)	3^-													
1311.7(1)	1^-,3^-													
1333.5(1)	3^+													
1361.2(3)	1^-,3^-													
1370.1(1)	1^-,3^-													
1376.7(1)	3^-													
1394.6(3)	1^-,3^-													
1398.2(4)	1^-,3^-													
1407.5(1)	1^-,3^-													
1411.3(20)	1^-,3^-	1	47(5)											75Mo29
1435.3(3)	1^-,3^-													
1445.5(20)	1^-,3^-	1	29(3)											75Mo29
1451.4(1)	1^+,3^+													
1472.3(1)	1^-,3^-	1	30(3)											75Mo29
1475.0(9)	1^-,3^-		incl											
1554.6(25)	1^-,3^-	1	86(7)											75Mo29
1633.7(23)														
1700(2)	$\langle 5^- \rangle$	3	52(5)											75Mo29
1725(2)	5^-,7^-	3	293(20)											75Mo29
1816(1)		1,3	19(2)											75Mo29
			75Mo29	75Mo29		75Mo29							73KlZZ	Ref.

Additional data on this isotope can be found in [97Br18, 92Br17].

Abundance: 16.21(5) %.

σ (d,p) and σ (d,t) measured at 90° and 95° [76Be50] are given at right; after reduction they were used for estimation of "apparent" occupation factors of the states U^2 (see also [77Be15]); data for many other angles can be found in [76Be50]; cross sections given at left were measured at 90° [75Mo29].

Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [03Wu02]. Part 2

$^{189}_{76}$Os

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
				E_f^*:	0.0	30.8	36.2	69.5	95.2	97.35	216.661	219.389
[keV]		Γ_{cm}		$2J_f^\pi$:	3^-	9^-	1^-	5^-	3^-	11^+	7^-	7^-
0.0	3^-	Stable	76Be50									
30.81(2)	9^-	5.81(6) h	75Mo29		100							
36.18(1)	1^-	0.52(2) ns			100							
69.53(1)	5^-	1.62(4) ns	75Mo29		100		0.19(2)					
95.25(1)	3^-	0.23(3) ns	75Mo29		23.0(11)		76(5)	1.4(2)				
97.35(3)	11^+					100						
216.66(2)	7^-	0.25(3) ns	75Mo29		63.6(13)	21.8(4)		14.2(3)	0.34(4)			
219.39(2)	7^-	0.236(+19-16) ns	75Mo29		77.8(15)	8.46(16)		13.2(2)	0.5(3)			
233.56(1)	5^-	0.23(+8-6) ns	75Mo29		43(1)		36(3)	10.2(4)	11(1)			
275.92(2)	5^-	0.17(3) ns	75Mo29		7.7(3)	87(5)	1.1(6)	1.18(4)	0.45(3)		≈0.4	1.74(16)
288(3)	$\langle 13^+ \rangle$		73KlZZ									
350.0(4)	$\langle 9^- \rangle$		75Mo29					100				
365.76(2)	5^-,7^-		75Mo29					63(5)	22(2)			
427.93(4)	5^-,7^-	>4.4 ps	75Mo29		25(5)	54(5)					7(1)	
438.72(2)	1^-,3^-		75Mo29		5.7(15)		7.9(14)		85(4)			
444.22(3)	7^+		75Mo29			3.8(12)				82(6)	9.6(10)	4.8(6)
498.79(2)	1^-,3^-		75Mo29		21(5)		35.0(8)	14(1)	21(1)			
505.85(2)	1^-,3^-		75Mo29		26(2)		44(3)		31(2)			
531.54(3)	5^-	>0.26 ps	75Mo29		63(6)						12(1)	5(2)
550.03(2)	3^-	>0.039 ps			14(1)			24(2)	58(4)			
557.35(2)	3^-		75Mo29				44(3)	24(2)				
562.69(5)										70(19)		
594.9(3)	$\langle 11^- \rangle$		75Mo29								26	38
599.63(2)	3^-		75Mo29		22(2)		39(2)	4.5(3)	21(2)		2.9(2)	1.9(5)
622.01(3)	3^+,5^-		75Mo29				10(1)				21(15)	
630.6(3)	$\langle 9^- \rangle$											36
634.2(5)					100							
667.4(4)					88			12				
672.13(3)	5^-		75Mo29									38(4)
673.1(5)	5											
679.89(2)	3^-		75Mo29		2(1)		15(1)	1.8(3)	11(1)		30(3)	28(2)
688.42(3)	1^-,3^-				37(3)		9.6(8)		54(4)			
716.90(4)	5^-		75Mo29									47(12)
716.99(3)	5^-,7^-				11(1)			5(1)	55(4)			
735.5(5)	1^-,3^-		75Mo29		100							
786(3)												
792.10(4)	5		75Mo29								57(5)	25(4)
794.3(4)												15
817.0(10)	5^-,7^-		75Mo29		100							
849.73(5)	1^-,3^-				100							
877(3)	$\langle 13^+ \rangle$		73KlZZ									
892.8(18)												
908.04(3)	1^-,3^-		75Mo29		47(4)							
939.65(4)	3^+											
957.3(24)												

(continued) **$^{189}_{76}$Os**

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	E_f^*:	0.0	30.8	36.2	69.5	95.2	97.35	216.661	219.389
				$2J_f^\pi$:	3^-	9^-	1^-	5^-	3^-	11^+	7^-	7^-
						Branching ratios in percentage						
990.14(4)	7^+					6(1)		6(1)		6(1)		6
994.62(2)	$1^-,3^-$		75Mo29						23(2)			
996.4(4)	$1^+,3^+$											
1019(2)	$\langle 13^+ \rangle$		73KlZZ									
1028(3)												
1036.7(1)	$\langle 5^-,7,9^- \rangle$					11(1)		11(2)			42(6)	36(6)
1056.0(1)	$1^-,3^-$						11.1(9)					
1076.9(1)												
1107.8(18)												
1140.0(4)	$1^-,3^-$											
1149.4(1)	$1^+,3^+$								21(3)			
1159.9(1)	3^-								14(1)		7(1)	11(1)
1163(4)												
1188.9(18)	$1^-,3^-$		75Mo29									
1190.4(1)	$1^-,3^-$											
1196.9(9)	$1^+,3^+$											
1206.7(1)										22(3)		
1220.3(1)	$1^-,3^-$											
1226.3(1)	$1^+,3^+$											
1235.2(3)	$1^-,3^-$											
1242.8(43)												
1254.8(1)	$1^-,3^-$											
1267.4(1)	3^+											
1268.3(5)	$1^+,3^+$											
1269(1)			75Mo29									
1277.7(1)												
1297.3(1)	3^-										33(2)	14(1)
1311.7(1)	$1^-,3^-$											
1333.5(1)	3^+											
1361.2(3)	$1^-,3^-$											
1370.1(1)	$1^-,3^-$											
1376.7(1)	3^-											16(2)
1394.6(3)	$1^-,3^-$											
1398.2(4)	$1^-,3^-$											
1407.5(1)	$1^-,3^-$										23(3)	
1411.3(20)	$1^-,3^-$		75Mo29									
1435.3(3)	$1^-,3^-$											
1445.5(20)	$1^-,3^-$		75Mo29									
1451.4(1)	$1^+,3^+$											
1472.3(1)	$1^-,3^-$		75Mo29									
1475.0(9)	$1^-,3^-$											
1554.6(25)	$1^-,3^-$		75Mo29									
1633.7(23)												
1700(2)	$\langle 5^- \rangle$		75Mo29									
1725(2)	$5^-,7^-$		75Mo29									

(continued) **$^{189}_{76}$Os**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
				E_f^*:	0.0	30.8	36.2	69.5	95.2	97.35	216.661	219.389
[keV]		Γ_{cm}		$2J_f^\pi$:	3^-	9^-	1^-	5^-	3^-	11^+	7^-	7^-
1816(1)			75Mo29 Ref.									

Energy levels and branching ratios [03Wu02]. Part 3 **$^{189}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	233.565	275.916	350.0	365.765	438.723	444.221	498.790	505.847	531.54	550.031
[keV]	$2J_f^\pi$:	5^-	5^-	$\langle 9^- \rangle$	$5^-,7^-$	$1^-,3^-$	7^+	$1^-,3^-$	$1^-,3^-$	5^-	3^-
365.76(2)	$5^-,7^-$	14.6(15)									
427.93(4)	$5^-,7^-$		14(1)								
438.72(2)	$1^-,3^-$		0.9(3)								
498.79(2)	$1^-,3^-$	5.6(5)	2.8(4)								
505.85(2)	$1^-,3^-$	x									
531.54(3)	5^-	20(4)									
550.03(2)	3^-	0.9(1)	3(1)								
557.35(2)	3^-	28(4)	4(1)								
562.69(5)							30(6)				
594.9(3)	$\langle 11^- \rangle$			36							
599.63(2)	3^-	6(3)	0.8(3)			2.2(3)		0.3(1)			
622.01(3)	$3^+,5^-$	36(2)			34(3)						
630.6(3)	$\langle 9^- \rangle$	42		22							
672.13(3)	5^-	55(4)			7(1)						
679.89(2)	3^-					5.0(7)		5.2(6)			
716.90(4)	5^-	14(4)	8(4)		12(6)			12(6)			2.8(6)
716.99(3)	$5^-,7^-$		5(1)		4(1)		20(3)				
792.10(4)	5							18(3)			
794.3(4)					85						
939.65(4)	3^+						87(6)				
990.14(4)	7^+						35(3)				
994.62(2)	$1^-,3^-$	41(3)									4
1056.0(1)	$1^-,3^-$				14.9(13)				74(5)		
1076.9(1)			100								
1149.4(1)	$1^+,3^+$					79(7)					
1159.9(1)	3^-				3(1)	18(2)					
1190.4(1)	$1^-,3^-$					100					
1206.7(1)			78(6)								
1220.3(1)	$1^-,3^-$					21(2)					
1226.3(1)	$1^+,3^+$							100			
1254.8(1)	$1^-,3^-$							14(5)			60(5)
1267.4(1)	3^+									32(3)	
1277.7(1)						62(5)					
1297.3(1)	3^-								10(1)		

(continued) **$^{189}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	233.565	275.916	350.0	365.765	438.723	444.221	498.790	505.847	531.54	550.031
[keV]	$2J_f^\pi$:	5^-	5^-	$\langle 9^- \rangle$	5^-,7^-	1^-,3^-	7^+	1^-,3^-	1^-,3^-	5^-	3^-
1311.7(1)	1^-,3^-					100					
1333.5(1)	3^+						20(5)		58(8)		
1370.1(1)	1^-,3^-								13(2)		
1376.7(1)	3^-		21(2)		8(2)	16(1)			32(3)		
1407.5(1)	1^-,3^-		14(2)						24(2)		

Energy levels and branching ratios [03Wu02]. Part 4 **$^{189}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	557.353	562.69	599.634	622.01	630.6	672.13	679.895	688.42	716.90	792.10
[keV]	$2J_f^\pi$:	3^-		3^-	$\langle 3^+,5^- \rangle$	$\langle 9^- \rangle$	5^-	3^-	1^-,3^-	5^-	5
679.89(2)	3^-	1.8(3)									
716.90(4)	5^-			4(1)							
794.3(4)						x					
908.04(3)	1^-,3^-			53(4)							
939.65(4)	3^+			12.7(16)							
990.14(4)	7^+		40(3)								
994.62(2)	1^-,3^-			14(1)	13(1)					5(2)	
1159.9(1)	3^-	47(5)									
1220.3(1)	1^-,3^-	26(4)									
1254.8(1)	1^-,3^-						27(2)				
1277.7(1)				38(7)							
1297.3(1)	3^-	24(2)							19(2)		
1333.5(1)	3^+		22(2)								
1370.1(1)	1^-,3^-	87(7)									
1376.7(1)	3^-							8(1)			
1394.6(3)	1^-,3^-			100							
1407.5(1)	1^-,3^-								19(2)		
1451.4(1)	1^+,3^+										86(7)
1472.3(1)	1^-,3^-	59(4)									

Energy levels and branching ratios [03Wu02]. Part 5 **$^{189}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage		
		E_f^*:	939.65	994.623	1159.93
[keV]		$2J_f^\pi$:	3^+	1^-,3^-	3^-
1220.3(1)	1^-,3^-		53(8)		
1267.4(1)	3^+			68(9)	
1407.5(1)	1^-,3^-			19(6)	

(continued) **$^{189}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage		
		E^*_f:	939.65	994.623	1159.93
[keV]		$2J^\pi_f$:	3^+	1^-,3^-	3^-
1451.4(1)	1^+,3^+				14(3)
1472.3(1)	1^-,3^-		41(8)		

Energy levels and branching ratios [03Si05]. **$^{190}_{76}$Os**

E^*	J^π	L	σ (t,p)	σ (t,α)	L	σ (p,t)	σ (p,t)	σ (d,p)	σ (t,α)	$I_{s,0}$	$B(M1)$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	μb/sr	μb/sr	(p,t)	μb/sr	μb/sr	*rel.*	μb/sr	[eVb]	[μ^2_N]	Γ_{cm}	
0.0	0^+	0	285	22.1(11)	0	823	2221		37(2)			Stable	78Fl02
186.718(2)	2^+		17	28.7(12)		79*	346	152	46(2)			375(10) ps	78Fl02
547.85(1)	4^+		24			8.2			13.2(2)			12.8(7) ps	78Fl02
557.98(1)	2^+		incl	9.2(7)		20	122	69	incl			15.2(14) ps	79Ba25
756.02(1)	3^+			2.4(4)				45	2.9(14)				79Ba25
911.78(5)	0^+	0	6		0	23	105					15(3) ps	75Th04
955.37(1)	4^+		2.2	4.4(5)		5.7	40.9		6.5(16)			7.7(6) ps	79Ba25
1050.4(1)	$\langle 6\rangle^+$					1.6						2.36(14) ps	75Th04
1114.7(1)	2^+		2.2			1.8	9.3	88					75Th04
1115.5(5)	1									8.5(15)	0.172(29)		99Fr06
1163.2(1)	4^+		5.6	27.8(12)		1.0	30.4		45(2)			8.6(16) ps	75Th04
1203.9(1)	5^+							12					
1326.9(5)	1,2									7.2(35)	0.122(59)		99Fr06
1382.4(2)	$\langle 0$–$2\rangle^+$					13							75Th04
1387.0(1)	3^-		7.5	0.9			62.8					59(7) ps	79Ba25
1435.8(1)	2^+		3.6			2.7	16.8	52					78Fl02
1446.1(1)	$\langle 5\rangle^+$						incl						
1474.2(6)	$\langle 6^+\rangle$											2.78(25) ps	
1482.0(5)	1									4.1(12)	0.062(18)		99Fr06
1514.1(5)	6^+,5^+												
1545.3(2)	0^+				0	8.8	30.3						75Th04
1547.2(5)	1									8.9(4)	0.130(6)		99Fr06
1569.0(1)	$\langle 3\rangle^+$												
1570.3(3)	$\langle 1,2\rangle$			1.8				36					79Ba25
1583.9(1)	4^-												
1616.0(1)	$\langle 2\rangle^+$					1.0							75Th04
1666.5(2)	$\langle 8\rangle^+$											0.71(10) ps	
1675.7(1)	$\langle 2\rangle^+$		5.8										78Fl02
1679.5(3)	$\langle 3\rangle$					3.4							75Th04
1680.6(3)	$\langle 1\rangle$												
1681.7(1)	5^-			1.1			34.1	123					79Ba25
1689.1(1)	$\langle 2^+\rangle$						incl						
1705.4(2)	$\langle 10\rangle^-$											9.9(1) m	
1708.3(2)	$\langle 2^+$–$4^+\rangle$		9.5				61.2						78Fl02

(continued) **$^{190}_{76}$Os**

E^* [keV]	J^π	L (t,p)	σ (t,p) μb/sr	σ (t,α) μb/sr	L (p,t)	σ (p,t) μb/sr	σ (p,t) μb/sr	σ (d,p) *rel.*	σ (t,α) μb/sr	$I_{s,0}$ [eVb]	$B(M1)$ [μ_N^2]	$T_{1/2}$ or Γ_{cm}	Ref.
1724.8(5)	1									6.1(10)	0.079(13)		99Fr06
1732.9(2)	0^+	0	12		0	23	139						75Th04
1777(5)			5.0	2.4									79Ba25
1802.7(3)	$\langle 1,2^+\rangle$												
1813.5(2)	1^+–3^+												
1823.6(2)	$\langle 1,2\rangle^+$			2.1				37					79Ba25
1836.3(1)	$\langle 6^+\rangle$												
1859.2(2)	$\langle 2^+\rangle$												
1872.1(1)	$\langle 5\rangle^-$		6.2	1.8				38					79Ba25
1884.4(2)	$\langle 1$–$3\rangle$			incl									
1902.1(4)	$\langle 1$–$3\rangle$												
1903.3(1)	$\langle 3^+,4^-\rangle$												
1910.6(2)	$\langle 2,3\rangle^+$			2.5				119					79Ba25
1918.3(4)	$\langle 0^+$–$2\rangle$												
1935.3(2)	$\langle 2^+$–$4\rangle$		8.5	3.4									78Fl02
1943.3(4)	$\langle 2^+\rangle$												
1958.1(3)	$\langle 1,2^+\rangle$							120					
1970.5(2)	$\langle 1^+,2\rangle$			1.5				incl					79Ba25
1992.4(3)	$\langle 2,3\rangle$							255					74Ya02
1995.3(2)	$\langle 2\rangle^+$							incl					74Ya02
2011.3(8)	$1^{\langle+\rangle}$		16	6.4						6.1(10)	0.068(10)		78Fl02
2025.5(3)	$\langle 1,2\rangle$												
2043(2)	$\langle\leq 3\rangle$												
2047.8(8)	$\langle 1,2\rangle$		11										78Fl02
2061.2(2)	$\langle 6^+,7^-\rangle$												
2068.9(1)	$\langle 5^+\rangle$							120					74Ya02
2070.2(3)	$\langle 1^+,2\rangle$			3.5				incl					79Ba25
2090(1)*	$\langle 8^+\rangle$											1.6(4) ps	
2112.1(7)	$\langle 1,2\rangle$		14					114					78Fl02
2118.5(2)	$\langle 1^+,2\rangle$			8.0									79Ba25
2121.4(1)	$\langle 5,6^+\rangle$			incl									
2124.7(2)	$\langle 2$–$4^+\rangle$			incl									
2135.5(3)	$\langle 0^+$–$2\rangle$												
2150.3(7)	$\langle 1,2\rangle$							160					74Ya02
2175.5(10)	$\langle 0^+$–$2\rangle$		11	18.3				123					79Ba25
2191.6(4)	$\langle 1,2\rangle$												
2198.5(6)	$\langle 1,2\rangle$												
2210.1(4)	$\langle 1,2\rangle$							116					74Ya02
2224(2)	$\langle 1$–$3\rangle$			10.9									79Ba25
2262.7(4)	$\langle 1,2\rangle$			6.0				190					79Ba25
2289.1(5)	$\langle 1,2\rangle$												
2296.5(5)	1		41					48		5.7(12)	0.109(8)		78Fl02
2307(2)	$\langle 1$–$3\rangle$												
2315(2)	$\langle 1$–$3\rangle$												
2328.2(5)	1			19.0				137		6.1(19)	0.059(19)		79Ba25

(continued) **$^{190}_{76}$Os**

E^* [keV]	J^π	L (t,p)	σ (t,p) μb/sr	σ (t,α) μb/sr	L (p,t)	σ (p,t) μb/sr	σ (p,t) μb/sr	σ (d,p) *rel.*	σ (t,α) μb/sr	$I_{s,0}$ [eVb]	$B(M1)$ [μ_N^2]	$T_{1/2}$ or Γ_{cm}	Ref.
2349.1(7)	⟨1,2⟩												
2352.5(2)	⟨2$^+$,3⟩		16	10.6									79Ba25
2357(1)	⟨10$^+$⟩											0.47(11) ps	
2366(6)								155					74Ya02
2381(2)	⟨1–3⟩												
2393.5(5)	1		18							4.7(12)	0.044(10)		78Fl02
2408.0(5)	1			24.2				1273		5.5(9)	0.082(17)		79Ba25
2446(4)	⟨0$^+$⟩	⟨0⟩	35	13.1				348					79Ba25
2457.6(6)	⟨1,2⟩												
2468(2)	⟨1,2⟩			27.4									79Ba25
2474.3(8)	⟨0$^+$–3⟩		6.5					199					78Fl02
2476.9(4)	1$^+$,2$^+$												
2502.5(6)	1$^+$,2$^+$												
2515(7)			20					232					78Fl02
2539(5)				10.5				183					79Ba25
2551.8(5)	⟨1$^+$,2$^+$⟩												
2563.2(6)	⟨0$^+$–3⟩		14	10.3									79Ba25
2590.6(5)	1$^{\langle+\rangle}$									5.9(4)	0.072(10)		99Fr06
2622.7(5)	1$^{\langle+\rangle}$			21.4				290		3.8(3)	0.033(3)		79Ba25
2643.7(5)	1									18(1)	0.184(13)		99Fr06
2653(5)				75				282					79Ba25
2662.9(6)	⟨1$^+$–3⟩			incl									
2685(5)				31				167					79Ba25
2704.1(5)	1$^{\langle+\rangle}$									5.5(2)	0.073(18)		
2714.1(5)	1			22.2				147		5.0(3)	0.073(10)		79Ba25
2737.9(5)	1			29						5.9(20)	0.135(19)		79Ba25
2772(1)	⟨10$^+$⟩			26									79Ba25
2773.5(5)	1							78		7.4(8)	0.074(10)		74Ya02
2791(8)				25									79Ba25
2817.2(5)	1			25				164		5.4(10)	0.043(6)		79Ba25
2820.6(4)	⟨0$^+$–3⟩												
2876.7(8)	⟨1,2⟩			28									79Ba25
2914(6)				12.8									79Ba25
2944.5(7)	⟨1,2⟩							299					74Ya02
2963(8)				40									79Ba25
2976.1(4)	⟨1,2⟩												
2992(10)								179					
3011(1)	⟨12$^+$⟩											<1.9 ps	
3015.7(5)	1									4.3(6)	0.083(13)		99Fr06
3023.0(5)	1									14.6(15)	0.156(13)		99Fr06
3044.5(5)	1							286		5.0(10)	0.073(13)		99Fr06
3076(8)				19.3									79Ba25
3117.7(5)	1									12.6(1)	0.091(8)		99Fr06
3126(1)	⟨12$^+$⟩											<4.8 ps	
3126.1(5)	1									23(1)	0.185(14)		99Fr06

(continued) **$^{190}_{76}$Os**

E^* [keV]	J^π	L (t,p)	σ (t,p) μb/sr	σ (t,α) μb/sr	L (p,t)	σ (p,t) μb/sr	σ (p,t) μb/sr	σ (d,p) *rel.*	σ (t,α) μb/sr	$I_{s,0}$ [eVb]	$B(M1)$ [μ_N^2]	$T_{1/2}$ or Γ_{cm}	Ref.
3142.0(5)	1									8.2(4)	0.058(4)		99Fr06
3189.3(5)	1									12.4(8)	0.088(6)		99Fr06
3244.6(5)	1									7.5(10)	0.052(7)		99Fr06
3278(10)													
3348.3(5)	1									10.2(12)	0.069(8)		99Fr06
3414.8(5)	1									4.2(11)	0.028(7)		99Fr06
3445.9(5)	1			[27]						3.3(18)	0.036(17)		79Ba25
3467.4(5)	1									4.0(9)	0.026(6)		99Fr06
3516.6(5)	1									4.4(9)	0.028(6)		99Fr06
3577(10)													
3595(10)													
3628(10)													
3724(10)													
3748.9(5)	1									10.4(16)	0.062(10)		99Fr06
3781(10)													
3798.7(5)	1									9.9(17)	0.058(10)		99Fr06
3869.9(5)	1									9.2(18)	0.053(11)		99Fr06
3900(10)													
3924.8(5)	1									12.1(26)	0.069(15)		99Fr06
3981.9(5)	1									11.6(36)	0.065(21)		99Fr06
4015(10)													
5130.4(7)	$\langle 0^+$–3$\rangle$												
			78Fl02	79Ba25			76Sh15	74Ya02	87Ci06				Ref.
				03Si05									Ref.

Additional data on this isotope can be found in [02Wu03, 01Wu03, 01Kh0A, 00Bo50, 79Ca02].
Abundance: 26.36(2) %.
* Integral values of the (p,t) cross section summed from 10° to 60° [76Sh15] are given in Supplement in the column just after this one.
Cross sections σ (t,p) [78Fl02], σ (t,α) [79Ba25], σ (p,t) [75Th04] and σ (d,p) [74Ya02] were measured at 30°, 50°, 25° and 65°, respectively.
Cross sections and analyzing powers in the (t,α) reaction at 35° [87Ci06] are given in Supplement.
Energy systematics of the ground-state bands in osmium isotopes can be found in [01Wh01].
Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [03Si05]. Part 2 **$^{190}_{76}$Os**

E^* [keV]	J^π	A_γ	$B(E1)$	Ref.	Branching ratios in percentage								
					E_f^*:	0.0	187	548	558	756	911.78	955.372	1050.38
					J_f^π:	0^+	2^+	4^+	2^+	3^+	0^+	4^+	$\langle 6\rangle^+$
0.0	0^+	–0.71(5)		78Fl02									
186.718(2)	2^+	–0.61(5)		78Fl02		100							
547.85(1)	4^+	–0.41(10)		78Fl02			100						

(continued) **$^{190}_{76}$Os**

E^*	J^π	A_γ	$B(E1)$	Ref.	Branching ratios in percentage								
					E_f^*:	0.0	187	548	558	756	911.78	955.372	1050.38
[keV]					J_f^π:	0^+	2^+	4^+	2^+	3^+	0^+	4^+	$\langle 6\rangle^+$
557.98(1)	2^+	incl		79Ba25		57(1)	43(1)						
756.02(1)	3^+			79Ba25			90(3)	3.7(4)	6.5(5)				
911.78(5)	0^+			75Th04			78(4)		22(4)				
955.37(1)	4^+	+0.45(21)		79Ba25			17	34(3)	48(1)	1.9(3)			
1050.4(1)	$\langle 6\rangle^+$			75Th04				100				0.0012(7)	
1114.7(1)	2^+			75Th04		29(2)	51(2)			18(2)	3.0(3)		
1115.5(5)	1		1.90(32)	99Fr06		x							
1163.2(1)	4^+	+0.51(7)		75Th04			0.09(3)	0.75(6)	63(2)	36(1)		0.6(2)	
1203.9(1)	5^+							31(2)		69(2)			
1326.9(5)	1,2		1.34(66)	99Fr06		x							
1382.4(2)	$\langle 0\text{–}2\rangle^+$			75Th04		x	100						
1387.0(1)	3^-			79Ba25		1.1(1)	3	7	24(1)	22(2)		17(1)	
1435.8(1)	2^+			78Fl02			28(1)	14(1)	19(1)	14(1)	9(1)	4	
1446.1(1)	$\langle 5\rangle^+$									18(1)		49(2)	
1474.2(6)	$\langle 6^+\rangle$							<17				85(10)	15(3)
1482.0(5)	1		0.68(21)	99Fr06		x							
1514.1(5)	6^+,5^+											100	
1545.3(2)	0^+			75Th04			x		100				
1547.2(5)	1		1.44(6)	99Fr06		x							
1569.0(1)	$\langle 3\rangle^+$							7(2)	39(2)	8(1)			
1570.3(3)	$\langle 1,2\rangle$			79Ba25			100						
1583.9(1)	4^-						1.4(1)	22(1)		5(1)		7(1)	
1616.0(1)	$\langle 2\rangle^+$			75Th04		26(4)	36(3)	12(1)	19(1)	6(1)			
1666.5(2)	$\langle 8\rangle^+$												100
1675.7(1)	$\langle 2\rangle^+$			78Fl02			39(3)		43(2)	19(1)			
1679.5(3)	$\langle 3\rangle$			75Th04			100						
1680.6(3)	$\langle 1\rangle$					100							
1681.7(1)	5^-			79Ba25			0.13(2)	0.89(5)	0.06(1)			7(1)	1.8(5)
1689.1(1)	$\langle 2^+\rangle$					x	30(2)	16(1)	24(2)	13(1)			
1705.4(2)	$\langle 10\rangle^-$												
1708.3(2)	$\langle 2^+\text{–}4^+\rangle$			78Fl02				15(5)	18(5)	50(4)		17(4)	
1724.8(5)	1		0.87(14)	99Fr06		x							
1732.9(2)	0^+			75Th04			60(2)		40(2)				
1777(5)				79Ba25									
1802.7(3)	$\langle 1,2^+\rangle$						87(10)		13(3)				
1813.5(2)	$1^+\text{–}3^+$						24(2)		76(9)				
1823.6(2)	$\langle 1,2\rangle^+$			79Ba25			17(2)		83(3)	<5			
1836.3(1)	$\langle 6^+\rangle$											4.7(5)	
1859.2(2)	$\langle 2^+\rangle$					x	35(1)	18(2)	23(3)	20(1)		4(1)	
1872.1(1)	$\langle 5\rangle^-$			79Ba25				15(3)				3.7(4)	10
1884.4(2)	$\langle 1\text{–}3\rangle$								78(8)	22(5)			
1902.1(4)	$\langle 1\text{–}3\rangle$						100						
1903.3(1)	$\langle 3^+,4^-\rangle$							14(2)		30(2)		14(2)	
1910.6(2)	$\langle 2,3\rangle^+$			79Ba25				19(3)	12(3)	58(3)		12(2)	
1918.3(4)	$\langle 0^+\text{–}2\rangle$						100		x				

(continued) **$^{190}_{76}$Os**

E^*	J^π	A_γ	$B(E1)$	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	187	548	558	756	911.78	955.372	1050.38
[keV]					J_f^π:	0^+	2^+	4^+	2^+	3^+	0^+	4^+	$\langle 6\rangle^+$
1935.3(2)	$\langle 2^+–4\rangle$			78Fl02				61(5)		20(4)		20(4)	
1943.3(4)	$\langle 2^+\rangle$					64(8)		36(8)					
1958.1(3)	$\langle 1,2^+\rangle$						65(6)				35(6)		
1970.5(2)	$\langle 1^+,2\rangle$			79Ba25					55(3)	45(3)			
1992.4(3)	$\langle 2,3\rangle$			74Ya02			x			100			
1995.3(2)	$\langle 2\rangle^+$			74Ya02			11(4)	23(7)	66(7)				
2011.3(8)	$1^{\langle +\rangle}$		0.76(12)	78Fl02		x				x			
2025.5(3)	$\langle 1,2\rangle$						59(5)		41(4)				
2043(2)	$\langle \leq 3\rangle$												
2047.8(8)	$\langle 1,2\rangle$			78Fl02					x				
2061.2(2)	$\langle 6^+,7^-\rangle$												34(4)
2068.9(1)	$\langle 5^+\rangle$			74Ya02				2(1)		16(3)		10(1)	
2070.2(3)	$\langle 1^+,2\rangle$			79Ba25			38(4)		62(5)	x			
2090(1)*	$\langle 8^+\rangle$												
2112.1(7)	$\langle 1,2\rangle$			78Fl02		x	100						
2118.5(2)	$\langle 1^+,2\rangle$			79Ba25			62(4)		38(4)				
2121.4(1)	$\langle 5,6^+\rangle$											12(1)	
2124.7(2)	$\langle 2–4^+\rangle$								63(5)	37(10)			
2135.5(3)	$\langle 0^+–2\rangle$						70(11)		30(8)				
2150.3(7)	$\langle 1,2\rangle$			74Ya02		x	x						
2175.5(10)	$\langle 0^+–2\rangle$			79Ba25			100		x				
2191.6(4)	$\langle 1,2\rangle$					x							
2198.5(6)	$\langle 1,2\rangle$								100				
2210.1(4)	$\langle 1,2\rangle$			74Ya02			100						
2224(2)	$\langle 1–3\rangle$			79Ba25									
2262.7(4)	$\langle 1,2\rangle$			79Ba25		100	x		x				
2289.1(5)	$\langle 1,2\rangle$					x			x				
2296.5(5)	1		1.14(11)	78Fl02		51	49(21)						
2307(2)	$\langle 1–3\rangle$												
2315(2)	$\langle 1–3\rangle$												
2328.2(5)	1		0.66(22)	79Ba25		x							
2349.1(7)	$\langle 1,2\rangle$					x	x						
2352.5(2)	$\langle 2^+,3\rangle$			79Ba25			7(3)		60(15)	17(5)		17(6)	
2357(1)	$\langle 10^+\rangle$												
2366(6)				74Ya02									
2381(2)	$\langle 1–3\rangle$						100						
2393.5(5)	1		0.49(12)	78Fl02		x							
2408.0(5)	1		0.90(20)	79Ba25		61	39(10)						
2446(4)	$\langle 0^+\rangle$			79Ba25									
2457.6(6)	$\langle 1,2\rangle$					x	x		x				
2468(2)	$\langle 1,2\rangle$			79Ba25									
2474.3(8)	$\langle 0^+–3\rangle$			78Fl02			x		x				
2476.9(4)	$1^+,2^+$					x	x			x			
2502.5(6)	$1^+,2^+$					x				x			
2515(7)				78Fl02									

(continued) **$^{190}_{76}$Os**

E^*	J^π	A_γ	$B(E1)$	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	187	548	558	756	911.78	955.372	1050.38
[keV]					J_f^π:	0^+	2^+	4^+	2^+	3^+	0^+	4^+	$\langle 6\rangle^+$
2539(5)				79Ba25									
2551.8(5)	$\langle 1^+,2^+\rangle$					x			x	x			
2563.2(6)	$\langle 0^+–3\rangle$			79Ba25			x		x				
2590.6(5)	$1^{\langle +\rangle}$		0.79(11)	99Fr06		70	30(6)			x			
2622.7(5)	$1^{\langle +\rangle}$		0.35(3)	79Ba25		x	x			x			
2643.7(5)	1		2.03(14)	99Fr06		83	17(2)						
2653(5)				79Ba25									
2662.9(6)	$\langle 1^+–3\rangle$						x		x	x			
2685(5)				79Ba25									
2704.1(5)	$1^{\langle +\rangle}$		0.80(21)			62	38(22)		x	x			
2714.1(5)	1		0.81(11)	79Ba25		57	43(7)						
2737.9(5)	1		1.49(21)	79Ba25		47	53(34)		x				
2772(1)	$\langle 10^+\rangle$			79Ba25									
2773.5(5)	1		0.82(11)	74Ya02		81	19(7)		x				
2791(8)				79Ba25									
2817.2(5)	1		0.48(5)	79Ba25		x	x						
2820.6(4)	$\langle 0^+–3\rangle$						x		x				
2876.7(8)	$\langle 1,2\rangle$			79Ba25		x			x				
2914(6)				79Ba25									
2944.5(7)	$\langle 1,2\rangle$			74Ya02		x			x				
2963(8)				79Ba25									
2976.1(4)	$\langle 1,2\rangle$					x	x	x					
2992(10)													
3011(1)	$\langle 12^+\rangle$												
3015.7(5)	1		0.93(13)	99Fr06		40	60(33)						
3023.0(5)	1		1.72(15)	99Fr06		70	30(4)						
3044.5(5)	1		0.81(15)	99Fr06		52	48(10)		x				
3076(8)				79Ba25									
3117.7(5)	1		1.00(9)	99Fr06		x							
3126(1)	$\langle 12^+\rangle$												
3126.1(5)	1		2.05(15)	99Fr06		91	9(3)						
3142.0(5)	1		0.65(3)	99Fr06		x							
3189.3(5)	1		0.97(7)	99Fr06		x							
3244.6(5)	1		0.58(8)	99Fr06		x							
3278(10)													
3348.3(5)	1		0.76(9)	99Fr06		x							
3414.8(5)	1		0.31(8)	99Fr06		x							
3445.9(5)	1		0.40(19)	79Ba25		57	43(27)						
3467.4(5)	1		0.28(7)	99Fr06		x							
3516.6(5)	1		0.31(7)	99Fr06		x							
3577(10)													
3595(10)													
3628(10)													
3724(10)													
3748.9(5)	1		0.69(11)	99Fr06		x							

(continued) **$^{190}_{76}$Os**

E^*	J^π	A_γ	$B(E1)$	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	187	548	558	756	911.78	955.372	1050.38
[keV]					J_f^π:	0^+	2^+	4^+	2^+	3^+	0^+	4^+	$\langle 6\rangle^+$
3781(10)													
3798.7(5)	1		0.65(11)	99Fr06		x							
3869.9(5)	1		0.59(12)	99Fr06		x							
3900(10)													
3924.8(5)	1		0.77(17)	99Fr06		x							
3981.9(5)	1		0.72(23)	99Fr06		x							
4015(10)													
5130.4(7)	$\langle 0^+$–$3\rangle$						x		x				
				Ref.									
				Ref.									

Energy levels and branching ratios [03Si05]. Part 3 **$^{190}_{76}$Os**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1114.72	1163.19	1203.86	1387.00	1446.12	1474.2	1514.1	1583.88	1666.47
[keV]	J_f^π:	2^+	4^+	5^+	3^-	$\langle 5\rangle^+$	$\langle 6^+\rangle$	$\langle 6^+,5^+\rangle$	4^-	$\langle 8\rangle^+$
1387.0(1)	3^-		26(1)							
1435.8(1)	2^+	13(2)								
1446.1(1)	$\langle 5\rangle^+$		31(2)	2.0(2)						
1569.0(1)	$\langle 3\rangle^+$				46(4)					
1583.9(1)	4^-		15(1)	18(1)	31(3)					
1681.7(1)	5^-		71(3)	3.8(4)	14(1)	0.88(6)			0.20(3)	
1689.1(1)	$\langle 2^+\rangle$	16(2)								
1705.4(2)	$\langle 10\rangle^-$									100
1836.3(1)	$\langle 6^+\rangle$		56(3)	6(4)		29(2)		4.5(5)		
1872.1(1)	$\langle 5\rangle^-$		2.1(3)	1.6(4)	15(2)	0.7(3)			49(2)	
1903.3(1)	$\langle 3^+,4^-\rangle$		41(2)							
2061.2(2)	$\langle 6^+,7^-\rangle$									26(4)
2068.9(1)	$\langle 5^+\rangle$		33(4)	16(1)						
2090(1)*	$\langle 8^+\rangle$						x			
2121.4(1)	$\langle 5,6^+\rangle$		58(4)			16(6)				
2357(1)	$\langle 10^+\rangle$									x

Energy levels and branching ratios [03Si05]. Part 4

$^{190}_{76}$Os

E^*	J^π	Branching ratios in percentage			
	E_f^*:	1681.69	1836.32	2090	2357
[keV]	J_f^π:	5^-	$\langle 6^+ \rangle$	$\langle 8^+ \rangle$	$\langle 10^+ \rangle$
1872.1(1)	$\langle 5 \rangle^-$	4.0(7)			
2061.2(2)	$\langle 6^+,7^- \rangle$	40(3)			
2068.9(1)	$\langle 5^+ \rangle$	22(2)			
2121.4(1)	$\langle 5,6^+ \rangle$		13(2)		
2772(1)	$\langle 10^+ \rangle$			x	
3011(1)	$\langle 12^+ \rangle$				x
3126(1)	$\langle 12^+ \rangle$				x

Energy levels and branching ratios [95Br38].

$^{191}_{76}$Os

E^*	$2J^\pi$	L	σ (d,p)	$d\sigma/d\Omega$	σ (d,t)	$d\sigma/d\Omega$	C^2S	C^2S	U^2	I_t	I_t	R	L	L	Ref.
[keV]		(d,p)	μb/sr	(d,p)	μb/sr	(d,t)	(d,p)	(d,t)		*rel.*	*rel.*		(d,t)	(τ,α)	
0.0	9^-	5	14	17	44	25	0.49*	1.0*	0.8	75	92	1.2	5		77Be15
74.382(3)	3^-		3	3	3	2	0.005	0.004	0.6	4.9			1		77Be15
84.455(3)	$\langle 1^- \rangle$									2.4					91Bo35
131.941(4)	5^-	3	360	413	510	321	2.1	1.7	0.54	630	860	1.3	3		77Be15
141.934(3)	$\langle 3 \rangle^-$	1	332	379	653	413	0.68	0.86	0.44	1000	1000	1.0	1		77Be15
175.678(1)	7^+–11^+									4.2	19	4.5	6		91Bo35
262.72(24)										3.2					91Bo35
272.754(2)	5^-		30	33	43	29			0.5	35	57	1.6	3		91Bo35
307.60(24)										7.7					91Bo35
314.265(4)	$\langle 5 \rangle^-$									8.5	17	2.1	3		91Bo35
332.89(34)										13	11	0.8			91Bo35
352.83(11)	$\langle 13 \rangle^+$	6	40	42	92	67	2.4	6.1	0.29	136	308	2.3			77Be15
410.820(3)	$\langle 7 \rangle^+$														
417.153(3)	$1^-,3^-$	1	330	350	270	206			0.6	387	401	1.0	1		77Be15
433.589(3)	$\langle 1,3 \rangle^-$									117	168	1.4	1		91Bo35
436.968(4)	$1^-,3^-$														
442	$\langle 5 \rangle^-$	3	252	260	327	255	1.3	1.4	0.49						77Be15
446.928(5)	7^-									354	690	2.0	3		91Bo35
462.532(4)	7^-	3	71	73	247	196	0.37	1.1	0.26	272	449	1.6	3		77Be15
471.651(5)	$\langle 5 \rangle^-$									37	73	2.0	3		91Bo35
487.610(4)	$\langle 3 \rangle^-$									24	36	1.5	1		91Bo35
508.146(3)	$\langle 3 \rangle^-$		175	177	39	32			0.8	69	88	1.5	1		91Bo35
519.397(8)	$7^+,9^+$									49	63	1.3	4		91Bo35
574.166(6)	5^-									12	19	1.6	3		91Bo35
611.960(3)	$1^-,3^-$	1	164	160	41	37			0.79	20	33	1.7	1		77Be15
619.204(7)	$\langle 5 \rangle^-$									40	60	1.5	3		91Bo35
630.715(14)	$\langle 5 \rangle^-$														
637.617(4)	$1^-,3^-$		39	38	45	41			0.4	74	75	1.0	1		91Bo35
667.6(4)										2.9			3		91Bo35

(continued) **$^{191}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	σ (d,p) μb/sr	$d\sigma/d\Omega$ (d,p)	σ (d,t) μb/sr	$d\sigma/d\Omega$ (d,t)	C^2S (d,p)	C^2S (d,t)	U^2	I_t *rel.*	I_t *rel.*	R	L (d,t)	L (τ,α)	Ref.
677.71(7)					57	54			0	102	168	1.7			91Bo35
688.819(7)	5^-	3	112	107					1	13	26	2.0	3		77Be15
693.1(10)	$\langle 1^+,3^+\rangle$														
721.431(4)	3^-	1	109	103	168	165			0.35	400	529	1.3	1		77Be15
748.342(5)	3^-	1	90	84					1	12	23	2.0	1		77Be15
762.38(1)	X^+				60	61			0	78	127	1.6	2		91Bo35
764.662(3)	$3^+,\langle 5\rangle^+$														
794.658(8)	$1^-,3^-$		38	35	138	145			0.2	336	306	0.9	1		91Bo35
804.56(3)	$\langle 5^-,7^-\rangle$									32	73	2.2	3		91Bo35
815.429(8)	$1^-,3^-$														
820.2(3)					16	17			0	23					91Bo35
823.890(5)	X^+				incl					19			2		91Bo35
831			31	28					1						
850.14(20)					7	8			0	13	30	2.2			91Bo35
903.8(3)			56	50					1	32	62	2.0			91Bo35
949.2(9)	$\langle 1^+,3^+\rangle$														
959.02(2)	$1^-,3^-$									35	31	0.9	1		91Bo35
965			16	14					1						
974.53(2)					16	19			0	55	62	1.1			91Bo35
985.9(3)										28	43	1.5			91Bo35
996			27	23	33	42			0.3						
1003.5(4)										32	62	1.9			91Bo35
1077.80(1)	$1^-,3^-$									9.5	13	1.3			91Bo35
1083.58(3)										8.9					91Bo35
1092.74(1)	$1^-,3^-$		50	40	17	24			0.6	82	72	0.9	1		91Bo35
1108.73(2)	5^-									25	41	1.7	3		91Bo35
1117.98(3)	5^-		56	46	9	13			0.8	40	39	1.0	3		91Bo35
1143.54(2)	$1^-,3^-$									44	49	1.1	1		91Bo35
1157(5)	$\langle 13\rangle^+$													6(8)	73KlZZ
1166.9(3)			42	34	39	58			0.4	97	237	2.4			91Bo35
1176.694(6)	X^+		incl		incl										
1179.36(21)										49	62	1.3			91Bo35
1188.3(9)										7.9					91Bo35
1202.27(1)	$1^-,3^-$		72	58	12	18			0.7	63	62	1.0	1		91Bo35
1227.86(3)	$\langle 1^-,3^-\rangle$									114	93	0.8	1		91Bo35
1280.86(1)	$\langle 5\rangle^+$									139	191	1.4	2		91Bo35
1298.45(2)	$1^-,3^-$									263	288	1.1	1		91Bo35
1356.8(7)	$\langle 1^-,3^-\rangle$														
1376.2(7)	$\langle 1^-,3^-\rangle$														
1387.8(2)	$\langle 1^+,3^+\rangle$														
1405.0(8)	$\langle 1^-,3^-\rangle$														
1466.9(9)	$\langle 1^-,3^-\rangle$														
1501.6(8)	$\langle 1^-,3^-\rangle$														
1531(3)	$\langle 1^-,3^-\rangle$														
1551.9(9)	$\langle 1^-,3^-\rangle$														

(continued) **$^{191}_{76}$Os**

E^*	$2J^\pi$	L	σ (d,p)	$d\sigma/d\Omega$	σ (d,t)	$d\sigma/d\Omega$	C^2S	C^2S	U^2	I_t	I_t	R	L	L	Ref.
[keV]		(d,p)	μb/sr	(d,p)	μb/sr	(d,t)	(d,p)	(d,t)		*rel.*	*rel.*		(d,t)	(τ,α)	
1570.3(7)	$\langle 1^-,3^-\rangle$														
1621.4(10)	$\langle 1^-,3^-\rangle$														
1630.3(8)	$\langle 1^-,3^-\rangle$														
1763.1(11)	$\langle 1^-,3^-\rangle$														
			77Be15	77Be15			95Br38	95Br38		91Bo35	91Bo35				Ref.

Additional data on this isotope can be found in [04Su11, 98Ga40].
* C^2S=$(1/N)(\sigma_{\rm exp}/\sigma_{DWBA})$ with N=1.5 for (d,p) and N=3.3 for (d,t) reactions were calculated in [95Br38] from σ (d,p) and σ (d,t) measured [77Be15] at different angles; data for 95° are presented here as experimental (σ) and "apparent" occupation factors of the states U^2 [77Be15]; reduced ($d\sigma/d\Omega$) in this estimation and all uncertainties are given in Supplement.
Data for relative intensities I_t of the (d,t) reaction measured at 30° and 60° (and their ratio R used for L estimation) are from measurements [91Bo35] with good energy resolution (of about 3 keV).

Energy levels and branching ratios [95Br38]. Part 2 **$^{191}_{76}$Os**

E^*	$2J^\pi$	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
					E_f^*:	0.0	74.4	84.5	131.9	141.9	175.7	272.8
[keV]		(τ,α)	$\Gamma_{\rm cm}$		$2J_f^\pi$:	9^-	3^-	$\langle 1^-\rangle$	5^-	$\langle 3\rangle^-$		5^-
0.0	9^-		15.4(1) d	77Be15								
74.382(3)	3^-		13.10(5) h	77Be15		100						
84.455(3)	$\langle 1^-\rangle$			91Bo35								
131.941(4)	5^-			77Be15			88(14)	12(12)				
141.934(3)	$\langle 3\rangle^-$			77Be15			18(6)	82(23)				
175.678(1)	7^+–11^+			91Bo35		100						
262.72(24)				91Bo35								
272.754(2)	5^-			91Bo35		99(11)	1.1(3)					
307.60(24)				91Bo35								
314.265(4)	$\langle 5\rangle^-$			91Bo35			38(5)	41(6)	5(1)	16(2)		
332.89(34)				91Bo35								
352.83(11)	$\langle 13\rangle^+$			77Be15								
410.820(3)	$\langle 7\rangle^+$					1.9(3)					84(10)	14(3)
417.153(3)	$1^-,3^-$			77Be15			4.6(6)	20(3)		76(9)		
433.589(3)	$\langle 1,3\rangle^-$			91Bo35			21(3)	49(7)		30(4)		
436.968(4)	$1^-,3^-$						25(4)	33(5)	18(4)	24(3)		
442	$\langle 5\rangle^-$			77Be15								
446.928(5)	7^-			91Bo35		20(3)			80(10)			
462.532(4)	7^-			77Be15		45(6)			17(2)	19(4)		19(5)
471.651(5)	$\langle 5\rangle^-$			91Bo35			29(3)	9(1)	41(5)	19(2)		
487.610(4)	$\langle 3\rangle^-$			91Bo35			28(4)	34(3)	19(2)	19(3)		
508.146(3)	$\langle 3\rangle^-$			91Bo35			9(1)	20(2)	3.7(8)	57(8)		
519.397(8)	$7^+,9^+$			91Bo35							65(10)	
574.166(6)	5^-			91Bo35			57(6)	10(2)	22(3)	12(2)		

(continued) **$^{191}_{76}$Os**

E^*	$2J^\pi$	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	74.4	84.5	131.9	141.9	175.7	272.8
[keV]		(τ,α)	Γ_{cm}		$2J_f^\pi$:	9^-	3^-	$\langle 1^- \rangle$	5^-	$\langle 3 \rangle^-$		5^-
611.960(3)	$1^-,3^-$			77Be15			25(3)	65(7)	0.7(1)	0.8(1)		4.7(6)
619.204(7)	$\langle 5 \rangle^-$			91Bo35			44(5)		8(1)	22(3)		
630.715(14)	$\langle 5 \rangle^-$						41(5)					
637.617(4)	$1^-,3^-$			91Bo35				7.7(7)		33(4)		44(6)
667.6(4)				91Bo35								
677.71(7)				91Bo35								
688.819(7)	5^-			77Be15			18(2)	11(4)	16(3)	18(5)		
693.1(10)	$\langle 1^+,3^+ \rangle$											
721.431(4)	3^-			77Be15			8(1)	31(4)	4(1)	17(2)		7(1)
748.342(5)	3^-			77Be15			13(2)	45(7)				5.5(6)
762.38(1)	X^+			91Bo35								
764.662(3)	$3^+,\langle 5 \rangle^+$									3.1(7)		
794.658(8)	$1^-,3^-$			91Bo35			49(8)	19(2)	7(1)	25(4)		
804.56(3)	$\langle 5^-,7^- \rangle$			91Bo35		51(8)				22(6)		
815.429(8)	$1^-,3^-$								21(4)			23(3)
820.2(3)				91Bo35								
823.890(5)	X^+			91Bo35								
831												
850.14(20)				91Bo35								
903.8(3)				91Bo35								
949.2(9)	$\langle 1^+,3^+ \rangle$											
959.02(2)	$1^-,3^-$			91Bo35				43(5)		48(5)		
965												
974.53(2)				91Bo35								
985.9(3)				91Bo35								
996												
1003.5(4)				91Bo35								
1077.80(1)	$1^-,3^-$			91Bo35			38(5)	38(7)				
1083.58(3)				91Bo35								
1092.74(1)	$1^-,3^-$			91Bo35						76(9)		
1108.73(2)	5^-			91Bo35								
1117.98(3)	5^-			91Bo35								
1143.54(2)	$1^-,3^-$			91Bo35								
1157(5)	$\langle 13 \rangle^+$	2.8		73KlZZ								
1166.9(3)				91Bo35								
1176.694(6)	X^+											
1179.36(21)				91Bo35								
1188.3(9)				91Bo35								
1202.27(1)	$1^-,3^-$			91Bo35								
1227.86(3)	$\langle 1^-,3^- \rangle$			91Bo35								
1280.86(1)	$\langle 5 \rangle^+$			91Bo35								
1298.45(2)	$1^-,3^-$			91Bo35				35(6)		43(5)		
1356.8(7)	$\langle 1^-,3^- \rangle$											
1376.2(7)	$\langle 1^-,3^- \rangle$											
1387.8(2)	$\langle 1^+,3^+ \rangle$											

(continued) **$^{191}_{76}$Os**

E^*	$2J^\pi$	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
					E_f^*:	0.0	74.4	84.5	131.9	141.9	175.7	272.8
[keV]		(τ,α)	Γ_{cm}		$2J_f^\pi$:	9^-	3^-	$\langle 1^- \rangle$	5^-	$\langle 3 \rangle^-$		5^-
1405.0(8)	$\langle 1^-,3^- \rangle$											
1466.9(9)	$\langle 1^-,3^- \rangle$											
1501.6(8)	$\langle 1^-,3^- \rangle$											
1531(3)	$\langle 1^-,3^- \rangle$											
1551.9(9)	$\langle 1^-,3^- \rangle$											
1570.3(7)	$\langle 1^-,3^- \rangle$											
1621.4(10)	$\langle 1^-,3^- \rangle$											
1630.3(8)	$\langle 1^-,3^- \rangle$											
1763.1(11)	$\langle 1^-,3^- \rangle$											
		73KlZZ		Ref.								

Energy levels and branching ratios [95Br38]. Part 3 **$^{191}_{76}$Os**

E^*	$2J^\pi$				Branching ratios in percentage						
		E_f^*:	314.3	410.8	417.2	433.6	437.0	446.9	462.5	472	487.6
[keV]		$2J_f^\pi$:	$\langle 5 \rangle^-$	$\langle 7 \rangle^+$	$1^-,3^-$	$\langle 1,3 \rangle^-$	$1^-,3^-$	7^-	7^-	$\langle 5 \rangle^-$	$\langle 3 \rangle^-$
471.651(5)	$\langle 5 \rangle^-$		2.0(8)								
508.146(3)	$\langle 3 \rangle^-$		10.0(13)								
519.397(8)	$7^+,9^+$			35(10)							
611.960(3)	$1^-,3^-$				2.4(3)	1.0(3)					
619.204(7)	$\langle 5 \rangle^-$		26(10)								
630.715(14)	$\langle 5 \rangle^-$		59(8)								
637.617(4)	$1^-,3^-$				10(1)	6(2)					
688.819(7)	5^-							23(3)			
721.431(4)	3^-				23(3)	5(1)	5(1)				
748.342(5)	3^-		11(2)		7(1)	4(1)	4(1)				
764.662(3)	$3^+,\langle 5 \rangle^+$			87(13)	10(1)						
804.56(3)	$\langle 5^-,7^- \rangle$					27(6)					
815.429(8)	$1^-,3^-$						16(3)				21(3)
823.890(5)	X^+			72(8)							
959.02(2)	$1^-,3^-$		9(2)								
974.53(2)				59(8)							
1077.80(1)	$1^-,3^-$										23(4)
1117.98(3)	5^-								71(15)		
1143.54(2)	$1^-,3^-$				69(13)						
1202.27(1)	$1^-,3^-$				30(4)	19(4)					
1280.86(1)	$\langle 5 \rangle^+$								25(3)		16(3)
1298.45(2)	$1^-,3^-$				15(2)					6(2)	

Energy levels and branching ratios [95Br38]. Part 4 **$^{191}_{76}$Os**

E^*	$2J^\pi$		Branching ratios in percentage								
		E^*_f:	508.1	519.4	574.2	612.0	637.6	748.3	762.4	764.7	794.7
[keV]		$2J^\pi_f$:	$\langle 3\rangle^-$	7^+,9^+	5^-	1^-,3^-	1^-,3^-	3^-	X^+	3^+,$\langle 5\rangle^+$	1^-,3^-
688.819(7)	5^-		14(5)								
748.342(5)	3^-		12(2)								
815.429(8)	1^-,3^-		19(2)								
823.890(5)	X^+			28(4)							
1092.74(1)	1^-,3^-					24(2)					
1108.73(2)	5^-		66(9)								34(7)
1143.54(2)	1^-,3^-					31(7)					
1176.694(6)	X^+		17(2)				22(3)	14(2)	19(2)	28(4)	
1202.27(1)	1^-,3^-		18(5)				13(2)	8(2)			
1280.86(1)	$\langle 5\rangle^+$				28(4)				22(4)		9(2)

Energy levels and branching ratios [95Br38]. Part 5 **$^{191}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage		
		E^*_f:	815.4	823.9
[keV]		$2J^\pi_f$:	1^-,3^-	X^+
974.53(2)				41(15)
1117.98(3)	5^-		29(5)	
1202.27(1)	1^-,3^-		13(2)	

Energy levels and branching ratios [98Ba61]. **$^{192}_{76}$Os**

E^*	J^π	L	σ (t,p)	L	C^2S	σ (t,α)	σ (t,α)	A_γ	$I_{s,0}$	$B(E1)$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	μb/sr	(d,τ)	(d,τ)	μb/sr	μb/sr		[eVb]		Γ_{cm}	
0.0	0^+	0	257	$\langle 2\rangle$	0.34	31.3	41(2)	–0.76(5)			Stable	78Fl02
205.7944(1)*	2^+	$\langle 2\rangle$	14	$\langle 2\rangle$	0.38	37.9	49(2)	–0.69(5)			277(4) ps	78Fl02
489.060(1)*	2^+	$\langle 2\rangle$	9.1	$\langle 0+2\rangle$	0.01+0.13	12.1	14(2)	+0.01(10)			34.7(+5-11) ps	78Fl02
580.280(1)*	4^+	$\langle 4\rangle$	7.6			1.8	2.5(16)				14.7(4) ps	78Fl02
690.371(1)*	3^+					2.5	4.6(15)					79Ba25
909.59(1)*	4^+			$\langle 2\rangle$	0.10	9.7	10.8(16)	+0.40(13)			11.3(3) ps	79Ba25
956.54(3)*	0^+	0	11								10.2(+8-10) ps	78Fl02
1069.54(1)*	4^+			$\langle 2\rangle$	0.28	29.3	36(2)	+0.35(7)			7.3(+9-8) ps	82Bl17
1089.2(1)*	6^+										2.46(+8-13) ps	
1127.51(6)	$\langle 2^+\rangle$											
1143.52(2)*	$\langle 5^+\rangle$											
1206.29(20)	0^+	0	23								35(13) ps	78Fl02
1341.153(11)	3^-		3.0			1.5						79Ba25
1362.018(11)	$\langle 5^+\rangle$											

(continued) **$^{192}_{76}$Os**

E^* [keV]	J^π	L (t,p)	σ (t,p) μb/sr	L (d,τ)	C^2S (d,τ)	σ (t,α) μb/sr	σ (t,α) μb/sr	A_γ	$I_{s,0}$ [eVb]	$B(M1)$ [μ_N^2]	$B(E1)$	$T_{1/2}$ or Γ_{cm}	Ref.
1409.86(6)	$\langle 2^+ \rangle$												
1450.31(5)	$\langle 2^+ \rangle$												
1456.6(3)	$\langle 4^+ \rangle$		4.8										78Fl02
1465.3(2)*	$\langle 6^+ \rangle$											2.9(+4-3) ps	
1560.6	$\langle 4^- \rangle$												
1591.74(3)	$\langle 3 \rangle$												
1612.87(10)	$\langle 2^+ \rangle$					2.4							79Ba25
1645.1*	$\langle 6^+ \rangle$												
1665.09(9)	$\langle 1^+,2^+ \rangle$		3.1			2.0							79Ba25
1708.4(1)*	8^+											0.81(4) ps	
1712.91(9)	$\langle 7^+ \rangle$												
1733.79(12)	$\langle 2^+ \rangle$												
1780.34(11)	$\langle 2^+–4^+ \rangle$		6.8			1.5							79Ba25
1807.71(11)	$\langle 2^+ \rangle$					3.1							79Ba25
1826.51(6)	1												
1837.40(11)	$\langle 1,2 \rangle^+$		5.3										78Fl02
1857.97(8)	$\langle 2,3 \rangle^+$												
1867.87(12)	$\langle 2^+ \rangle$		3.0										78Fl02
1868.70(9)	$\langle 2,3 \rangle$		incl										78Fl02
1878.79(8)	$\langle 2^+ \rangle$					5.1							79Ba25
1894.93(17)	$\langle 3^+ \rangle$		5.3										78Fl02
1902.68(9)	$\langle 1,2 \rangle^+$					3.4							79Ba25
1921.68(15)	1,3												
1924	0^+	0	21										78Fl02
1936.9(4)	$\langle 2^+ \rangle$												
1940	$\langle 4^+ \rangle$												
1940.80(16)	$\langle 0^+–2 \rangle$												
1947.77(8)	$\langle 2 \rangle$		15			18.5							79Ba25
1951.54(7)	$\langle 1,2^+ \rangle$												
1960(20)													
1968.02(20)	$\langle 7^+ \rangle$												
1984.5(4)	$\langle 1,2^+ \rangle$												
1996.93(10)	1												
2015.40(11)	$\langle 10^- \rangle$											5.9(1) s	
2016(8)						17.9							79Ba25
2030(20)													
2043.26(19)													
2047.40(6)	$\langle 1^+,2 \rangle$												
2051.83(11)	$\langle 2,3 \rangle$					3.2							79Ba25
2081.17(12)	$\langle 1,2^+ \rangle$												
2099.00(10)	$\langle 2^+ \rangle$		6.8			4.5							79Ba25
2127.92(17)			8.1										78Fl02
2133.9*	$\langle 8^+ \rangle$											1.34(+16-20) ps	
2147.15(9)	$\langle 0^+–2 \rangle$												
2173.02(11)	$\langle 1,2^+ \rangle$					7.3							79Ba25

(continued) **$^{192}_{76}$Os**

E^* [keV]	J^π	L (t,p)	σ (t,p) μb/sr	L (d,τ)	C^2S (d,τ)	σ (t,α) μb/sr	σ (t,α) μb/sr	A_γ	$I_{s,0}$ [eVb]	$B(M1)$ [μ_N^2]	$B(E1)$	$T_{1/2}$ or Γ_{cm}	Ref.
2187.26(8)	$\langle 2^+,3\rangle$												
2208.36(14)						24.2							79Ba25
2223.48(9)													
2258.18(20)						14.2							79Ba25
2275.31(8)	$\langle 3,4^+\rangle$					9.8							79Ba25
2308.6(20)	$\langle 2^+–4\rangle$					4.3							79Ba25
2337.32(8)	$\langle 1,2\rangle$					5.0							79Ba25
2358.88(20)						13.5							79Ba25
2391.2	1					13.1			8.9(8)	0.084(8)	0.92(9)		79Ba25
2418.8	10^+											0.45(+11-4) ps	
2423(8)						14.0							79Ba25
2478.3	1					35.5			3.1(6)	0.079(19)	0.87(21)		79Ba25
2489(8)						26.4							79Ba25
2508(8)						15.2							79Ba25
2619(8)						30.2							79Ba25
2643(8)						22.5							79Ba25
2694.2	1					59.9			3.6(5)	0.077(14)	0.85(15)		79Ba25
2748.3	1					45.6			3.9(5)	0.057(9)	0.63(11)		79Ba25
2804.9	1					28.4			10.0(7)	0.081(5)	0.89(6)		79Ba25
2814.3	1								5.3(6)	0.101(15)	1.12(16)		99Fr06
2820.0	1								5.3(6)	0.043(5)	0.47(5)		99Fr06
2864.5	1					36.7			7.6(6)	0.060(5)	0.66(5)		79Ba25
2894.2	$\langle 10^+\rangle$												
2903.5	1								21(1)	0.186(10)	2.05(11)		99Fr06
2915.2	1					34.4			6.0(5)	0.145(15)	1.61(17)		79Ba25
2941.3	1								6.6(5)	0.051(4)	0.56(4)		99Fr06
2948.0	1					18.1			31(1)	0.371(17)	4.10(19)		79Ba25
2965.6	1					25.0			6.2(5)	0.048(4)	0.52(4)		79Ba25
3046.4	1					9.4			11.8(7)	0.177(13)	1.97(14)		79Ba25
3104*	$\langle 12^+\rangle$											≥2.1 ps	
3148.9	1								4.2(5)	0.030(4)	0.33(4)		99Fr06
3196.3	1								8.2(6)	0.058(4)	0.64(5)		99Fr06
3207.0									4.6(6)	0.033(4)	0.36(4)		99Fr06
3211*	$\langle 12^+\rangle$												
3217.1	1								7.3(6)	0.052(4)	0.57(5)		99Fr06
3239.9	1								5.6(5)	0.069(8)	0.76(9)		99Fr06
3257.6	1								4.0(5)	0.028(3)	0.31(4)		99Fr06
3273.3	1								12.3(8)	0.085(5)	0.94(6)		99Fr06
3281.0	1								6.8(6)	0.046(4)	0.51(5)		99Fr06
3289.5	1								9.1(7)	0.184(16)	2.04(17)		99Fr06
3428.9	1								7.8(6)	0.073(7)	0.81(8)		99Fr06
3536.4	1								3.9(6)	0.084(16)	0.93(18)		99Fr06
3756.8	1								9.7(9)	0.058(6)	0.65(6)		99Fr06
3836.5	1								12.2(12)	0.072(7)	0.79(8)		99Fr06
3864.7	1								4.9(10)	0.029(6)	0.32(6)		99Fr06

(continued) **$^{192}_{76}$Os**

E^*	J^π	L	σ (t,p)	L	C^2S	σ (t,α)	σ (t,α)	A_γ	$I_{s,0}$	$B(M1)$	$B(E1)$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	μb/sr	(d,τ)	(d,τ)	μb/sr	μb/sr		[eVb]	[μ_N^2]		Γ_{cm}	
3890.5	1								8.1(12)	0.047(7)	0.52(8)		99Fr06
12680(60)	1^-											2.49(23) MeV	
14350(120)	1^-											4.41(13) MeV	
			79Fl02		82Bl17				99Fr06	99Fr06	99Fr06		Ref.

Additional data on this isotope can be found in [78Ca20].
Abundance: 40.93(19) %.
* $E2$ collective properties of these low-lying states are considered in [96Wu07].
Cross sections σ (t,p) [78Fl02] and σ (t,α) [79Ba25] were measured at 30° and 50°, respectively.
Cross sections and analyzing powers in the (t,α) reaction at 35° [87Ci06] are given in Supplement.
Energy systematics of the ground-state bands for the even-even osmium isotopes can be found in [01Wh01].
Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [98Ba61]. Part 2 **$^{192}_{76}$Os**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	0.0	206	489	580	690	909.592	956.54	1069.54	1089.23	1127.51
[keV]		J_f^π:	0^+	2^+	2^+	4^+	3^+	4^+	0^+	4^+	6^+	$\langle 2^+\rangle$
205.7944(1)*	2^+		100									
489.060(1)*	2^+		62(2)	37.8(4)								
580.280(1)*	4^+			100								
690.371(1)*	3^+			86.8(7)	12.88(22)	0.33(3)						
909.59(1)*	4^+			4.5(5)	73(4)	20.5(13)	2.4(6)					
956.54(3)*	0^+			17(2)	83(8)							
1069.54(1)*	4^+			8(8)	55		37(6)	0.20(3)				
1089.2(1)*	6^+					100						
1127.51(6)	$\langle 2^+\rangle$		5.2(4)	20(2)	35(2)		40(4)					
1143.52(2)*	$\langle 5^+\rangle$					14.3(17)	83(5)	2.7(6)				
1206.29(20)	0^+			100								
1341.153(11)	3^-			10.3(5)	37(2)		4.7(4)	12(1)		36(4)		
1362.018(11)	$\langle 5^+\rangle$						8.4(11)	54(9)		33(5)		
1409.86(6)	$\langle 2^+\rangle$		9(1)	45(4)	6(4)	15(1)	25(2)					
1450.31(5)	$\langle 2^+\rangle$		10(1)	29(2)		30(1)	9(1)	22(2)				
1456.6(3)	$\langle 4^+\rangle$				100							
1465.3(2)*	$\langle 6^+\rangle$					$\leq$10		93(11)			6.6(14)	
1591.74(3)	$\langle 3\rangle$				22(2)	5.8(7)	28(2)					
1612.87(10)	$\langle 2^+\rangle$		8.2(13)	31(2)	61(3)							
1645.1*	$\langle 6^+\rangle$							x		x		
1665.09(9)	$\langle 1^+,2^+\rangle$			36(3)	44(4)		8(2)		4(1)			
1708.4(1)*	8^+										100	
1712.91(9)	$\langle 7^+\rangle$										1.9(4)	
1733.79(12)	$\langle 2^+\rangle$			19(3)		11(2)	60(4)	9(2)				

(continued) **$^{192}_{76}$Os**

E^*	J^π					Branching ratios in percentage					
		E_f^*:	0.0	206	489	580	690	909.592	956.54	1069.54	1089.23	1127.51
[keV]		J_f^π:	0^+	2^+	2^+	4^+	3^+	4^+	0^+	4^+	6^+	$\langle 2^+ \rangle$
1780.34(11)	$\langle 2^+–4^+ \rangle$			6(2)	25(2)	8(3)	10(2)					
1807.71(11)	$\langle 2^+ \rangle$			7.6(10)	54(3)	14.3(13)	24(2)					
1826.51(6)	1		55(3)	30(3)	15(2)							
1837.40(11)	$\langle 1,2 \rangle^+$		33(5)		50(6)		17(4)					
1857.97(8)	$\langle 2,3 \rangle^+$						18(2)	16(2)		66(4)		
1867.87(12)	$\langle 2^+ \rangle$				82(7)			18(4)				
1868.70(9)	$\langle 2,3 \rangle$			29(3)								71(5)
1878.79(8)	$\langle 2^+ \rangle$				83(5)					17(2)		
1894.93(17)	$\langle 3^+ \rangle$					54(6)		46(3)				
1902.68(9)	$\langle 1,2 \rangle^+$		26(3)	35(6)	38(3)							
1921.68(15)	1,3			64(8)	36(6)							
1936.9(4)	$\langle 2^+ \rangle$								100			
1940.80(16)	$\langle 0^+–2 \rangle$			100								
1947.77(8)	$\langle 2 \rangle$			56(4)			21(2)					4.8(11)
1951.54(7)	$\langle 1,2^+ \rangle$		60(13)	40(5)								
1984.5(4)	$\langle 1,2^+ \rangle$								100			
1996.93(10)	1		77(5)						23(2)			
2043.26(19)					31(4)							69(8)
2047.40(6)	$\langle 1^+,2 \rangle$			32(3)	56(3)		12(2)					
2051.83(11)	$\langle 2,3 \rangle$				46(6)		54(4)					
2081.17(12)	$\langle 1,2^+ \rangle$		41(3)	59(7)								
2099.00(10)	$\langle 2^+ \rangle$			100								
2127.92(17)				100								
2147.15(9)	$\langle 0^+–2 \rangle$			60(4)								40(4)
2173.02(11)	$\langle 1,2^+ \rangle$		31(3)	69(6)								
2187.26(8)	$\langle 2^+,3 \rangle$			19(2)		81(12)						
2208.36(14)				100								
2223.48(9)				96(3)			4.2(21)					
2258.18(20)							100					
2275.31(8)	$\langle 3,4^+ \rangle$			36(4)			64(3)					
2308.6(20)	$\langle 2^+–4 \rangle$							100				
2337.32(8)	$\langle 1,2 \rangle$			100								
2358.88(20)							100					

Energy levels and branching ratios [98Ba61]. Part 3 **$^{192}_{76}$Os**

E^*	J^π					Branching ratios in percentage					
		E_f^*:	1143.52	1206.29	1341.15	1362.02	1409.86	1465.34	1612.87	1645.1	1708.39
[keV]		J_f^π:	$\langle 5^+ \rangle$	0^+	3^-	$\langle 5^+ \rangle$	$\langle 2^+ \rangle$	$\langle 6^+ \rangle$	$\langle 2^+ \rangle$	$\langle 6^+ \rangle$	8^+
1362.018(11)	$\langle 5^+ \rangle$		4.9(12)								
1560.6	$\langle 4^- \rangle$		x		x						
1591.74(3)	$\langle 3 \rangle$				44(7)						

(continued) **$^{192}_{76}$Os**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1143.52	1206.29	1341.15	1362.02	1409.86	1465.34	1612.87	1645.1	1708.39
[keV]	J_f^π:	$\langle 5^+\rangle$	0^+	3^-	$\langle 5^+\rangle$	$\langle 2^+\rangle$	$\langle 6^+\rangle$	$\langle 2^+\rangle$	$\langle 6^+\rangle$	8^+
1645.1*	$\langle 6^+\rangle$				x					
1665.09(9)	$\langle 1^+,2^+\rangle$		7(2)							
1712.91(9)	$\langle 7^+\rangle$	97(9)					0.73			
1780.34(11)	$\langle 2^+–4^+\rangle$					52(21)				
1947.77(8)	$\langle 2\rangle$							18(6)		
1968.02(20)	$\langle 7^+\rangle$				82(22)		7.6		10.8	
2015.40(11)	$\langle 10^-\rangle$									11.7(9)
2133.9*	$\langle 8^+\rangle$						100			
2418.8	10^+									100

Energy levels and branching ratios [98Ba61]. Part 4 **$^{192}_{76}$Os**

E^*	J^π	Branching ratios in percentage			
	E_f^*:	1712.91	1968.02	2133.9	2418.8
[keV]	J_f^π:	$\langle 7^+\rangle$	$\langle 7^+\rangle$	$\langle 8^+\rangle$	10^+
2015.40(11)	$\langle 10^-\rangle$	88(5)	0.0027(5)		
2894.2	$\langle 10^+\rangle$			100	
3104*	$\langle 12^+\rangle$				100
3211*	$\langle 12^+\rangle$				100

Energy levels and branching ratios [98Ar07, 06Ac01]. **$^{193}_{76}$Os**

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
						E_f^*: 0.0	41.5	72.9	102.7	234
[keV]		(d,p)	μb/sr	Γ_{cm}		$2J_f^\pi$: 3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	$1^-,3^-$
0.0	3^-		37	30.11(1) h	78Be22					
41.484(2)	$\langle 1\rangle^-$					100				
72.901(2)	$\langle 5\rangle^-$	3	289		78Be22	x				
102.733(1)	$\langle 3\rangle^-$	1	452		78Be22	100				
233.856(2)	$1^-,3^-$	1	402		78Be22	1.7(2)	1.1(2)		97(2)	
295.681(2)	$\langle 5^-\rangle$					28.2(4)	44.3(8)	22.8(6)	4.7(6)	
307.083(2)	$1^-,3^-$	1	171		78Be22	9.2(2)	48.8(3)	0.9	41.1(8)	
399.014(4)	$\langle 5\rangle^-$	3	82		78Be22	64(1)	4(1)	13(1)		5(2)
434.960(3)	$1^-,3^-$	1	171		78Be22	16.5(6)	37.7(8)			38(1)
455.767(5)	$\langle 5\rangle^-$	3	97		78Be22	33.9(8)	13.1(6)	26.5(8)	5.7(6)	2.3(3)
550.90(20)*										
544.551(4)	$5^-,7^-$		60		78Be22	35(1)		9(1)	10(2)	
573.20(20)*										
587.60(10)*										

(continued)

$^{193}_{76}$Os

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	41.5	72.9	102.7	234
					$2J_f^\pi$:	3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	$1^-,3^-$
675.20(10)*										
709.20(1)	$\langle 5^-,7^-\rangle$					60(2)		20(1)	13(1)	
762	$5^-,7^-$	3	136		78Be22					
788.50(10)*										
888.62(3)						25(3)		14(2)	61(3)	
889.490(7)					02Bo0A	41(2)		6.3(5)	35(1)	8.2(5)
952	$5^-,7^-$	3	60		78Be22					
966.90(18)*										
1053.86(1)	$1^-,3^-$				02Bo0A				83(4)	
1085.11(2)	$1^-,3^-$	1	212		78Be22				x	
1170.89(1)	$\langle 1^+,3^+\rangle$				02Bo0A		30(4)			
1178.42(2)	$1^-,3^-$	1	80		78Be22					
1185.40(20)*					02Bo0A					
1205.20(50)*										
1216.954(8)	$1^{\langle-\rangle},3^{\langle-\rangle}$				02Bo0A					73(7)
1225.70(41)*										
1244.60(39)*										
1267.30(27)*										
1281.47(2)	$1^-,3^-$				02Bo0A					
1288.178(22)	$1^-,3^-$				02Bo0A					
1333.5					02Bo0A					
1359.6(3)					02Bo0A					
1383.60(30)*										
1385.4	$1^{\langle-\rangle},3^{\langle-\rangle}$				02Bo0A					
1398.20(36)*										
1400.00(30)*										
1418.00(26)*										
1437.4(9)	$1^{\langle-\rangle},3^{\langle-\rangle}$				02Bo0A					
1446.50(57)*										
1459.54(1)	$5^-,7^-$	3	86		78Be22					
1497.40(45)	$5^-,7^-$	3	89		78Be22					
1501.5										
1504.10(41)*										
1515.6(10)	$1^-,3^-$				02Bo0A					
1517	$5^-,7^-$	3	108		78Be22					
1523.5(4)					02Bo0A					
1530.2										
1555.8(2)*										
1566		<5	612		78Be22					
1590.9(8)	$1^-,3^-$				02Bo0A					
1603.2(3)					02Bo0A					
1644			86		78Be22					
1660.3(3)*										
1668		<5	221		78Be22					
1680.3(4)*										

(continued) **$^{193}_{76}$Os**

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
						E_f^*: 0.0	41.5	72.9	102.7	234
[keV]		(d,p)	μb/sr	Γ_{cm}		$2J_f^\pi$: 3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	1^-,3^-
1683.30(17)					02Bo0A					
1697			204		78Be22					
1722.5(3)*										
1731.60(33)*										
1737.60(60)*										
1744.90(90)*										
1754.2(11)*										
1760.40(20)*										
1765.1(9)					02Bo0A					
1783.8(9)					02Bo0A					
1795.80(43)*										
1798.90(50)*										
1802.00(75)*										
1805.10(34)*										
1826.70(90)*										
1831.10(28)					02Bo0A					
1838.3(2)					02Bo0A					
1847.10(52)					02Bo0A					
1853.60(92)*										
1862.70(80)*										
1874.60(45)*										
1888.90(84)*										
1892.60(27)*										
1908.60(35)*										
1915.30(43)					02Bo0A					
1921.20(30)*										
1932.10(60)*										
1935.10(16)*										
1938.60(44)*										
1949.00(42)*										
1954.80(20)*										
1977.40(90)*										
1983.40(22)*										
1989.80(60)*										
2002.10(28)*										
2013.60(37)*										
2020.80(80)*										
2024.30(55)*										
2037.40(80)*										
2039.90(70)*										
2048.1(3)					02Bo0A					
2050.80(80)*										
2053.50(85)*										
2059.70(20)*										
2064.10(16)					02Bo0A					

(continued) **$^{193}_{76}$Os**

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
						E_f^*:	0.0	41.5	72.9	102.7	234
						$2J_f^\pi$:	3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	1^-,3^-
2067.60(8)*											
2078.3(5)					02Bo0A						
2081.10(46)*											
2092.9(2)					02Bo0A						
2098.00(48)					02Bo0A						
2103.40(40)*											
2108.10(80)*											
2111.79(70)*											
2115.90(50)*											
2124.10(32)*											
2126.40(32)*											
2133.00(67)					02Bo0A						
2134.20(40)*											
2143.50(42)*											
2150.60(60)*											
2153.80(60)*											
2157.10(10)*											
2163.79(50)*											
2168.70(40)*											
2178.10(10)*											
2181.30(80)*											
2185.40(50)*											
2192.40(22)					02Bo0A						
2195.00(31)*											
2205.10(35)*											
2218.60(25)					02Bo0A						
2222.00(26)*											
2225.10(30)*											
2230.60(28)*											
2234.60(70)*											
2239.99(50)*											
2242.7											
2246.30(70)*											
2249.10(20)*											
2250.90(70)*											
2255.90(30)*											
2258.40(40)*											
2278.70(20)*											
2285.40(40)*											
2290.50(30)*											
2294.30(31)*											
2297.30(60)*											
2310.00(15)*											
2315.90(78)*											
2320.50(27)*											

(continued) **$^{193}_{76}$Os**

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ orRef.	Branching ratios in percentage					
					E_f^*:	0.0	41.5	72.9	102.7	234
[keV]		(d,p)	μb/sr	Γ_{cm}	$2J_f^\pi$:	3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	1^-,3^-
2326.10(90)*										
2332.60(29)*										
2340.10(42)*										
2342.90(80)*										
2348.00(24)*										
2350.40(40)*										
2360.90(75)*										
2364.20(37)*										
2368.00(29)*										
2373.10(34)*										
2381.00(27)*										
2389.10(43)*										
2396.30(31)*										
2407.00(47)*										
2414.00(85)*										
2421.00(27)*										
2426.80(40)*										
2431.30(80)*										
2432.80(40)*										
2437.70(40)*										
2442.50(52)*										
2447.00(100)*										
2450.10(55)*										
2458.50(20)*										
2451.70(50)*										
2467.70(50)*										
2470.40(29)*										
2484.30(20)*										
2486.70(65)*										
2489.60(25)*										
2795.00(70)*										
2499.70(24)*										
2503.50(32)*										
2506.30(100)*										
2508.30(25)*										
2511.80(70)*										
2514.10(60)*										
2519.20(50)*										
2528.40(50)*										
2530.90(40)*										
2533.70(70)*										
2541.80(40)*										
2548.20(60)*										
2551.30(90)*										
2554.60(80)*										

(continued) **$^{193}_{76}$Os**

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ orRef.	Branching ratios in percentage					
					E_f^*:	0.0	41.5	72.9	102.7	234
[keV]		(d,p)	μb/sr	Γ_{cm}	$2J_f^\pi$:	3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	1^-,3^-
2558.10(44)*										
2560.40(30)*										
2567.10(15)*										
2578.00(50)*										
2580.10(34)*										
2585.00(85)*										
2597.40(30)*										
2602.80(80)*										
2606.90(32)*										
2611.30(25)*										
2614.70(14)*										
2629.30(24)*										
2632.30(10)*										
2637.80(30)*										
2656.60(42)*										
2661.80(35)*										
2671.40(30)*										
2679.60(50)*										
2687.10(14)*										
2690.20(35)*										
2693.90(52)*										
2697.00(50)*										
2699.50(70)*										
2703.70(75)*										
2708.90(65)*										
2714.80(14)*										
2716.90(42)*										
2720.20(60)*										
2723.60(36)*										
2728.20(52)*										
2732.10(42)*										
2734.30(18)*										
2738.40(40)*										
2741.90(20)*										
2746.70(12)*										
2749.80(22)*										
2752.90(36)*										
2758.20(29)*										
2761.70(85)*										
2764.90(30)*										
2773.90(30)*										
2779.40(30)*										
2782.10(38)*										
2784.10(44)*										
2792.00(23)*										

(continued) **$^{193}_{76}$Os**

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
						E_f^*:	0.0	41.5	72.9	102.7	234
[keV]		(d,p)	μb/sr	Γ_{cm}		$2J_f^\pi$:	3^-	$\langle 1\rangle^-$	$\langle 5\rangle^-$	$\langle 3\rangle^-$	$1^-,3^-$
2797.90(45)*											
2805.50(85)*											
2811.60(60)*											
2822.80(19)*											
2830.30(45)*											
2834.30(60)*											
2856.30(50)*											
2863.80(17)*											
2870.00(22)*											
2875.80(40)*											
2880.00(44)*											
2887.00(61)*											
2904.10(47)*											
2909.00(92)*											
2913.30(40)*											
2918.00(31)*											
2972.40(28)*											
2979.90(29)*											
2986.90(90)*											
3001.70(30)*											
3006.60(60)*											
3010.40(100)*											
5585.1(9)	1^+										
5587.1(9)	1^+										
			78Be22		Ref.						

Additional data on this isotope can be found in [06Ac01, 02Bo0A, 01BoZT].
* Level introduced in [02Bo0A], not included in [06Ac01].
σ (d,p) were measured at 8 different angles [78Be22], here data for 90° are given.

Energy levels and branching ratios [98Ar07, 06Ac01]. Part 2 **$^{193}_{76}$Os**

E^*	$2J^\pi$												
		E_f^*:	295.7	307.1	399.0	435.0	455.8	888.6	889.5	1053.9	1085.1	1178.4	1216.9
[keV]		$2J_f^\pi$:	$\langle 5^-\rangle$	$1^-,3^-$	$\langle 5\rangle^-$	$1^-,3^-$	$\langle 5\rangle^-$			$1^-,3^-$	$\langle 1^-,3^-\rangle$	$1^-,3^-$	
399.014(4)	$\langle 5\rangle^-$			15(3)									
434.960(3)	$1^-,3^-$			7.8(8)									
455.767(5)	$\langle 5\rangle^-$		4.8(8)	13.7(8)									
544.551(4)	$5^-,7^-$		9.3(4)	29.1(8)	8(2)								
709.20(1)	$\langle 5^-,7^-\rangle$		7(1)										
889.490(7)				9.0(5)									
1053.86(1)	$1^-,3^-$			7.2(3)		7.4(3)		2.3(7)					
1170.89(1)	$\langle 1^+,3^+\rangle$								70(2)				

(continued) **$^{193}_{76}$Os**

E^*	$2J^\pi$	Branching ratios in percentage										
	E_f^*:	295.7	307.1	399.0	435.0	455.8	888.6	889.5	1053.9	1085.1	1178.4	1216.9
[keV]	$2J_f^\pi$:	$\langle 5^- \rangle$	$1^-,3^-$	$\langle 5 \rangle^-$	$1^-,3^-$	$\langle 5 \rangle^-$			$1^-,3^-$	$\langle 1^-,3^- \rangle$	$1^-,3^-$	
1178.42(2)	$1^-,3^-$				50(5)	50(7)						
1216.954(8)	$1^{\langle - \rangle},3^{\langle - \rangle}$							27.3(9)				
1281.47(2)	$1^-,3^-$					75(4)		25(7)				
1288.178(22)	$1^-,3^-$					18(1)		72(1)		5	5(1)	
1459.54(1)	$5^-,7^-$								4.4(7)			95.6(24)

Energy levels and branching ratios [96Br26, 01Wh01, 06Si17]. **$^{194}_{76}$Os**

E^*	J^π	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage		
						E_f^*:	0.0	218.509
[keV]		(t,p)	μb/sr	Γ_{cm}		J_f^π:	0^+	$\langle 2^+ \rangle$
0.0	0^+	0	264	6.0(2) yr	78Fl02			
218.509(6)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	15		78Fl02		100	
601(5)	$\langle 4^+ \rangle$	$\langle 4 \rangle$	20		78Fl02			
656.540(9)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	9.5		78Fl02		65	35(5)
696(5)	0^+	0	15		78Fl02			
1063(5)			1.7		78Fl02			
1131	$\langle 6^+ \rangle$				01Wh01			
1311(5)			11		78Fl02			
1466(5)								
1540(8)	0^+	0	16		78Fl02			
1668(8)			15		78Fl02			
1737(8)			18		78Fl02			
1792	$\langle 8^+ \rangle$				01Wh01			
1835(8)	0^+	0	28		78Fl02			
1878(8)			15		78Fl02			
1956(8)			23		78Fl02			
2118(10)			15		78Fl02			
2168(10)			6.9		78Fl02			
2541	$\langle 10^+ \rangle$				01Wh01			

σ (t,p) was measured at 30° [78Fl02].
Energy systematics of the ground-state bands for the osmium isotopes can be found in [01Wh01]