

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107,791 (2006)	15-Sep-2005

$Q(\beta^-) = -5.58 \times 10^3$ 4; $S(n) = 9.08 \times 10^3$ 4; $S(p) = 5.52 \times 10^3$ 4; $Q(\alpha) = 3.34 \times 10^3$ 4 [2012Wa38](#)

Note: Current evaluation has used the following Q record -5580 409080 405520 403340 40 [2003Au03](#).

 ^{176}W LevelsCross Reference (XREF) Flags

A	^{176}Re ε decay	E	$^{154}\text{Sm}(^{26}\text{Mg}, 4n\gamma)$
B	$^{150}\text{Nd}(^{30}\text{Si}, 4n\gamma)$	F	$^{186}\text{W}(n, 11n\gamma)$
C	$^{164}\text{Dy}(^{16}\text{O}, 4n\gamma)$	G	$^{176}\text{Hf}(\alpha, 4n\gamma)$
D	$^{169}\text{Tm}(^{11}\text{B}, 4n\gamma)$		

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
0.0 ^a	0 ⁺	2.5 h <i>I</i>	ABCDE G	% ε =100 T _{1/2} : weighted average of 2.3 h <i>I</i> (1963Va20), 2.5 h 4 (1962Gr27), 2.5 h 5 (1963Ma48), and 2.7 h <i>I</i> (1963Ra14).
108.3 ^a 7	2 ⁺		ABCDEFGG	J ^π : 108.5γ stretch E2 to 0 ⁺ state. g.s. band member.
348.2 ^a 8	4 ⁺		ABCDEFGG	J ^π : 239.9γ stretch E2 to 2 ⁺ state. g.s. band member.
699.4 ^a 8	6 ⁺		ABCDEFGG	J ^π : 351γ stretch E2 to 4 ⁺ state. g.s. band member.
843.3 [@] 13	0 ⁺		A	J ^π : Supported by the γ-γ angular correlation of the 735 keV transition and consistent with the 0 ⁺ to 2 ⁺ state transition.
930.0 [@] 10	2 ⁺		A	J ^π : 582.0γ E2 to 4 ⁺ state.
1040.2 ⁱ 9	2 ⁺		A	J ^π : 932.4γ E0+E2+M1 to 2 ⁺ state.
1117.0 [@] 9	4 ⁺		A	J ^π : 768.7γ E0+E2+M1 to 4 ⁺ state.
1127.7 ^c 9	(2 ⁻)		A	J ^π : 1019.9γ E1 to 2 ⁺ state. $K^\pi=(2^-)$ band assignment.
1139.7 ^a 8	8 ⁺		BCDEFG	J ^π : 440.55γ E2 to 6 ⁺ state. g.s. band member.
1179.2 ⁱ 10	(3 ⁺)		A	J ^π : Band assignment.
1197.1 ^c 9	(3 ⁻)		A	J ^π : 849.1γ E1 to the 4 ⁺ state at 349.3 keV level. Band assignment.
1302.0 ^c 8	(4 ⁻)		ABC	J ^π : Band assignment: configuration $\pi 1/2[541] \otimes \pi 7/2[404]$ in ($^{30}\text{Si}, 4n\gamma$).
1321.3 ⁱ 10	(4 ⁺)		A	J ^π : Band assignment.
1396.2 [@] 8	6 ⁺		AB	J ^π : 697.0γ E0+E2+M1 to the 6 ⁺ state at 698.3 keV level. Band assignment.
1400.7 ^c 8	(5 ⁻)		ABC F	J ^π : Band assignment.
1437.4 13			A	
1496.2 10			A	
1518.0 ⁱ 11	(5 ⁺)		A	J ^π : Band assignment.
1525.5 13			A	
1537.9 13			A	
1575.7 ^c 8	(6 ⁻)		BC	J ^π : Band assignment.
1585.2 14			A	
1586.7 10			A	
1589.7 14			A	
1594.0 11			A	
1648.5 ^a 8	10 ⁺		BCDEFG	J ^π : g.s. band member.
1657.3 ^g 8	6 ⁽⁺⁾		ABC	J ^π : Band assignment: configuration $\nu 5/2[512] \otimes \nu 7/2[514]$.
1659.9 11	(3,4,5) ⁻		A	J ^π : 1311.8γ E1 to 4 ⁺ state at 349.5 keV level.
1673.2 ^c 8	(7 ⁻)		BC	
1682.5 13			A	
1685.4 11			A	
1700.2 13			A	
1708.5 11			A	

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Adopted Levels, Gammas (continued) ^{176}W Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
1735.5 <i>14</i>		A	
1744.4 <i>14</i>		A	
1759.0 @ <i>8</i>	(8 ⁺)	B	
1858.2 <i>e</i> <i>8</i>	(7)	B	J ^π : Band assignment, configuration $\Pi 9/2[514] \otimes \Pi 5/2[402]$.
1886.0 <i>10</i>		A	
1922.4 <i>13</i>		A	
1924.9 <i>g</i> <i>8</i>	8 ⁽⁺⁾	BC	J ^π : Band assignment.
1925.4 <i>c</i> <i>8</i>	(8 ⁻)	BC	
1939.9 <i>f</i> <i>8</i>	(7)	B	
1973.1 <i>d</i> <i>8</i>	8 ⁽⁻⁾	B	
1995.4 <i>f</i> <i>8</i>		B	
2007.7 <i>c</i> <i>8</i>	(9 ⁻)	BC	
2149.9 <i>e</i> <i>8</i>	(9)	B	
2160.7? <i>8</i>		B	
2189.7 @ <i>8</i>	(10 ⁺)	B	
2206.3 <i>a</i> <i>8</i>	12 ⁺	BCDEF	J ^π : g.s. band member.
2263.9+x		B	Additional information 1.
2264.8 <i>g</i> <i>8</i>	10 ⁽⁺⁾	B	J ^π : Band assignment.
2308.1 <i>c</i> <i>8</i>	(10 ⁻)	BC	
2345.2 <i>f</i> <i>9</i>	(9)	B	
2409.3 <i>c</i> <i>8</i>	(11 ⁻)	BC	
2414.3 <i>d</i> <i>8</i>	10 ⁽⁻⁾	B	
2466.0+x ^{<i>h</i>} <i>10</i>	(13)	B	
2524.7 <i>e</i> <i>8</i>	(11)	B	
2624.3 & <i>8</i>	12 ⁺	B	
2652.3+x ^{<i>h</i>} <i>11</i>	(14)	B	
2708.7 <i>g</i> <i>8</i>	12 ⁽⁺⁾	B	J ^π : Band assignment.
2753.8 <i>c</i> <i>9</i>	(12 ⁻)	BC	
2776.9 <i>f</i> <i>9</i>	(11)	B	
2802.6 <i>a</i> <i>8</i>	14 ⁺	BCDEF	J ^π : g.s. band member.
2830.6 @ <i>8</i>	(12 ⁺)	B	
2862.7? <i>8</i>		B	
2870.6+x ^{<i>h</i>} <i>11</i>	(15)	B	
2881.5 <i>c</i> <i>8</i>	(13 ⁻)	BC	
2887.4 <i>d</i> <i>8</i>	12 ⁽⁻⁾	B	
2971.2 <i>e</i> <i>8</i>	(13)	B	
3032.9 & <i>8</i>	14 ⁺	B	
3118.3+x ^{<i>h</i>} <i>11</i>	(16)	B	
3228.6? <i>8</i>		B	
3239.2 <i>g</i> <i>9</i>	14 ⁽⁺⁾	B	J ^π : Band assignment.
3256.0 <i>8</i>		B	
3271.5 <i>f</i> <i>10</i>	(13)	B	
3276.0 <i>c</i> <i>9</i>	(14 ⁻)	BC	
3302.3? <i>8</i>		B	
3393.3+x ^{<i>h</i>} <i>11</i>	(17)	B	
3399.5 <i>d</i> <i>9</i>	14 ⁽⁻⁾	B	
3421.8 <i>c</i> <i>8</i>	(15 ⁻)	BC	
3427.6 <i>a</i> <i>8</i>	16 ⁺	BCDE	J ^π : g.s. band member.
3484.6 <i>e</i> <i>8</i>	(15)	B	

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Adopted Levels, Gammas (continued) ^{176}W Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
3493.7 ^{&} 8	16 ⁺		B	
3694.6+x ^h 12	(18)		B	
3747.0 [#] 8	14 ⁺	41 ns 1	B	$\mu=+6.65$ 21; $Q=+5.99$ +66-82 J^π: $K^\pi=14^+$ band assignment, possible configuration $\pi 7/2[404] \otimes \pi 9/2[514] \otimes \nu 7/2[633] \otimes \nu 5/2[512]$. T_{1/2}: From ($^{16}\text{O}, 4n\gamma$) (2000Io03). Other value: 35 ns 10, please see ($^{30}\text{Si}, 4n\gamma$) dataset (1996Cr02). μ: From g factor=+0.475 15, observing γ precession in external magnetic field in ($^{16}\text{O}, 4n\gamma$) (2000Io03). The diamagnetic and Knight shift corrections were not applied, as those were small (about 1%). Q: Observing the time-dependent quadrupole interaction pattern of the decay radiation from the isomer in ($^{16}\text{O}, 4n\gamma$) (2002Io01). The isomer at 3747.0-keV ($J^\pi=14^+$, $K=14$) decays with an unusual pattern to levels with $K=0$, bypassing available levels with intermediate values of K. This isomer has been interpreted as a four-quasiparticle state, and its decay explained in terms of triaxial-shape vibrations, referred as γ-tunneling (1996Cr02). A $J^\pi=14^+$ isomer at 3312 keV in ^{174}Hf has a similar decay pattern (1995Gj01).
3817.2 ^f 10	(15)		B	
3845.9 ^c 9	(16 ⁻)		BC	
3952.8 ^d 10	16 ⁽⁻⁾		B	
3970.0 [#] 8	15 ⁺		B	
4002.5 ^{&} 8	18 ⁺		BC E	
4020.6+x ^h 12	(19)		B	
4022.6 ^c 8	(17 ⁻)		BC	
4061.3 ^e 8	(17)		B	
4101.7 8			B	
4121.4 ^a 9	18 ⁺		B	J^π : g.s. band member.
4208.5 [#] 8	16 ⁺		B	
4368.4 8			B	
4417.9 ^f 11	(17)		B	
4453.5 ^c 9	(18 ⁻)		B	
4464.9 [#] 8	17 ⁺		B	J^π : g.s. band member.
4579.0 8			B	
4613.5 ^{&} 8	20 ⁺		BC E	
4670.8 ^c 8	(19 ⁻)		B	
4695.2 ^e 8	(19)		B	
4740.9 [#] 8	18 ⁺		B	
4839.6 ^a 9	20 ⁺		B	J^π : g.s. band member.
4894.7 ^b 8		≈10 ns	B	T _{1/2} : From $^{150}\text{Nd} (^{30}\text{Si}, 4n\gamma)$ (1996Cr02).
5034.5 [#] 8	19 ⁺		B	
5083.2 ^c 9	(20 ⁻)		B	
5192.5 ^b 8			B	
5298.9 ^{&} 9	22 ⁺		BC E	
5343.2 [#] 8	20 ⁺		B	
5356.4 ^c 9	(21 ⁻)		B	
5369.9 ^e 9	(21)		B	
5506.2 ^b 8			B	
5607.0 ^a 10	22 ⁺		B	J^π : g.s. band member.

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Adopted Levels, Gammas (continued) ^{176}W Levels (continued)

E(level) [†]	J ^π [‡]	XREF	E(level) [†]	J ^π [‡]	XREF	E(level) [†]	J ^π [‡]	XREF
5665.8 [#] 8	21 ⁺	B	6051.1 ^{&} 9	24 ⁺	BC E	6709.1 [#] 9	24 ⁺	B
5733.2 ^c 10	(22 ⁻)	B	6186.1 ^b 9		B	6858.8 ^{&} 9	26 ⁺	B
5838.2 ^b 8		B	6348.5 [#] 9	23 ⁺	B	6921.7 ^b 9		B
6000.5 [#] 9	22 ⁺	B	6548.0 ^b 9		B			

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

[‡] J^π assignments are based on γ -ray multiplicities, deduced from angular distributions in $^{164}\text{Dy}(^{16}\text{O},4n\gamma)$ (1978Dr04) and conversion electron data in $^{169}\text{Tm}(^{11}\text{B},4n\gamma)$ (1965St03), on directional correlation from oriented states (DCO) ratios in $^{150}\text{Nd}(^{30}\text{Si},4n\gamma)$ and on rotational structure (1996Cr02).

[#] Band(A): K^π=14⁺ band: possible configuration $\pi 7/2[404] \otimes \pi 9/2[514] \otimes \nu 7/2[633] \otimes \nu 5/2[512]$.

@ Band(B): K^π=(0₂⁺) band: first excited state band, quasi β -vibrational band.

& Band(C): K^π=(0⁺) band: Two rotation-aligned neutrons.

^a Band(D): K^π=0⁺ g.s. band.

^b Band(E): rotational band: built on ≈ 10 ns state.

^c Band(F): K^π=(2⁻) band: evaluator added levels of two K^π=(4⁻) bands in high spin dataset [$^{30}\text{Si},4n\gamma$], (1996Cr02) with (2⁻) band in ^{176}Re ε decay [2001Ki10] on the basis of observed common states 4⁽⁻⁾ and 5⁽⁻⁾ at 1303.3 keV and 1402.1 keV levels within this band in 2001Ki10.

^d Band(G): K^π=(8⁻) band: configuration $\pi 9/2[514] \otimes \pi 7/2[404]$.

^e Band(H): K=7 band: configuration $\Pi 9/2[514] \otimes \Pi 5/2[402]$.

^f Band(I): K=(7) band.

^g Band(J): K^π=(6⁺) band: configuration $\nu 5/2[512] \otimes \nu 7/2[514]$.

^h Band(K): K=(13) band.

ⁱ Band(L): K^π=2⁺ quasi γ -vibrational band.

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ^a	α^b	Comments
108.3	2 ⁺	108.5 [#] 7	100	0.0	0 ⁺	E2		2.87	
348.2	4 ⁺	239.95 [#] 25	100	108.3	2 ⁺	E2		0.172	
699.4	6 ⁺	351.00 [#] 20	100	348.2	4 ⁺	E2		0.0542	
843.3	0 ⁺	735.0	100 11	108.3	2 ⁺				
		844.0 ^d	1.7 4	0.0	0 ⁺	E0 [‡]			I_γ : K conversion electron intensity.
930.0	2 ⁺	582.0 [‡]	52 [‡] 3	348.2	4 ⁺	E2		0.0147	
		822.2 [‡]	100 [‡] 4	108.3	2 ⁺	E0+E2+M1 [‡]	-2.7		δ : uncertainty +0.4 -0.5.
1040.2	2 ⁺	692.1 [‡]	5.8 [‡] 22	348.2	4 ⁺				
		932.4 [‡]	100 [‡] 5	108.3	2 ⁺	E0+E2+M1 [‡]	+3.0		Mult.: from $\alpha(\text{K})\text{exp}=0.0083$ 16. M1 is 11.1%. δ : uncertainty +1.0 -0.7.
		1041.6 ^d	82 [‡] 6	0.0	0 ⁺				
1117.0	4 ⁺	186.5 [‡]	2.2 [‡] 4	930.0	2 ⁺				
		417.3 [‡]	11.0 [‡] 16	699.4	6 ⁺				
		768.7 [‡]	100 [‡] 4	348.2	4 ⁺	E0+E2+M1	-2.2		Mult.: from $\alpha(\text{K})\text{exp}=0.066$ 7, $\alpha(\text{L})\text{exp}=0.0122$ 16, $\alpha(\text{M})\text{exp}=0.0033$ 8 in ^{176}Re ε decay. M1 is 21%. δ : uncertainty +0.6 -1.2.
		1009.0 ^{c‡}	52 ^{c‡} 3	108.3	2 ⁺	E2			I_γ : 86 20 in 1977Be72 (^{176}Re ε decay). Mult.: from $\alpha(\text{K})\text{exp}=0.45$ 10 in ^{176}Re ε decay.
		1117.0 ^d 5	80 [‡] 20	0.0	0 ⁺				I_γ : From 1977Be72 (^{176}Re ε decay).
1127.7	(2 ⁻)	87.1 [‡]	5.4 [‡] 13	1040.2	2 ⁺				
		1019.9 [‡]	100 [‡] 5	108.3	2 ⁺	E1			Mult.: From $\alpha(\text{K})\text{exp}<0.001$ in ^{176}Re ε decay.
1139.7	8 ⁺	440.55 [#] 15	100	699.4	6 ⁺	E2		0.0292	
1179.2	(3 ⁺)	830.9 [‡]	22.6 [‡] 20	348.2	4 ⁺				
		1071.0 [‡]	100 [‡] 4	108.3	2 ⁺				Mult.: 1071 γ E2 assignment from $\alpha(\text{K})\text{exp}=0.0032$ 7 in ^{176}Re ε decay is not consistent with the J^π assignment of the depopulating level.
1197.1	(3 ⁻)	156.9 [‡]	12.0 [‡] 17	1040.2	2 ⁺				
		849.1 [‡]	100 [‡] 5	348.2	4 ⁺	E1			Mult.: from $\alpha(\text{K})\text{exp}=0.0026$ 8 in ^{176}Re ε decay.
1302.0	(4 ⁻)	122.8 [‡]	7.0 [‡] 25	1179.2	(3 ⁺)				
		174.3 [‡]	9.9 [‡] 25	1127.7	(2 ⁻)				
		953.78 [#] 16	100 [‡] 6	348.2	4 ⁺				
1321.3	(4 ⁺)	973.0 [‡]	100 [‡] 5	348.2	4 ⁺	E2+M1 [‡]	>30		
		1213.2 [‡]	65 [‡] 10	108.3	2 ⁺				
1396.2	6 ⁺	697.0 2	100 14	699.4	6 ⁺	E0+E2+M1 [‡]			

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$ (continued)						
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @
1396.2	6^+	1047.0 ^d 1	43 21	348.2	4^+	
1400.7	(5^-)	203.9 [‡]	9 [‡] 4	1197.1	(3^-)	
		701.41 ^{‡#} 9	100 [‡] 11	699.4	6^+	
		1052.3 [‡]	36 [‡] 7	348.2	4^+	
1437.4		1329.1 [‡]	100 [‡]	108.3	2^+	
1496.2		368.5 [‡]	66 [‡] 12	1127.7	(2^-)	
		1148.1 [‡]	35 [‡] 8	348.2	4^+	
		1388.3 [‡]	100 [‡] 12	108.3	2^+	
1518.0	(5^+)	818.4 [‡]	40 [‡] 5	699.4	6^+	
		1169.8 [‡]	100 [‡] 9	348.2	4^+	
1525.5		1417.3 [‡]	100 [‡]	108.3	2^+	
1537.9		1189.8 [‡]	100 [‡]	348.2	4^+	
1575.7	(6^-)	174.2 3	12 2	1400.7	(5^-)	
		274.00 [#] 10	60 4	1302.0	(4^-)	
		876.48 [#] 16	100 40	699.4	6^+	
1585.2		388.1 [‡]	100 [‡]	1197.1	(3^-)	
1586.7		1238.2 [‡]	100 [‡] 14	348.2	4^+	
		1478.8 [‡]	63 [‡] 12	108.3	2^+	
1589.7		659.6 [‡]	100 [‡]	930.0	2^+	
1594.0		292.1 [‡]	54 [‡] 11	1302.0	(4^-)	
		397.2 [‡]	100 [‡] 22	1197.1	(3^-)	
1648.5	10^+	508.60 [#] 20	100	1139.7	8^+	
1657.3	$6^{(+)}$	957.70 [#] 20	100	699.4	6^+	
1659.9	$(3,4,5)^-$	542.7 [‡]	14 [‡] 3	1117.0	4^+	
		1311.8 [‡]	100 [‡] 6	348.2	4^+	E1
1673.2	(7^-)	272.5 [#] 20	23 4	1400.7	(5^-)	
		533.16 [#] 12	100 15	1139.7	8^+	(D)
		973.6 [#] 3	85 15	699.4	6^+	D
1682.5		1334.5 [‡]	100 [‡]	348.2	4^+	
1685.4		488.2 [‡]	54 [‡] 17	1197.1	(3^-)	
		557.5 [‡]	100 [‡] 19	1127.7	(2^-)	
1700.2		1352.2 [‡]	100 [‡]	348.2	4^+	
1708.5		1009.0 ^{c‡}	100 ^{c‡} 21	699.4	6^+	

Mult.: From $\alpha(\text{K})\text{exp}=0.0012$ 2 in ^{176}Re ε decay.

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. @	α^b
1708.5		1360.2 ‡	29 ‡ 10	348.2	4 ⁺		
1735.5		695.1 ‡	100 ‡	1040.2	2 ⁺		
1744.4		627.3 ‡	100 ‡	1117.0	4 ⁺		
1759.0	(8 ⁺)	363.0 2	36 7	1396.2	6 ⁺		
		618.8 2	100 29	1139.7	8 ⁺		
1858.2	(7)	717.4 4	100 20	1139.7	8 ⁺		
		1159.5 4	60 20	699.4	6 ⁺		
1886.0		1537.8 ‡	46 ‡ 18	348.2	4 ⁺		
		1777.9 ‡	100 ‡ 22	108.3	2 ⁺		
1922.4		1223.3 ‡	100 ‡	699.4	6 ⁺		
1924.9	8 ⁽⁺⁾	267.92 # 16	25 3	1657.3	6 ⁽⁺⁾		
		1225.94 # 12	100 19	699.4	6 ⁺	&	
1925.4	(8 ⁻)	251.9 3	9.1 18	1673.2	(7 ⁻)		
		348.90 # 20	100 6	1575.7	(6 ⁻)		
		785.4 # 1	20.0 18	1139.7	8 ⁺		
1939.9	(7)	1240.6 3	100	699.4	6 ⁺		
1973.1	8 ⁽⁻⁾	397.0 3	100	1575.7	(6 ⁻)		
1995.4		1296.4 3	100	699.4	6 ⁺		
2007.7	(9 ⁻)	334.66 # 12	100 6	1673.2	(7 ⁻)	E2	0.0621
		359.0 3	21 3	1648.5	10 ⁺		
		867.86 # 12	88 12	1139.7	8 ⁺	D	
2149.9	(9)	292.0 1	100 8	1858.2	(7)		
		1010.0 3	92 8	1139.7	8 ⁺		
2160.7?		512.2 3	100	1648.5	10 ⁺		
2189.7	(10 ⁺)	430.8 2	90 20	1759.0	(8 ⁺)		
		541.1 1	100 20	1648.5	10 ⁺		
2206.3	12 ⁺	557.86 # 12	100	1648.5	10 ⁺	E2	0.0163
2264.8	10 ⁽⁺⁾	339.8 2	100	1924.9	8 ⁽⁺⁾		
2308.1	(10 ⁻)	300.6 3	9.8 24	2007.7	(9 ⁻)		
		382.88 # 16	100 7	1925.4	(8 ⁻)	E2	0.0425
2345.2	(9)	350		1995.4			
		405.4 3	100	1939.9	(7)		
2409.3	(11 ⁻)	401.68 # 16	100 6	2007.7	(9 ⁻)	E2	0.0373
		760.96 # 18	29 6	1648.5	10 ⁺		
2414.3	10 ⁽⁻⁾	441.0 3	100 22	1973.1	8 ⁽⁻⁾		
		489.0 3	61 17	1925.4	(8 ⁻)		
2466.0+x	(13)	202.1	100	2263.9+x			

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$ (continued)

8

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	α^b
2524.7	(11)	374.6 1	100	2149.9	(9)		
2624.3	12 ⁺	418.0 1	87 26	2206.3	12 ⁺		
		434.7 1	100 9	2189.7	(10 ⁺)		
2652.3+x	(14)	186.3 2	100	2466.0+x	(13)		
2708.7	12 ⁽⁺⁾	443.7 1	100	2264.8	10 ⁽⁺⁾		
2753.8	(12 ⁻)	445.6 [#] 3	100	2308.1	(10 ⁻)		
2776.9	(11)	431.6 3	100	2345.2	(9)		
2802.6	14 ⁺	595.96 [#] 12	100	2206.3	12 ⁺	E2	0.0139
2830.6	(12 ⁺)	624.0 4	100 40	2206.3	12 ⁺		
		641.2 2	50 20	2189.7	(10 ⁺)		
2862.7?		656.3 2	100	2206.3	12 ⁺		
2870.6+x	(15)	218.0 4	100 40	2652.3+x	(14)		
		405.0 ^d 3	<20	2466.0+x	(13)		
2881.5	(13 ⁻)	472.16 [#] 12	100	2409.3	(11 ⁻)	E2	0.0244
2887.4	12 ⁽⁻⁾	473.1 3	100 19	2414.3	10 ⁽⁻⁾		
		579.1 5	25 6	2308.1	(10 ⁻)		
2971.2	(13)	446.7 1	100	2524.7	(11)		
3032.9	14 ⁺	230.7 1	36 7	2802.6	14 ⁺		
		408.4 1	100 7	2624.3	12 ⁺		
		826.6 1	29 4	2206.3	12 ⁺		
3118.3+x	(16)	247.7 2	100 33	2870.6+x	(15)		
		466.5 5	33 33	2652.3+x	(14)		
3228.6?		1067.9 3	100	2160.7?			
3239.2	14 ⁽⁺⁾	530.5 2	100	2708.7	12 ⁽⁺⁾		
3256.0		632 1	33 19	2624.3	12 ⁺		
		1049.8 3	100 29	2206.3	12 ⁺		
3271.5	(13)	494.8 3	100	2776.9	(11)		
3276.0	(14 ⁻)	522.22 [#] 24	100	2753.8	(12 ⁻)		
3302.3?		1096.0 1	100	2206.3	12 ⁺		
3393.3+x	(17)	275.0 2	100 33	3118.3+x	(16)		
		522.5 5	50 33	2870.6+x	(15)		
3399.5	14 ⁽⁻⁾	512.2 3	100	2887.4	12 ⁽⁻⁾		
3421.8	(15 ⁻)	540.43 [#] 9	100	2881.5	(13 ⁻)	E2	0.0176
3427.6	16 ⁺	625.32 [#] 9	100	2802.6	14 ⁺	E2	0.0125
3484.6	(15)	513.4 1	100	2971.2	(13)		
3493.7	16 ⁺	460.9 1	100	3032.9	14 ⁺		
3694.6+x	(18)	301.3 3	100	3393.3+x	(17)		
3747.0	14 ⁺	445.0 1	31 8	3302.3?			
		490.9 2	50 13	3256.0			
		518.6 3	36 8	3228.6?			

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	α^b
3747.0	14 ⁺	714.1 1	100 13	3032.9	14 ⁺		
		884.5 2	31 8	2862.7?			
		916.8 3	39 5	2830.6	(12 ⁺)		
		945.0 2	19 5	2802.6	14 ⁺		
3817.2	(15)	545.7 3	100	3271.5	(13)		
3845.9	(16 ⁻)	569.87# 21	100	3276.0	(14 ⁻)		
3952.8	16 ⁽⁻⁾	553.3 3	100	3399.5	14 ⁽⁻⁾		
3970.0	15 ⁺	222.8 1	100	3747.0	14 ⁺		
4002.5	18 ⁺	508.8	45 13	3493.7	16 ⁺		
		574.75# 12	100 15	3427.6	16 ⁺		
4020.6+x	(19)	326.0 4	100	3694.6+x	(18)		
4022.6	(17 ⁻)	600.82# 9	100	3421.8	(15 ⁻)	E2	0.0137
4061.3	(17)	576.7 1	100	3484.6	(15)		
4101.7		354.6 1	100	3747.0	14 ⁺		
4121.4	18 ⁺	628.0 5	59 11	3493.7	16 ⁺		
		693.7 3	100 11	3427.6	16 ⁺		
4208.5	16 ⁺	238.2 1	100 22	3970.0	15 ⁺		
		461.7 2	30 6	3747.0	14 ⁺		
4368.4		266.6 1	100	4101.7			
4417.9	(17)	600.7 5	100	3817.2	(15)		
4453.5	(18 ⁻)	607.7 1	100	3845.9	(16 ⁻)		
4464.9	17 ⁺	256.2 1	100 17	4208.5	16 ⁺		
		494.9 1	65 8	3970.0	15 ⁺		
4579.0		210.5 1	100	4368.4			
4613.5	20 ⁺	611.0 1	100	4002.5	18 ⁺		
4670.8	(19 ⁻)	648.0 2	100	4022.6	(17 ⁻)		
4695.2	(19)	633.9 1	100	4061.3	(17)		
4740.9	18 ⁺	275.9 1	100 20	4464.9	17 ⁺		
		532.5 1	92 12	4208.5	16 ⁺		
4839.6	20 ⁺	718.3 3	100	4121.4	18 ⁺		
4894.7		315.8 1	100	4579.0			
5034.5	19 ⁺	293.5 1	79 26	4740.9	18 ⁺		
		569.8 2	100 13	4464.9	17 ⁺		
5083.2	(20 ⁻)	629.7 2	100	4453.5	(18 ⁻)		
5192.5		297.8 1	100	4894.7			
5298.9	22 ⁺	685.5 2	100	4613.5	20 ⁺		
5343.2	20 ⁺	308.6 1	81 27	5034.5	19 ⁺		
		603.0 2	100 16	4740.9	18 ⁺		
5356.4	(21 ⁻)	685.7 3	100	4670.8	(19 ⁻)		
5369.9	(21)	674.7 1	100	4695.2	(19)		
5506.2		313.7 1	85 19	5192.5			

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{W})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π
5506.2		612.0 4	100 19	4894.7		6186.1		347.6 3		5838.2	
5607.0	22 ⁺	767.3 4	100	4839.6	20 ⁺			680.2 4		5506.2	
5665.8	21 ⁺	322.4 2		5343.2	20 ⁺	6348.5	23 ⁺	348.2 2		6000.5	22 ⁺
		631.1 2	100	5034.5	19 ⁺			682.0 4		5665.8	21 ⁺
5733.2	(22 ⁻)	650.0 1	100	5083.2	(20 ⁻)	6548.0		362.1 3		6186.1	
5838.2		331.7 1	100 19	5506.2				709.5 4		5838.2	
		647.9 4	67 15	5192.5		6709.1	24 ⁺	708.6 4	100	6000.5	22 ⁺
6000.5	22 ⁺	334.8 4	30 11	5665.8	21 ⁺	6858.8	26 ⁺	808.0 1	100	6051.1	24 ⁺
		657.6 3	100 23	5343.2	20 ⁺	6921.7		374.0 3		6548.0	
6051.1	24 ⁺	752.1 2	100	5298.9	22 ⁺			735.0 5		6186.1	

[†] From ¹⁵⁰Nd(³⁰Si,4n γ), unless otherwise specified.

[‡] From ¹⁷⁶Re ε decay.

Weighted average of ¹⁵⁰Nd(³⁰Si,4n γ) and ¹⁶⁴Dy(¹⁶O,4n γ).

@ From ¹⁶O- $\gamma(\theta)$ in ¹⁶⁴Dy(¹⁶O,4n γ), and ce data in ¹⁶⁹Tm(¹¹B,4n γ).

& Measured dipole multipolarity. Level scheme requires E2.

^a From ¹⁷⁶Re ε decay.

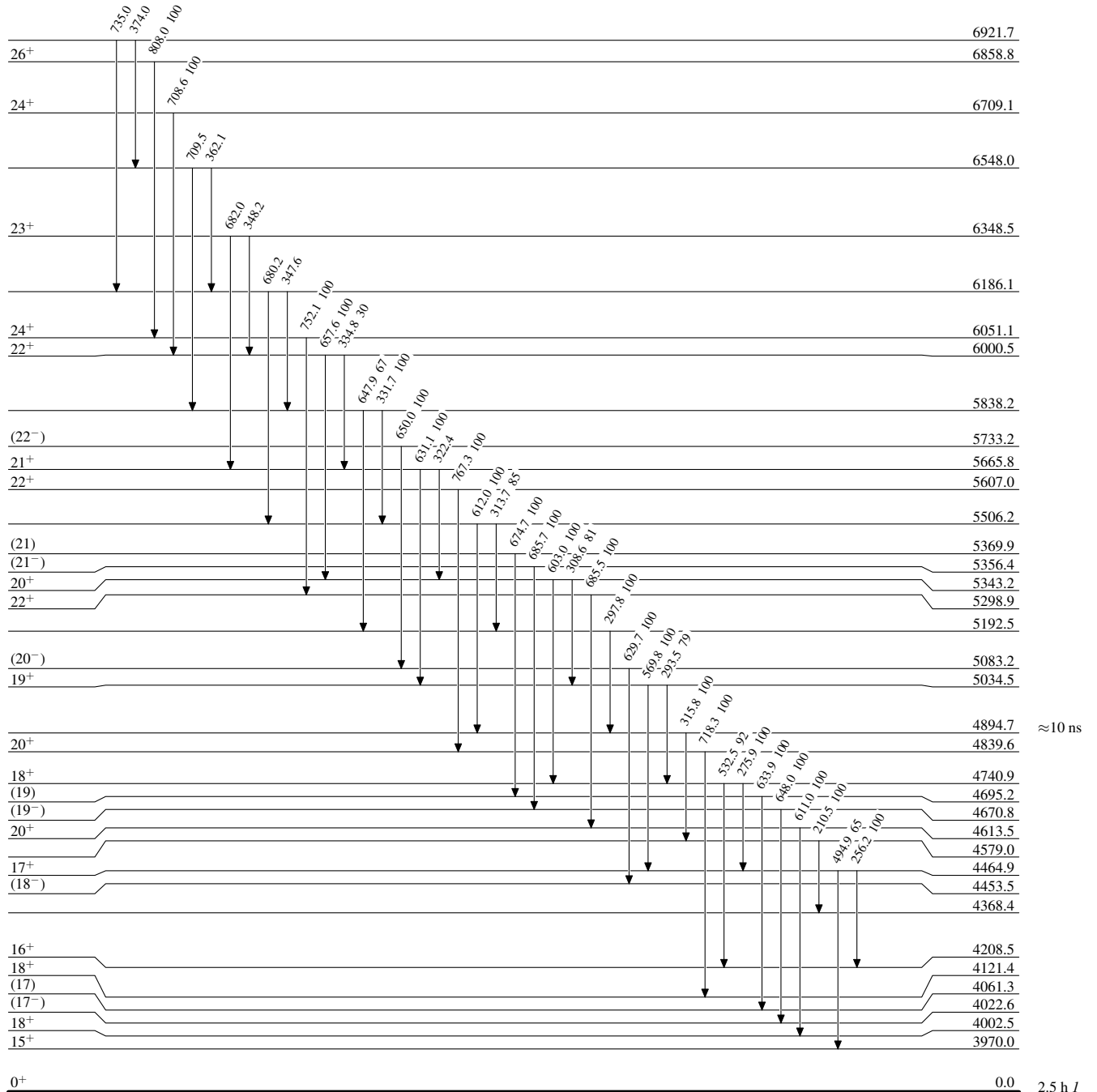
^b Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^c Multiply placed with intensity suitably divided.

^d Placement of transition in the level scheme is uncertain.

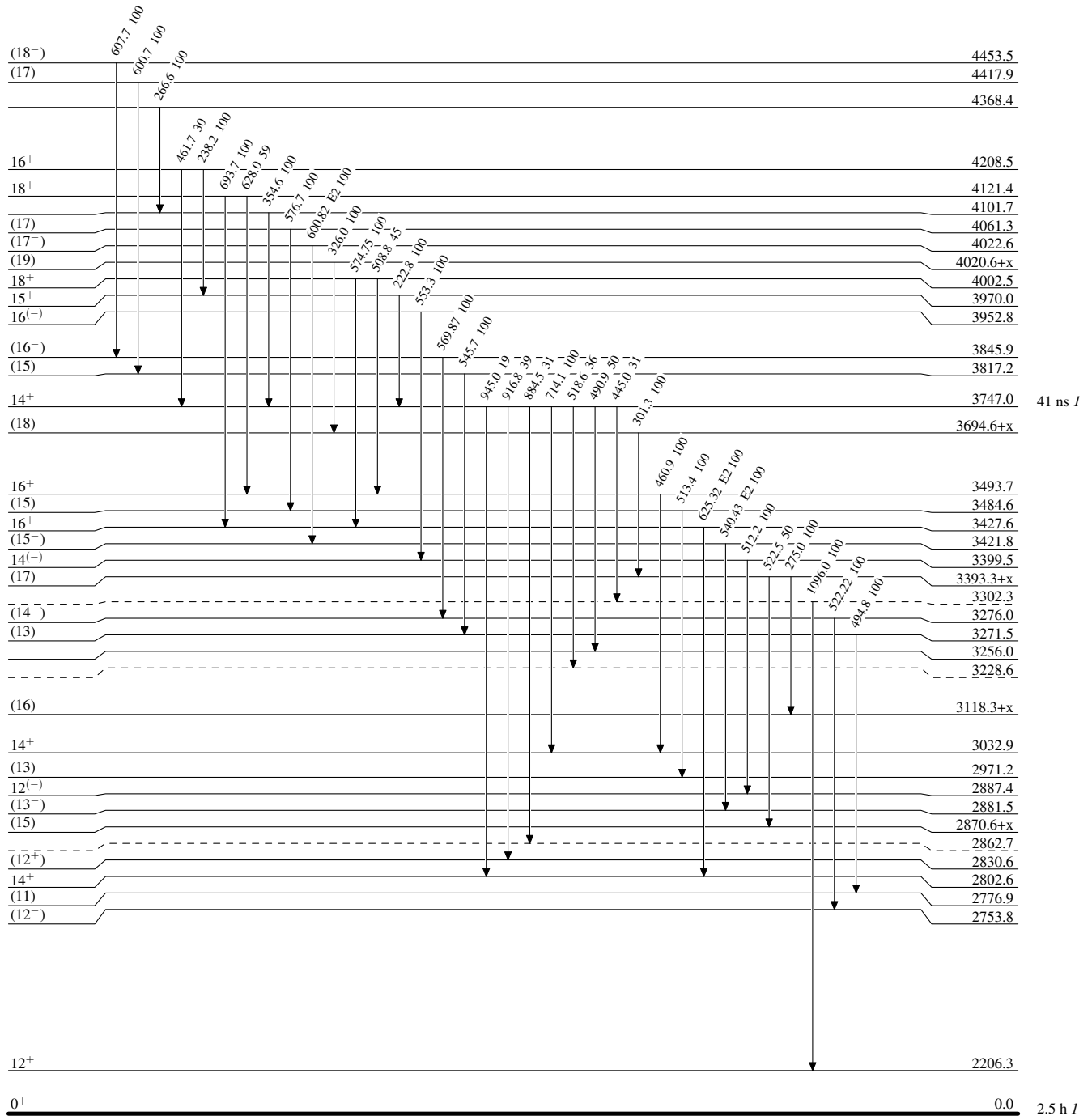
Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

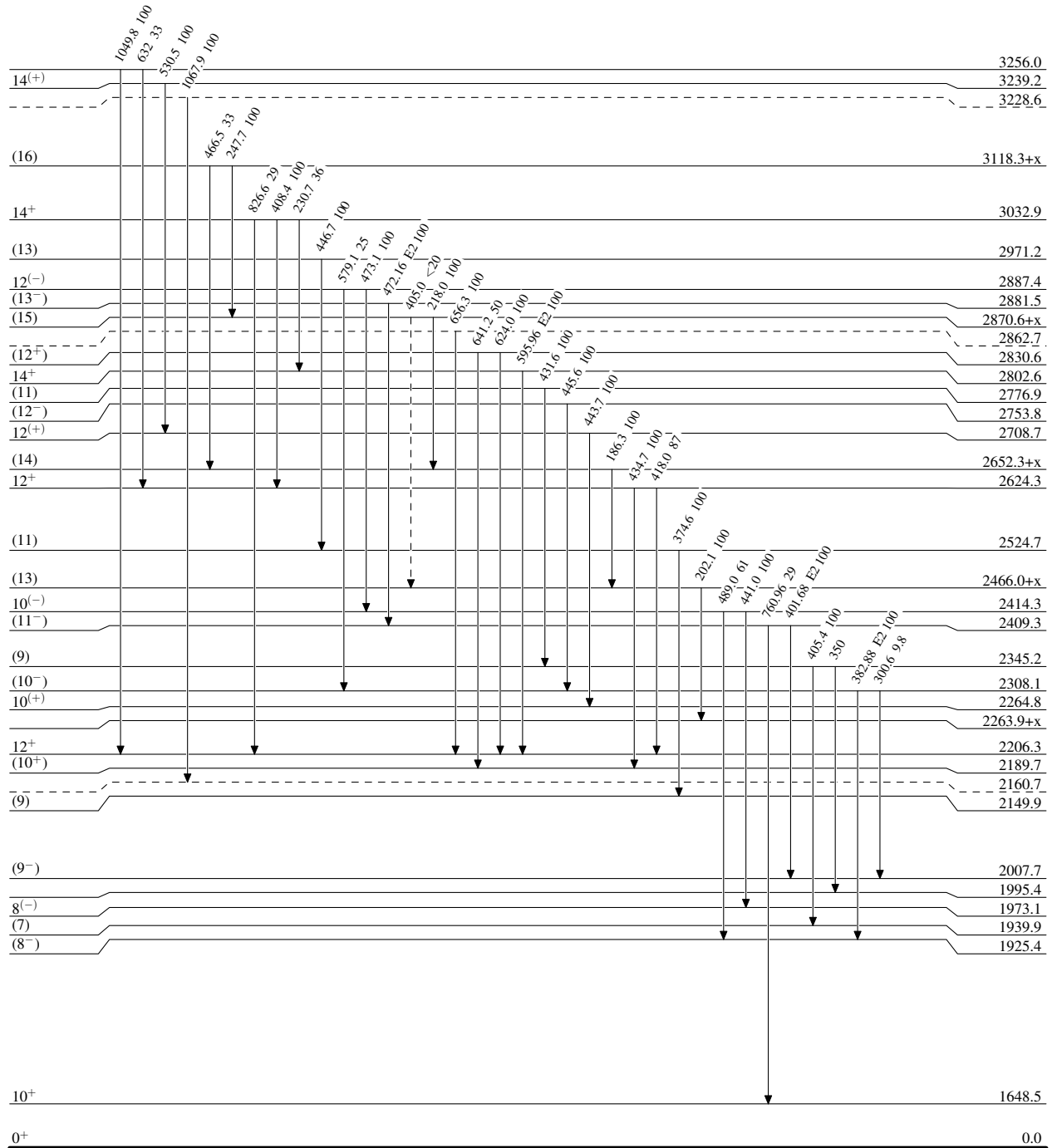


Adopted Levels, Gammas

Legend

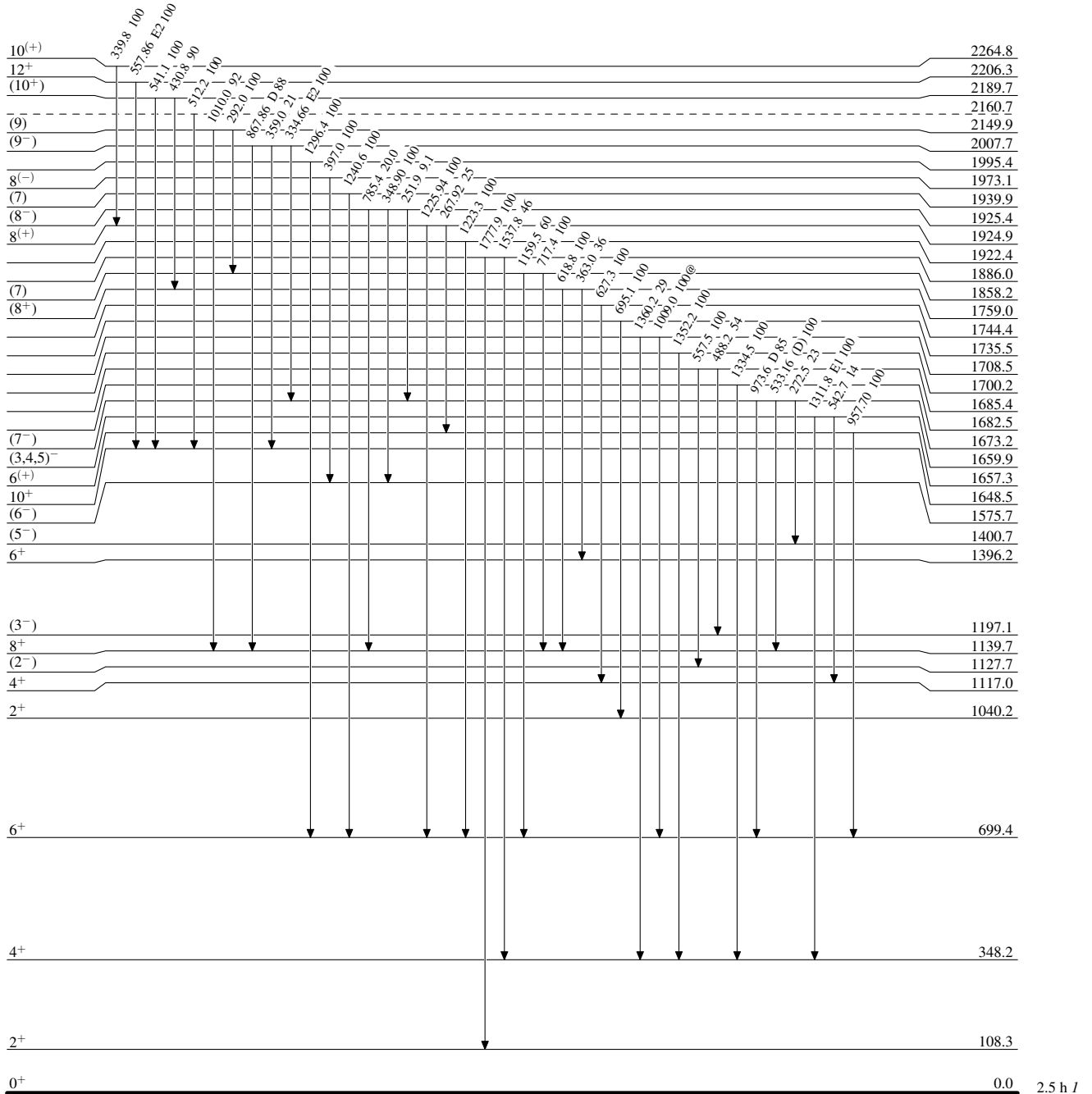
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level
@ Multiplied: intensity suitably divided

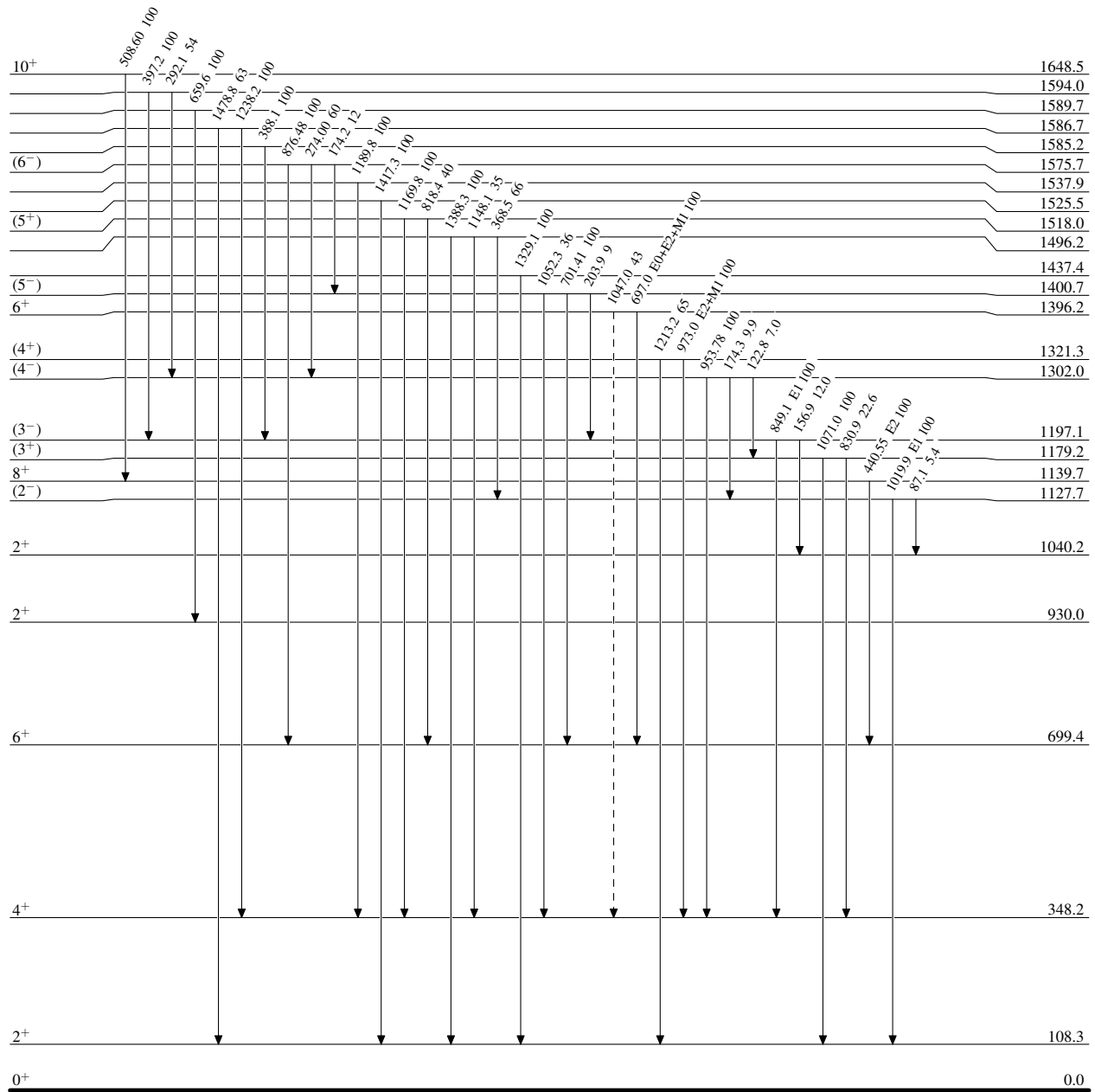


Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiplied: intensity suitably divided

-----► γ Decay (Uncertain)

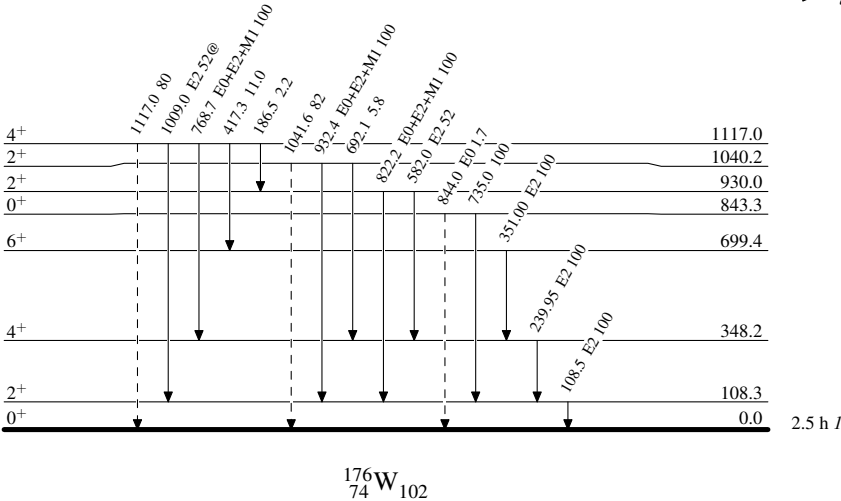
Adopted Levels, Gammas

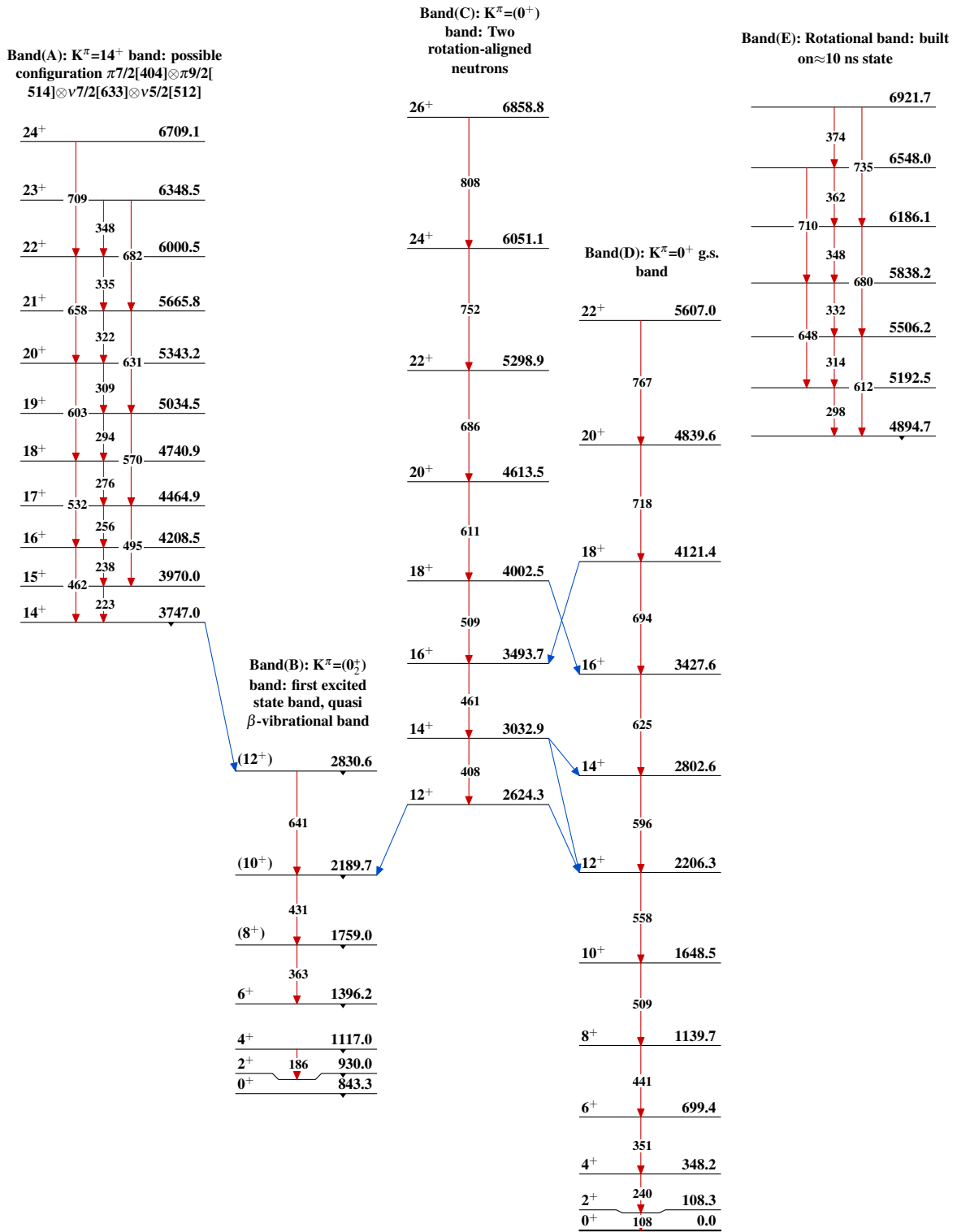
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

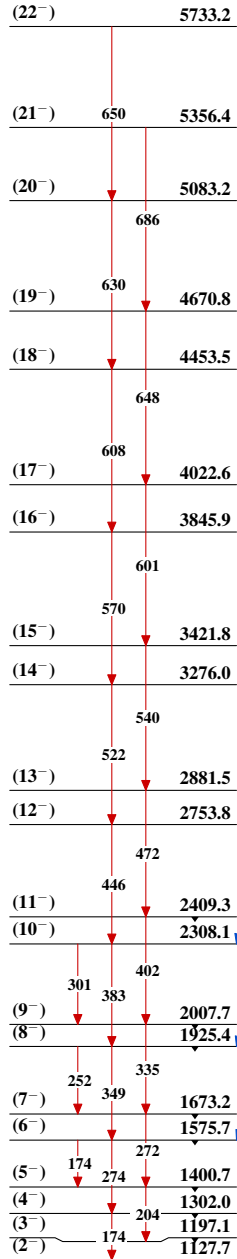
-----► γ Decay (Uncertain)



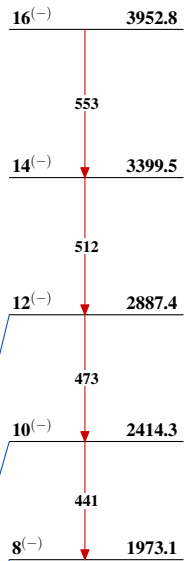
Adopted Levels, Gammas

Adopted Levels, Gammas (continued)

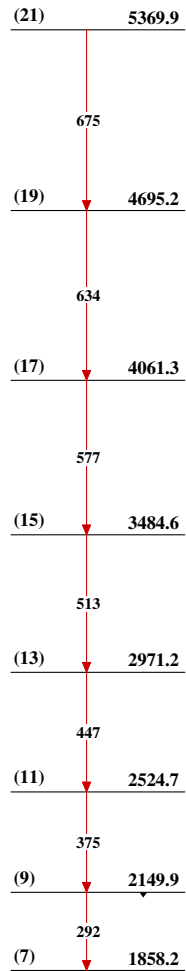
Band(F): $K^\pi=(2^-)$ band:
evaluator added levels of two
 $K^\pi=(4^-)$ bands in high spin
dataset [$^{30}\text{Si}, 4n\gamma$], 1996Cr02]
with (2^-) band in ^{176}Re ε
decay [2001Ki10] on the basis of
observed common states $4^{(-)}$ and $5^{(-)}$
at 1303.3 keV and 1402.1 keV
levels within this band in
2001Ki10



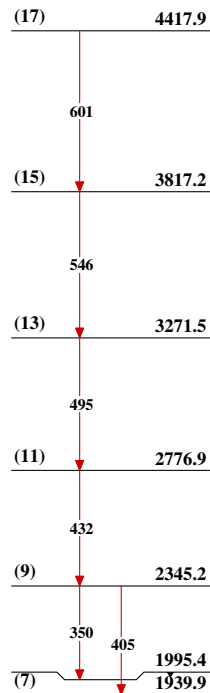
**Band(G): $K^\pi=(8^-)$
band: configuration
 $\pi 9/2[514] \otimes \pi 7/2[404]$**



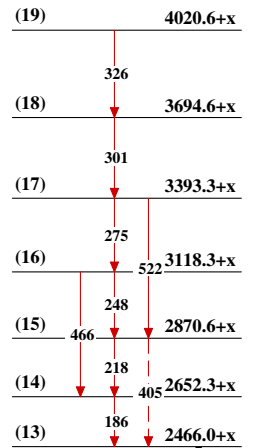
**Band(H): $K=7$ band:
configuration
 $\Pi 9/2[514] \otimes \Pi 5/2[402]$**



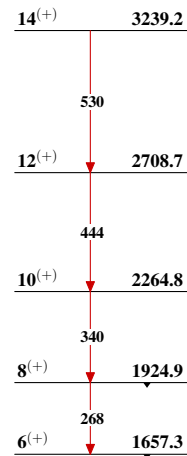
Band(I): $K=(7)$ band



Band(K): $K=(13)$ band



**Band(J): $K^\pi=(6^+)$
band: configuration
 $\nu 5/2[512] \otimes \nu 7/2[514]$**



Adopted Levels, Gammas (continued)

Band(L): K^π=2⁺ quasi
γ-vibrational band

(5⁺) 1518.0



(4⁺) 1321.3



(3⁺) 1179.2



2⁺ 1040.2



¹⁷⁶W₇₄⁻¹⁹₁₀₂