

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 108,2035 (2007)	30-Mar-2007

Q(β^-)=2439 3; S(n)=6998.96 8; S(p)=6981.0 22; Q(α)=-3361 3 [2012Wa38](#)

Note: Current evaluation has used the following Q record.

Q(β^-)=2440 5; S(n)=6998.96 8; S(p)=6980.0 21; Q(α)=-3358.5 28 [2003Au03](#)

¹⁰⁴Rh Levels

Cross Reference (XREF) Flags

A	¹⁰⁴ Rh IT decay (4.34 min)	E	¹⁰⁰ Mo(⁷ Li,3n γ)
B	¹⁰³ Rh(n, γ) E=thermal	F	¹⁰³ Rh(n, γ) E=th: primary
C	¹⁰³ Rh(n, γ) E=1-6000 eV	G	⁹⁶ Zr(¹¹ B,3n γ)
D	¹⁰³ Rh(d,p)		

E(level) [#]	J $^{\pi}$ [†]	T _{1/2} [‡]	XREF	Comments
0.0	1 ⁺	42.3 s 4	ABCDEF G	% β^- = 99.55 10; % ϵ +% β^+ = 0.45 10 (1965Fr05) Configuration=((π 1g _{9/2} 7/2)(ν 2d _{5/2})) T _{1/2} : weighted average of: 41.8 s 7 (1939Cr03), 42.8 s 5 (1963Cs01), 41.7 s 7 (1966Wa11). J $^{\pi}$: from log <i>f</i> t=4.55 to 0 ⁺ .
51.42324 23	2 ⁻	2.6 ns 2	ABCD FG	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2})) T _{1/2} : from $\gamma\gamma$ (t) in ¹⁰³ Rh(n, γ) (1961Du05). J $^{\pi}$: E3-E1 and M3=M1 cascades from the 128 level to the 1 ⁺ g.s. along with T _{1/2} (128 level) uniquely yield J $^{\pi}$ (128 level)=5 ⁺ , J $^{\pi}$ (97 level)=2 ⁺ , and J $^{\pi}$ (51 level)=2 ⁻ .
97.0997 3	2 ⁺	<0.6 ns	ABC F	Configuration=((π 1g _{9/2} 7/2)(ν 2d _{5/2})) T _{1/2} : from $\gamma\gamma$ (t) in ¹⁰³ Rh(n, γ) (1961Du05). J $^{\pi}$: see 51 level.
128.9679 5	5 ⁺	4.34 min 3	AB E G	%IT=99.87 1; % β^- =0.13 1 J $^{\pi}$: see 51 level. T _{1/2} : weighted average of: 4.37 min 5 (1939Cr03), 4.41 min 2 (1959El41), 4.29 min 5 (1963Cs01), 4.28 min 3 (1966Wa11).
175.2378 11	6 ⁺		B E G	Configuration=((π 1g _{9/2} 9/2)(ν 3s _{1/2})) J $^{\pi}$: M1 γ to 5 ⁺ with Δ J=1.
180.8401 7	1 ⁺		BC F	Configuration=((π 1g _{9/2} 2)(ν 1g _{7/2})) J $^{\pi}$: direct feeding from J $^{\pi}$ =0 ⁻ resonance, M1 γ to 2 ⁺ .
186.0407 12	1 ⁻	0.89 ns 30	BCD F	Configuration=((π 2p _{1/2}) ⁻¹ (ν 3s _{1/2})) J $^{\pi}$: direct feeding from J $^{\pi}$ =0 ⁻ resonance, M1 γ to 2 ⁻ , L(d,p)=0.
197.8941 10	2 ⁺		B	J $^{\pi}$: M1 γ to 2 ⁺ , but not seen in (n, γ) res (1975Ha41).
213.0607 8	1 ⁺	<1.2 ns	BC F	J $^{\pi}$: direct feeding from J $^{\pi}$ =0 ⁻ resonance, E1 γ to 2 ⁻ .
224.4194 10	1 ⁺ ,2 ⁺		B	J $^{\pi}$: M1 γ to 2 ⁺ , and M1 γ to 1 ⁺ .
266.7693 14	1 ⁻ ,2 ⁻	<0.26 ns	BC F	J $^{\pi}$: M1 γ to 1 ⁻ , E1 γ to 1 ⁺ .
269.2712 22	2 ⁻ ,3 ⁻		BCD	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2})) J $^{\pi}$: M1 γ to 2 ⁻ , L(d,p)=2.
329.7996 17	1 ⁺ ,2 ⁺ ,3 ⁺		B	J $^{\pi}$: M1 γ to 2 ⁺ .
344.594 3	6 ⁻	47 ns 3	B E G	μ =2.00 6 (2005St25) T _{1/2} : from 1990Bi03 . Other: 34.6 ns 6 (1986KoZT). μ : 1.98 6 (1990Bi03) from TDPAD method. J $^{\pi}$: E1 γ to 6 ⁺ with Δ J=0 and E1 γ to 5 ⁺ with Δ I=1. Configuration=((π g _{9/2})(ν h _{11/2})).
349.61 15	6 ⁺		E	J $^{\pi}$: M1 γ to 5 ⁺ with Δ J=1.
358.631 3	1 ⁺ ,2 ⁺	<0.8 ns	B	J $^{\pi}$: M1 γ to 1 ⁺ and M1 γ to 2 ⁺ .
363.1817 20	2 ⁺ ,3 ⁺	<0.31 ns	B	J $^{\pi}$: M1 γ to 2 ⁺ not fed by a primary γ .

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Adopted Levels, Gammas (continued)

¹⁰⁴Rh Levels (continued)

E(level) [#]	J ^π [†]	T _{1/2} [‡]	XREF	Comments
380.533 3	4 ⁻ ,5 ⁻		B	J ^π : E2 γ to 6 ⁻ .
384.987 4	1 ⁻ ,2 ⁻	<0.35 ns	BCD F	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2} 2)) J ^π : L(d,p)=2, M1 γ to 1 ⁻ .
394.19 10	7 ⁻		E G	J ^π : M1 γ to 6 ⁻ with ΔJ=1.
394.758 3	1 ⁺ ,2 ⁺ ,3 ⁺	3.0 ns 13	B	J ^π : M1 γ to 2 ⁺ and M1+E2 γ to 2 ⁺ .
400.7589 23	1 ⁺ ,2 ⁺	<0.54 ns	B	J ^π : M1 γ's to 2 ⁺ and 1 ⁺ .
404.5072 19	2 ⁻	<1.2 ns	B	J ^π : M1 γ's to 1 ⁻ and 3 ⁻ .
406.9 3	4 ⁺ ,5 ⁺ ,6 ⁺		D	J ^π : L(d,p)=5.
416.24 20	7 ⁺		E	J ^π : M1+E2 γ to 6 ⁺ , with ΔJ=1.
420.768 4	1 ⁺ ,2 ⁺ ,3 ⁺	<0.43 ns	BC	J ^π : M1+E2 γ to 1 ⁺ , M1 γ to 2 ⁺ .
426.365 4	2 ⁻ ,3 ⁻	<0.51 ns	B D	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2})) J ^π : M1 γ to 3 ⁻ , E1 γ to 2 ⁺ .
455.49 15	8 ⁻		E G	J ^π : M1 γ to 7 ⁻ with ΔJ=1.
459.638 7	0 ⁻ ,1 ⁻	<0.93 ns	BCD	Configuration=((π 2p _{1/2}) ⁻¹ (ν 3s _{1/2})) J ^π : L(d,p)=2.
465.890 4	3 ⁻ ,4 ⁻ ,5 ⁻		B	J ^π : M1+E2 γ to 4 ⁻ ,5 ⁻ .
482.326 6	1 ⁺ ,2 ⁺	<0.37 ns	BC F	J ^π : M1 γ to 1 ⁺ and M1 γ from 1 ⁺ ,2 ⁺ .
486.19 10	4 ⁺ ,5 ⁺ ,6 ⁺		D	J ^π : L(d,p)=5.
498.050 3	2 ⁺	<0.93 ns	B	J ^π : M1 γ to 1 ⁺ and M1 γ to 2 ⁺ ,3 ⁺ .
505.187 9	2 ⁻ ,3 ⁻ ,4 ⁻		B D	J ^π : M1 γ to 3 ⁻ .
514.522 4	2 ⁻	<3.6 ns	B D F	J ^π : M1 γ to 3 ⁻ and M1 γ to 1 ⁻ .
521.952 13	1 ⁻	<0.6 ns	BCD F	Configuration=((π 2p _{1/2}) ⁻¹ (ν 3s _{1/2})) J ^π : from av res capture and M1 γ to 1 ⁻ .
524.703 4	1 ⁺ ,2 ⁺	<1.2 ns	B	J ^π : M1 γ to 1 ⁺ and M1 γ to 2 ⁺ .
537.739 6	1 ⁺	<0.45 ns	B F	J ^π : M1 γ to 1 ⁺ ,2 ⁺ , av res limits to 1 ⁺ .
552.3& 7	9 ⁻		G	
555.473 7	(3,4) ⁻	<0.62 ns	B D	Configuration=((π 2p _{1/2}) ⁻¹ (ν 1g _{7/2})) J ^π : M1 γ to 4 ⁻ ,5 ⁻ and M1+E2 γ to 3 ⁻ .
575.20 8	4 ⁺ ,5 ⁺ ,6 ⁺		D	J ^π : L(d,p)=5.
577.243 19	0 ⁻ ,1 ⁻ ,2 ⁻		B F	Configuration=((π 1g _{9/2} 22)(ν 1h _{11/2})) J ^π : M1 γ to 1 ⁻ .
584.15 17	7 ⁺		E	J ^π : M1+E2 γ to 6 ⁺ with ΔJ=1.
589.925 23	1 ⁻ ,2 ⁻		B F	J ^π : M1 γ to 1 ⁻ .
592.40 9	1 ⁻ ,2 ⁻ ,3 ⁻		CD	J ^π : L(d,p)=2.
604.26 14	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
613.71 17	9 ⁻		E	J ^π : M1 γ to 8 ⁻ with ΔJ=1.
615.6 2			D	J ^π : L(d,p)=4,5.
634.9 3	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
644.191 23	1 ⁺		B	
644.716 6	(3,4) ⁻	<1.2 ns	BC F	J ^π : M1 γ to 3 ⁻ ,4 ⁻ .
649.252 18	2 ⁻ ,3 ⁻		B D F	J ^π : M1 γ to 2 ⁻ and M1+E2 γ to 3 ⁻ .
665 2			C	
695.788 8	1 ⁺ ,2 ⁺	<1.4 ns	BC F	J ^π : M1 γ to 1 ⁺ ,2 ⁺ .
701.62 16	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
711.07 3	1 ⁺ ,2 ⁺	<2.9 ns	BC	J ^π : M1 γ to 1 ⁺ .
728.217 19	1 ⁻ ,2 ⁻ ,3 ⁻		B D F	J ^π : M1 γ to 1 ⁻ .
732.404 18	2 ⁻ ,3 ⁻	<0.8 ns	BC	T _{1/2} : 1986KoZT give this T _{1/2} for E(level)=730.8. J ^π : M1+E2 γ to 2 ⁻ ,3 ⁻ .
749.98 5	-	<0.35 ns	B D	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2})) J ^π : L(d,p)=2.
787.32 6	1 ⁺ ,2 ⁺		B F	J ^π : M1,E2 γ to 1 ⁺ .
790.504 18	1 ⁺ ,2 ⁺		BC F	J ^π : M1 γ to 2 ⁺ , M1 γ to 1 ⁺ .
793.26 19	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
801.60 3	1 ⁻ ,2 ⁻		B d F	J ^π : M1 γ to 2 ⁻ , L(d,p)=2.
802.477 13	1 ⁻ ,2 ⁻		B d F	Configuration=((π 2p _{1/2}) ⁻¹ (ν 3s _{1/2}))

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Adopted Levels, Gammas (continued) ^{104}Rh Levels (continued)

E(level) [#]	J ^π [†]	T _{1/2} [‡]	XREF	Comments
814.63 9	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : E1 γ to 1 ⁺ ,2 ⁺ , L(d,p)=2.
814.826 9	1 ⁺ ,2 ⁺		BC F	J ^π : L(d,p)=2. Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2} 2))
817.46 22	8 ⁺		E	J ^π : M1 γ to 7 ⁺ with ΔJ=1.
818.02 5	1 ⁻ ,2 ⁻ ,3 ⁻		BCD F	
826.727 18	+	<2.9 ns	BC F	J ^π : M1 γ to 1 ⁺ and E2 γ to 2 ⁺ ,3 ⁺ .
836.87 16	1 ⁻ ,2 ⁻ ,3 ⁻		D F	J ^π : L(d,p)=2.
846.84 15	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
848.304 20	-		B	J ^π : M1 γ to 2 ⁻ ,3 ⁻ ,4 ⁻ .
860.322 8	-		B F	J ^π : M1 γ to 1 ⁻ ,2 ⁻ .
864.5 3	0 ⁻ ,1 ⁻		D	J ^π : L(d,p)=0.
865.37 5	2 ⁻ ,3 ⁻		BC F	Configuration=((π 2p _{1/2}) ⁻¹ (ν 2d _{5/2} 2)) J ^π : M1 γ to 2 ⁻ .
888.659 23	+	<5.0 ns	BCD F	J ^π : E2 γ to 1 ⁺ ,2 ⁺ , but L(d,p)=2 requires π=-.
897.6 6	1 ⁻ ,2 ⁻ ,3 ⁻		D F	J ^π : L(d,p)=2.
908.20 3	-		B	
909.9 [@] 7	10 ⁻		G	
914.0 3	3 ⁻ ,4 ⁻ ,5 ⁻		D F	J ^π : L(d,p)=4.
915.65 7		<1.2 ns	BC F	
924.32 3	3 ⁻		BCD F	J ^π : L(d,p)=4, M1 γ to 2 ⁻ .
930.0 7	-		D F	J ^π : L(d,p)=0,4.
948.94 13	1 ⁻ ,2 ⁻ ,3 ⁻		CD	J ^π : L(d,p)=2.
952.38 6			BC F	
971.30 23	(10 ⁻)		E	J ^π : γ's to 9 ⁻ and 8 ⁻ , M1 γ from (11 ⁻).
973 2			C	
982.47 12	1 ⁻ ,2 ⁻ ,3 ⁻		CD	J ^π : L(d,p)=2.
986 2			C	
995.3 3			D	
1001.6 4			E	
1007.62 11	1 ⁻ ,2 ⁻ ,3 ⁻		D F	J ^π : L(d,p)=2.
1030.94 19	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1047.909 21	1 ⁻ ,2 ⁻		B	J ^π : M1 γ to 1 ⁻ ,2 ⁻ .
1050.29 10	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
1072.82 19	-		D	J ^π : L(d,p)=2,4.
1081.94 4	1 ⁺ ,2 ⁺		B	J ^π : M1 γ to 1 ⁺ ,2 ⁺ .
1087.54 12	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1095.18 13	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
1100.0 10	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
1119.52 14	-		D	J ^π : L(d,p)=4,2.
1130.05 13	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1151.7 3			D	
1167.25 12	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1191.0 19	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1200.9 4			E	
1210.7 3	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1230.45 11	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1238.2 ^{&} 8	11 ⁻		G	
1244.6 14	0 ⁻ ,1 ⁻		D	J ^π : L(d,p)=2.
1257.0 2	0 ⁻ ,1 ⁻		D	J ^π : L(d,p)=2.
1272.4 3	3 ⁻ ,4 ⁻ ,5 ⁻		D	J ^π : L(d,p)=4.
1274.1 5			E	
1287.24 16	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
1295.8 13	1 ⁻ ,2 ⁻ ,3 ⁻		D	J ^π : L(d,p)=2.
1297.2 ^a 7	10 ⁻		G	

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Adopted Levels, Gammas (continued)104Rh Levels (continued)

E(level)#	J ^π †	XREF	Comments
1300.1 3	11 ⁻	E	J ^π : M1 γ to 10 ⁻ with ΔJ=1.
1309.27 20	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1324.8 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1337.89 26	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1350.94 14	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1358.4 4		E	
1363.4 2	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1389.67 16	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1409.0 3		E	
1412.89 17	-	D	J ^π : L(d,p)=2,4.
1429.9 3	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1440.30 22	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1471.2 3	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1482.30 23	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1488.6 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1499.2 5	-	D	J ^π : L(d,p)=4,2.
1508.86 13	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1521.7 3		D	J ^π : L(d,p)=4,5.
1526.4 22	0 ⁻ ,1 ⁻	D	
1532.0 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1545.63 24	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1568.4 3		D	
1586.13 21	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1596.93 22	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1612.67 19	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1632.4 2	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1649.1 4	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1651.1 ^b 8	11 ⁻	E G	
1658.4 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1673.36 20	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1682.25 20	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1693.5 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1701.8 3	-	D	J ^π : L(d,p)=0,4.
1705.9 [@] 8	12 ⁻	G	
1710.2 3	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1712.8 5		E	
1726.99 17	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1738.11 21	3 ⁻ ,4 ⁻ ,5 ⁻	D	J ^π : L(d,p)=4.
1748.1 5	3 ⁻ ,4 ⁻ ,5 ⁻	DE	J ^π : L(d,p)=4.
1755.5 3	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1765.4 3	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1768.2 4	12 ⁻	E	J ^π : M1 γ to 11 ⁻ with ΔJ=1.
1775.4 3	1 ⁻ ,2 ⁻ ,3 ⁻	D	J ^π : L(d,p)=2.
1784.29 24	4 ⁺ ,5 ⁺ ,6 ⁺	D	J ^π : L(d,p)=5.
1906.2 5		E	
2040.8 ^a 7	12 ⁻	G	
2102.5 6		E	
2134.3 6		E	
2147.9 6		E	
2180.9 ^{&} 9	13 ⁻	G	
2192.4 6		E	
2243.6 4	13 ⁻	E	J ^π : linear polarization for γ's to 12 ⁻ .
2299.1 4		E	
2440.1 ^b 8	13 ⁻	G	
2445.6 6		E	

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Adopted Levels, Gammas (continued) ^{104}Rh Levels (continued)

<u>E(level)#</u>	<u>J^π^\dagger</u>	<u>XREF</u>	<u>E(level)#</u>	<u>J^π^\dagger</u>	<u>XREF</u>	<u>E(level)#</u>	<u>J^π^\dagger</u>	<u>XREF</u>
2493.4 6		E	3299.5 ^{&} 10	15 ⁻	G	4474.5 ^b 11	17 ⁻	G
2709.3 [@] 9	14 ⁻	G	3389.8 ^b 9	15 ⁻	G	4475.9 ^{&} 12	17 ⁻	G
2846.9 8		E	3870.2 [@] 11	16 ⁻	G			
2904.0 ^a 8	14 ⁻	G	3945.2 ^a 10	16 ⁻	G			

[†] From L(d,p), unless indicated otherwise.

[‡] From 1986KoZT for levels>175, unless otherwise noted.

Level energy from least-squares adjustment.

@ Band(A): $\pi g_{9/2} \otimes \nu h_{11/2}$, $\alpha=0$.

& Band(a): $\pi g_{9/2} \otimes \nu h_{11/2}$, $\alpha=1$.

^a Band(B): Chiral partner of $\pi g_{9/2} \otimes \nu h_{11/2}$, $\alpha=0$.

^b Band(b): Chiral partner of $\pi g_{9/2} \otimes \nu h_{11/2}$, $\alpha=1$.

Adopted Levels, Gammas (continued)

$\gamma(^{104}\text{Rh})$								
$E_i(\text{level})$	J_i^π	E_γ^\ddagger	I_γ^\dagger	E_f	J_f^π	Mult.#	$\alpha^@$	Comments
51.42324	2 ⁻	51.42330 23	100	0.0	1 ⁺	E1	0.98	B(E1)(W.u.)=0.00044 4
97.0997	2 ⁺	97.0994 3	100	0.0	1 ⁺	M1	0.37	E_γ : from 1996Su10 in ¹⁰³ Rh(n, γ). B(M1)(W.u.)>0.029
128.9679	5 ⁺	31.866 2	0.0279 23	97.0997	2 ⁺	M3	6846	E_γ : from 1996Su10 in ¹⁰³ Rh(n, γ). B(M3)(W.u.)=0.087 10
		77.5447 4	100 5	51.42324	2 ⁻	E3	47	E_γ : from 1996Su10 in ¹⁰³ Rh(n, γ). B(E3)(W.u.)=0.0086 8
175.2378	6 ⁺	46.270 1	100	128.9679	5 ⁺	M1+E2		
180.8401	1 ⁺	83.740 2	3.3 3	97.0997	2 ⁺	M1	0.58	
		129.418 3	1.2 2	51.42324	2 ⁻	E1	0.13	
		180.8408 9	100 5	0.0	1 ⁺	M1	0.055	E_γ : From 1996Su10 in ¹⁰³ Rh(n, γ).
186.0407	1 ⁻	88.940 2	1.9 2	97.0997	2 ⁺	E1	0.205	B(E1)(W.u.)=6.5 $\times 10^{-6}$ 24
		134.619 2	100 8	51.42324	2 ⁻	M1	0.14	B(M1)(W.u.)=0.007 3
		186.041 4	26 4	0.0	1 ⁺	E1	0.018	B(E1)(W.u.)=1.0 $\times 10^{-5}$ 4
197.8941	2 ⁺	100.7945 10	100 5	97.0997	2 ⁺	M1	0.36	
		197.893 6	6.8 3	0.0	1 ⁺	M1	0.053	
213.0607	1 ⁺	32.2215 10	20 2	180.8401	1 ⁺	M1+E2		
		115.960 1	1.3 2	97.0997	2 ⁺	E2	0.799	B(E2)(W.u.)>5.2
		161.638 5	65 8	51.42324	2 ⁻	E1	0.023	B(E1)(W.u.)>2.0 $\times 10^{-5}$
		213.062 7	100 5	0.0	1 ⁺	M1	0.039	B(M1)(W.u.)>0.00098
224.4194	1 ⁺ ,2 ⁺	43.5797 10	2.2 4	180.8401	1 ⁺	M1	3.78	
		127.318 2	100 20	97.0997	2 ⁺	M1	0.16	
		224.405 13	0 2	0.0	1 ⁺	M1+E2		
266.7693	1 ⁻ ,2 ⁻	80.727 2	11.1 4	186.0407	1 ⁻	M1+E2		
		85.928 2	4.5 4	180.8401	1 ⁺	E1	<0.3	B(E1)(W.u.)>4.9 $\times 10^{-5}$
		169.665 4	0.3 6	97.0997	2 ⁺	E1		B(E1)(W.u.)>4.3 $\times 10^{-7}$
		215.349 6	100 10	51.42324	2 ⁻	M1+E2		
		266.769 7	50 5	0.0	1 ⁺	E1	0.004	B(E1)(W.u.)>1.9 $\times 10^{-5}$
269.2712	2 ⁻ ,3 ⁻	88.34 5	0.3 1	180.8401	1 ⁺			
		172.175 5	4.7 5	97.0997	2 ⁺	E1	0.03	
		217.850 6	100 5	51.42324	2 ⁻	M1	0.035	
329.7996	1 ⁺ ,2 ⁺ ,3 ⁺	105.380 3	100 5	224.4194	1 ⁺ ,2 ⁺	M1	0.298	
		131.906 2	68 8	197.8941	2 ⁺	M1	0.16	
		232.74 5	6.3 15	97.0997	2 ⁺			
344.594	6 ⁻	169.356 3	100 5	175.2378	6 ⁺	E1	0.03	B(E1)(W.u.)=8.3 $\times 10^{-7}$ 9
		215.626 10	55 7	128.9679	5 ⁺	E1	0.016	B(E1)(W.u.)=2.2 $\times 10^{-7}$ 4
		293.09 7	1.9 4	51.42324	2 ⁻			
349.61	6 ⁺	174.5 3	27 3	175.2378	6 ⁺			
		220.6 2	100 10	128.9679	5 ⁺	M1(+E2)		δ : -0.23> δ <0.
358.631	1 ⁺ ,2 ⁺	145.59 3	0.008 2	213.0607	1 ⁺			
		177.794 4	100 5	180.8401	1 ⁺	M1	0.045	B(M1)(W.u.)>0.0034

Adopted Levels, Gammas (continued)

$\gamma(^{104}\text{Rh})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ ‡	I_γ †	E_f	J_f^π	Mult. #	$\alpha^@$	Comments
358.631	1 ⁺ ,2 ⁺	261.536 8	37 5	97.0997	2 ⁺	M1	0.02	B(M1)(W.u.)>0.00040
363.1817	2 ⁺ ,3 ⁺	138.762 2	67 5	224.4194	1 ⁺ ,2 ⁺	M1		B(M1)(W.u.)>0.011
		165.285 5	100 5	197.8941	2 ⁺	M1		B(M1)(W.u.)>0.0094
380.533	4 ⁻ ,5 ⁻	35.9395 10	100	344.594	6 ⁻	E2		
384.987	1 ⁻ ,2 ⁻	115.705 20	0.7 7	269.2712	2 ⁻ ,3 ⁻	M1,E2		B(M1)(W.u.)>9.7×10 ⁻⁵ ; B(E2)(W.u.)>6.4
		118.224 4	21 6	266.7693	1 ⁻ ,2 ⁻	M1	0.14	B(M1)(W.u.)>0.0054
		198.928 10	16 3	186.0407	1 ⁻	E2		B(E2)(W.u.)>20
		203.96 10	2.5 20	180.8401	1 ⁺		0.2	
		287.84 7	2.1 7	97.0997	2 ⁺			
		333.548 14	100 15	51.42324	2 ⁻	M1,E2	0.008	B(M1)(W.u.)>0.00058; B(E2)(W.u.)>4.6
394.19	7 ⁻	49.6 1	100	344.594	6 ⁻			
394.758	1 ⁺ ,2 ⁺ ,3 ⁺	170.340 4	100 5	224.4194	1 ⁺ ,2 ⁺	M1+E2		B(M1)(W.u.)=0.00032 15; B(E2)(W.u.)=10.5
		196.865 5	90 10	197.8941	2 ⁺	M1		B(M1)(W.u.)=0.00038 17
		394.64 9	38.5 25	0.0	1 ⁺			
400.7589	1 ⁺ ,2 ⁺	70.959 2	19 3	329.7996	1 ⁺ ,2 ⁺ ,3 ⁺	M1+E2		
		176.331 9	5.2 8	224.4194	1 ⁺ ,2 ⁺	M1		B(M1)(W.u.)>0.00020
		202.870 5	100 5	197.8941	2 ⁺	M1		B(M1)(W.u.)>0.0025
		219.915 13	35 3	180.8401	1 ⁺	M1		B(M1)(W.u.)>0.00068
		303.651 12	38 15	97.0997	2 ⁺	M1		B(M1)(W.u.)>0.00028
404.5072	2 ⁻	135.237 2	100 10	269.2712	2 ⁻ ,3 ⁻	M1+E2		B(M1)(W.u.)>0.0012; B(E2)(W.u.)>57
		137.733 2	73 6	266.7693	1 ⁻ ,2 ⁻	M1		B(M1)(W.u.)>0.0016
		218.478 4	47 9	186.0407	1 ⁻	M1+E2		B(M1)(W.u.)>0.00013; B(E2)(W.u.)>2.4
		307.41 8	16 15	97.0997	2 ⁺			
		353.122 14	80 5	51.42324	2 ⁻	M1,E2		B(M1)(W.u.)>5.3×10 ⁻⁵ ; B(E2)(W.u.)>0.37
416.24	7 ⁺	241.0 2	100	175.2378	6 ⁺	M1+E2		$\delta: -0.08 > \delta < 0.36$.
420.768	1 ⁺ ,2 ⁺ ,3 ⁺	62.138 2	4 2	358.631	1 ⁺ ,2 ⁺	M1		B(M1)(W.u.)>0.0042
		207.55 10	5.4	213.0607	1 ⁺			
		222.845 10	12 2	197.8941	2 ⁺	M1		B(M1)(W.u.)>0.00027
		323.646 14	83 8	97.0997	2 ⁺	M1	0.008	B(M1)(W.u.)>0.00061
		420.785 25	100 5	0.0	1 ⁺	M1+E2	0.005	
426.365	2 ⁻ ,3 ⁻	157.095 4	98 5	269.2712	2 ⁻ ,3 ⁻	M1	0.08	B(M1)(W.u.)>0.0040
		159.595 6	38 10	266.7693	1 ⁻ ,2 ⁻	M1	0.06	B(M1)(W.u.)>0.0015
		201.98 4	8 2	224.4194	1 ⁺ ,2 ⁺	E1		B(E1)(W.u.)>2.2×10 ⁻⁶
		228.70 10	6	197.8941	2 ⁺			
		245.53 2	4 1	180.8401	1 ⁺			
		329.37 8	5 2	97.0997	2 ⁺			
		374.905 17	100 20	51.42324	2 ⁻	E2		B(E2)(W.u.)>1.9
455.49	8 ⁻	61.3 1	100	394.19	7 ⁻	(M1)		Mult.: $\Delta J=1$.
459.638	0 ⁻ ,1 ⁻	246.565 11	33 3	213.0607	1 ⁺	E1		B(E1)(W.u.)>3.5×10 ⁻⁶
		273.601 8	100 5	186.0407	1 ⁻	M1		B(M1)(W.u.)>0.00057
		408.38 10	71 7	51.42324	2 ⁻	E2		B(E2)(W.u.)>0.64
465.890	3 ⁻ ,4 ⁻ ,5 ⁻	85.357 2	100 10	380.533	4 ⁻ ,5 ⁻	M1+E2		
		121.26 3	0.34 9	344.594	6 ⁻			

Adopted Levels, Gammas (continued)

 $\gamma(^{104}\text{Rh})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\ddagger	I_γ^\dagger	E_f	J_f^π	Mult. [#]	Comments
482.326	1 ⁺ ,2 ⁺	269.271 10	78 10	213.0607	1 ⁺	M1	B(M1)(W.u.)>0.00097
		284.432 10	5 2	197.8941	2 ⁺	E2	B(E2)(W.u.)>0.57
		353.0 2	28	128.9679	5 ⁺		
		385.3 2	35	97.0997	2 ⁺		
498.050	2 ⁺	482.3 3	100 10	0.0	1 ⁺	M1	B(M1)(W.u.)>0.00022
		134.867 3	45 4	363.1817	2 ⁺ ,3 ⁺	M1	B(M1)(W.u.)>0.0013
		168.258 6	66 11	329.7996	1 ⁺ ,2 ⁺ ,3 ⁺	M1	B(M1)(W.u.)>0.0010
		231.24 7	3.3 16	266.7693	1 ⁻ ,2 ⁻		
		273.629 8	78 8	224.4194	1 ⁺ ,2 ⁺	M1	B(M1)(W.u.)>0.00028
		284.98 12	8.3 16	213.0607	1 ⁺		
		317.205 16	100 5	180.8401	1 ⁺	M1+E2	B(M1)(W.u.)>0.00011; B(E2)(W.u.)>1.0
		400.95 13	15 15	97.0997	2 ⁺		
505.187	2 ⁻ ,3 ⁻ ,4 ⁻	446.6 4	9 2	51.42324	2 ⁻		
		235.917 9	100 10	269.2712	2 ⁻ ,3 ⁻	M1	
		238.41 8	10 3	266.7693	1 ⁻ ,2 ⁻		
514.522	2 ⁻	280.88 22	15 5	224.4194	1 ⁺ ,2 ⁺		
		129.535 2	100 11	384.987	1 ⁻ ,2 ⁻	M1	B(M1)(W.u.)>0.00098
		245.249 9	48 6	269.2712	2 ⁻ ,3 ⁻	M1	B(M1)(W.u.)>7.0×10 ⁻⁵
		247.742 12	82 20	266.7693	1 ⁻ ,2 ⁻	M1	B(M1)(W.u.)>0.00012
521.952	1 ⁻	290.05 4	29 9	224.4194	1 ⁺ ,2 ⁺		
		328.53 8	27 6	186.0407	1 ⁻	E2	B(E2)(W.u.)>0.13
		252.680 18	2.2 4	269.2712	2 ⁻ ,3 ⁻		
		255.197 18	4.8 5	266.7693	1 ⁻ ,2 ⁻	M1	B(M1)(W.u.)>9.9×10 ⁻⁵
524.703	1 ⁺ ,2 ⁺	470.6 3	100 10	51.42324	2 ⁻	E2	B(E2)(W.u.)>1.3
		129.949 5	7.6 22	394.758	1 ⁺ ,2 ⁺ ,3 ⁺	M1	B(M1)(W.u.)>0.00035
		165.98 5	10				
		166.071 5	8.2 22	358.631	1 ⁺ ,2 ⁺	M1	B(M1)(W.u.)>0.00018
		326.90 8	10.1 22	197.8941	2 ⁺	E2	B(E2)(W.u.)>0.24
		338.99 23	8.3 20	186.0407	1 ⁻		
		343.83 3	16 2	180.8401	1 ⁺	E2	B(E2)(W.u.)>0.30
		427.528 25	100 25	97.0997	2 ⁺	M1	B(M1)(W.u.)>0.00013
537.739	1 ⁺	473.67 15	21 6	51.42324	2 ⁻	E1	B(E1)(W.u.)>2.8×10 ⁻⁷
		55.417 8	34 20	482.326	1 ⁺ ,2 ⁺	M1	B(M1)(W.u.)>0.049
		116.972 10	4.1 10	420.768	1 ⁺ ,2 ⁺ ,3 ⁺		
		152.56 14	1.5	384.987	1 ⁻ ,2 ⁻		
		324.684 14	37 25	213.0607	1 ⁺	M1+E2	B(M1)(W.u.)>0.00013; B(E2)(W.u.)>1.1
		356.887 14	23 9	180.8401	1 ⁺	M1+E2	B(M1)(W.u.)>6.2×10 ⁻⁵ ; B(E2)(W.u.)>0.43
552.3	9 ⁻	440.636 22	100 5	97.0997	2 ⁺	E2	B(E2)(W.u.)>1.3
		158 1	100	394.19	7 ⁻		
555.473	(3,4) ⁻	174.944 8	34 5	380.533	4 ⁻ ,5 ⁻	M1	B(M1)(W.u.)>0.0014
		286.196 10	100 10	269.2712	2 ⁻ ,3 ⁻	M1+E2	B(M1)(W.u.)>0.00048; B(E2)(W.u.)>5.2
		331.04 15	23 5	224.4194	1 ⁺ ,2 ⁺		
577.243	0 ⁻ ,1 ⁻ ,2 ⁻	391.164 25	100 54	186.0407	1 ⁻	M1	

Adopted Levels, Gammas (continued) $\gamma(^{104}\text{Rh})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ ‡	I_γ †	E_f	J_f^π	Mult. #	δ	Comments
577.243	0 ⁻ ,1 ⁻ ,2 ⁻	396.62 12	26 7	180.8401	1 ⁺			
584.15	7 ⁺	234.4 2	100 8	349.61	6 ⁺	M1+E2	$\delta: -0.26 > \delta > -0.05.$	
		408.8 4	12 4	175.2378	6 ⁺			
		455.2 3	24 4	128.9679	5 ⁺			
589.925	1 ⁻ ,2 ⁻	403.86 6	100	186.0407	1 ⁻	M1		
613.71	9 ⁻	158.2 1	100	455.49	8 ⁻	M1+E2	<0.06	
644.191	1 ⁺	119.53 8	1	524.703	1 ⁺ ,2 ⁺			
		374.90 5	<54	269.2712	2 ⁻ ,3 ⁻			
		419.47 21	7 2	224.4194	1 ⁺ ,2 ⁺			
		431.23 5	17 2	213.0607	1 ⁺			
		463.7 4	20	180.8401	1 ⁺			
		547.19 12	17 2	97.0997	2 ⁺			
		548.5 9	25					
		643.4 4	<82					
		644.06 5	100 6	0.0	1 ⁺	M1,E2		
644.716	(3,4) ⁻	119.5 3	46 11	524.703	1 ⁺ ,2 ⁺			
		146.72 3	46 11	498.050	2 ⁺			
		178.825 4	100 5	465.890	3 ⁻ ,4 ⁻ ,5 ⁻	M1		B(M1)(W.u.)>0.0011
		185.04 5	100 23	459.638	0 ⁻ ,1 ⁻			
		643.4 4		0.0	1 ⁺			
649.252	2 ⁻ ,3 ⁻	379.954 20	28 18	269.2712	2 ⁻ ,3 ⁻	M1+E2		
		597.92 6	100 20	51.42324	2 ⁻	M1,E2		
695.788	1 ⁺ ,2 ⁺	158.049 5	8 3	537.739	1 ⁺	M1		B(M1)(W.u.)>0.00027
		173.91 4	4 1	521.952	1 ⁻			
		197.63 7	5 1	498.050	2 ⁺			
		695.69 10	100 7	0.0	1 ⁺	M1,E2		B(M1)(W.u.)>2.0×10 ⁻⁵ ; B(E2)(W.u.)>0.036
711.07	1 ⁺ ,2 ⁺	498.00 4	98 8	213.0607	1 ⁺	M1,E2		B(M1)(W.u.)>1.5×10 ⁻⁵ ; B(E2)(W.u.)>0.054
		530.23 5	100 5	180.8401	1 ⁺	M1,E2		B(M1)(W.u.)>1.3×10 ⁻⁵ ; B(E2)(W.u.)>0.040
728.217	1 ⁻ ,2 ⁻ ,3 ⁻	138.32 3	2.3 5	589.925	1 ⁻ ,2 ⁻			
		150.973 5	15 4	577.243	0 ⁻ ,1 ⁻ ,2 ⁻	M1		
		347.92 17	4.2 14	380.533	4 ⁻ ,5 ⁻			
		542.26 10	100 9	186.0407	1 ⁻	M1,E2		
732.404	2 ⁻ ,3 ⁻	227.11 7	3.5 8	505.187	2 ⁻ ,3 ⁻ ,4 ⁻	M1+E2		B(M1)(W.u.)>4.0×10 ⁻⁵ ; B(E2)(W.u.)>0.68
		306.04 2	100 25	426.365	2 ⁻ ,3 ⁻	M1,E2		B(M1)(W.u.)>0.00046; B(E2)(W.u.)>4.4
749.98	-	349.22 10	33 3	400.7589	1 ⁺ ,2 ⁺			
		480.64 8	100 13	269.2712	2 ⁻ ,3 ⁻			
		569.5 4	0.9 9	180.8401	1 ⁺			
787.32	1 ⁺ ,2 ⁺	423.75 24	8.8 21	363.1817	2 ⁺ ,3 ⁺			
		562.82 11	23 32	224.4194	1 ⁺ ,2 ⁺			
		574.24 8	43 3	213.0607	1 ⁺	M1,E2		
		589.58 15	17.3 25	197.8941	2 ⁺			
		606.3 4	8.9 25	180.8401	1 ⁺			
		787.49 13	100 7	0.0	1 ⁺			

Adopted Levels, Gammas (continued)

$\gamma(^{104}\text{Rh})$ (continued)							
$E_i(\text{level})$	J_i^π	E_γ ‡	I_γ †	E_f	J_f^π	Mult. #	Comments
790.504	$1^+, 2^+$	200.48 4	10 3	589.925	$1^-, 2^-$		
		275.68 12	7 2	514.522	2^-		
		395.41 12	5.8 11	394.758	$1^+, 2^+, 3^+$		
		431.63 12	38 5	358.631	$1^+, 2^+$	M1	
		609.53 7	64 4	180.8401	1^+	M1,E2	
		693.8 4	20 6	97.0997	2^+		
		790.56 2	100 20	0.0	1^+		
801.60	$1^-, 2^-$	152.31 3	16 5	649.252	$2^-, 3^-$		
		211.64 6	31.3 20	589.925	$1^-, 2^-$	M1,E2	
		287.14 7	100 19	514.522	2^-	M1	
		296.59 7	69 20	505.187	$2^-, 3^-, 4^-$		
		341.96 9	53 17	459.638	$0^-, 1^-$		
802.477	$1^-, 2^-$	106.69 1	80 14	695.788	$1^+, 2^+$	E1	
		336.50 14	70 14	465.890	$3^-, 4^-, 5^-$		
		616.9 5	100 30	186.0407	1^-		
814.826	$1^+, 2^+$	119.039 5	15 6	695.788	$1^+, 2^+$	M1	
		627.6 8	22 6	186.0407	1^-		
		633.91 15	67 7	180.8401	1^+		
		763.04 16	100 10	51.42324	2^-		
817.46	8^+	233.2 2	84 8	584.15	7^+	M1(+E2)	$\delta: -0.12 < \delta < 0.05.$
		468.2 3	100 12	349.61	6^+	(E2)	$\delta: -0.17 < \delta < +0.05.$
818.02	$1^-, 2^-, 3^-$	240.83 8	9.5 23	577.243	$0^-, 1^-, 2^-$		
		397.21 8	23 7	420.768	$1^+, 2^+, 3^+$		
		551.13 13	59 7	266.7693	$1^-, 2^-$		
		604.7 5	19 19	213.0607	1^+		
		637.29 16	48 5	180.8401	1^+		
		720.8 3	55 10	97.0997	2^+		
		766.9 5	21 7	51.42324	2^-		
		818.09 18	100 12	0.0	1^+		
		826.727	$+$	288.993 20	20 5	537.739	1^+
		302.22 15	1.9 19	524.703	$1^+, 2^+$		
		463.55 4	39 19	363.1817	$2^+, 3^+$	M1,E2	$B(M1)(\text{W.u.}) > 6.6 \times 10^{-6}; B(E2)(\text{W.u.}) > 0.027$
		613.56 7	55 3	213.0607	1^+		
		645.86 7	100 5	180.8401	1^+	M1,E2	$B(M1)(\text{W.u.}) > 6.3 \times 10^{-6}; B(E2)(\text{W.u.}) > 0.013$
		729.8 4	8 3	97.0997	2^+		
848.304	$-$	203.62 6	14 3	644.716	$(3,4)^-$		
		382.394 25	100 6	465.890	$3^-, 4^-, 5^-$	M1+E2	
		467.81 8	25 7	380.533	$4^-, 5^-$		
860.322	$-$	504.17 24	36 7	344.594	6^-		
		215.606 6	100 14	644.716	$(3,4)^-$		
		270.52 6	6.4 14	589.925	$1^-, 2^-$	M1	
		362.4 4	2.2 10	498.050	2^+		
		433.92 7	6.5 14	426.365	$2^-, 3^-$		

Adopted Levels, Gammas (continued)

$\gamma(^{104}\text{Rh})$ (continued)							
$E_i(\text{level})$	J_i^π	E_γ^\ddagger	I_γ^\dagger	E_f	J_f^π	Mult.#	Comments
860.322	-	459.54 3	30 14	400.7589	1+,2+		
865.37	2-,3-	115.394 3	23 3	749.98	-	M1	
		340.72 10	16 6	524.703	1+,2+		
		596.15 13	100 12	269.2712	2-,3-		
888.659	+	311.414 17	16 2	577.243	0-,1-,2-		
		350.82 10	10 3	537.739	1+		
		406.32 12	15 3	482.326	1+,2+	E2	B(E2)(W.u.)>0.023
		525.4 4	8.8 25	363.1817	2+,3+		
		707.95 9	100 25	180.8401	1+		
		791.9 3	78 25	97.0997	2+		
908.20	-	175.78 4	6.4 16	732.404	2-,3-		
		442.35 5	64 16	465.890	3-,4-,5-		
		527.65 5	28 8	380.533	4-,5-		
		545.0 3	60 12	363.1817	2+,3+		
		578.24 18	100 20	329.7996	1+,2+,3+		
		907.9 4	64 20	0.0	1+		
909.9	10-	357 1		552.3	9-		
		516 1		394.19	7-		
915.65		702.63 8	100 5	213.0607	1+		
		734.73 11	58 4	180.8401	1+		
924.32	3-	191.87 6	4.1 10	732.404	2-,3-		
		228.61 7	7.7 25	695.788	1+,2+		
		409.76 12	33 7	514.522	2-	M1	$\alpha(\text{K})\text{exp}=0.0071$ 17
		594.5 5	7.6 25	329.7996	1+,2+,3+		
		711.24 12	100 20	213.0607	1+		
		872.7 3	69 10	51.42324	2-		
		924.0 5	41 15	0.0	1+		
952.38		396.94 10	8.1 12	555.473	(3,4)-		
		414.70 13	7.8 12	537.739	1+		
		430.15 24	9.4 15	521.952	1-		
		454.19 16	7 1	498.050	2+		
		567.5 4	4.7 15	384.987	1-,2-		
		609.0 7	31	344.594	6-		
		739.66 23	10 2	213.0607	1+		
		855.16 15	30 3	97.0997	2+		
971.30	(10-)	357.5 2	100 10	613.71	9-		
		516.0 3	4 1	455.49	8-		
1001.6		585.4 3	100	416.24	7+		
1047.909	1-,2-	123.59 3	11 3	924.32	3-	M1+E2	
		199.604 10	32 6	848.304	-	M1+E2	
		533.43 7	47 9	514.522	2-		
		689.26 17	100 20	358.631	1+,2+		
		835.0 5	65 13	213.0607	1+		

Adopted Levels, Gammas (continued) $\gamma(^{104}\text{Rh})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\ddagger	I_γ^\dagger	E_f	J_f^π	Mult.#	Comments
1081.94	1 ⁺ ,2 ⁺	193.29 6	2.8 5	888.659	+		
		370.87 3	83 15	711.07	1 ⁺ ,2 ⁺	M1+E2	
		576.7 5	36 8	505.187	2 ⁻ ,3 ⁻ ,4 ⁻		
		661.13 14	100 12	420.768	1 ⁺ ,2 ⁺ ,3 ⁺		
		681.32 16	78 15	400.7589	1 ⁺ ,2 ⁺		
		718.6 3	75 12	363.1817	2 ⁺ ,3 ⁺		
		723.4 3	61 12	358.631	1 ⁺ ,2 ⁺		
		868.2 4	54 10	213.0607	1 ⁺		
		884.0 4	64 12	197.8941	2 ⁺		
1200.9		784.7 3	100	416.24	7 ⁺		
1238.2	11 ⁻	328		909.9	10 ⁻		
		686		552.3	9 ⁻		
1274.1		857.9 4	100	416.24	7 ⁺		
1297.2	10 ⁻	745 1		552.3	9 ⁻	M1+E2	Mult.: $\Delta J=1$ from $\gamma\gamma(\theta)$.
		903 1		394.19	7 ⁻		
1300.1	11 ⁻	328.9 2	100 12	971.30	(10 ⁻)	M1	
		686.4 5	11 3	613.71	9 ⁻		
1358.4		744.7 3	100	613.71	9 ⁻		
1409.0		591.5 3	100 20	817.46	8 ⁺		
		824.6 4	40 10	584.15	7 ⁺		
1651.1	11 ⁻	354 1		1297.2	10 ⁻		
		741 1		909.9	10 ⁻	M1+E2	Mult.: from $\gamma(\text{pin pol})$ and $\gamma\gamma(\theta)$, $\Delta J=1$.
		1099 1		552.3	9 ⁻		
1705.9	12 ⁻	468 1		1238.2	11 ⁻		
		796 1		909.9	10 ⁻		
1712.8		741.5 4	100	971.30	(10 ⁻)		
1748.1	3 ⁻ ,4 ⁻ ,5 ⁻	389.7 3	100	1358.4			
1768.2	12 ⁻	468.2 3	100 12	1300.1	11 ⁻	M1(+E2)	$\delta: -0.17 > \delta < +0.05$.
		796.5 4	24 4	971.30	(10 ⁻)	(E2)	
1906.2		254.6 3	100	1651.1	11 ⁻		
2040.8	12 ⁻	389 1		1651.1	11 ⁻		
		745 1		1297.2	10 ⁻		
		802 1		1238.2	11 ⁻		
		1131 1		909.9	10 ⁻		
2102.5		389.7 3	100	1712.8			
2134.3		228.1 3	100	1906.2			
2147.9		399.8 3	100	1748.1	3 ⁻ ,4 ⁻ ,5 ⁻	(E2)	
2180.9	13 ⁻	475 1		1705.9	12 ⁻		
		943 1		1238.2	11 ⁻		
2192.4		286.2 3	100	1906.2		M1(+E2)	$\delta: -0.21 > \delta < 0.05$.
2243.6	13 ⁻	475.3 2	100 10	1768.2	12 ⁻		
		943.9 4	9.7 5	1300.1	11 ⁻		
2299.1		530.8 2	100	1768.2	12 ⁻		

Adopted Levels, Gammas (continued) $\gamma(^{104}\text{Rh})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\ddagger	I_γ^\dagger	E_f	J_f^π	Mult.#	Comments
2440.1	13 ⁻	399 <i>I</i>		2040.8	12 ⁻		
		734 <i>I</i>		1705.9	12 ⁻	M1+E2	Mult.: $\Delta J=1$ from $\gamma\gamma(\theta)$.
		789 <i>I</i>		1651.1	11 ⁻		
		1202 <i>I</i>		1238.2	11 ⁻		
2445.6		311.3	3	100	2134.3		
2493.4		301.0	3	100	2192.4		
2709.3	14 ⁻	528 <i>I</i>		2180.9	13 ⁻		
		1004 <i>I</i>		1705.9	12 ⁻		
2846.9		353.5	4	100	2493.4		
2904.0	14 ⁻	464 <i>I</i>		2440.1	13 ⁻		
		723 <i>I</i>		2180.9	13 ⁻		
		863 <i>I</i>		2040.8	12 ⁻		
		1198 <i>I</i>		1705.9	12 ⁻		
3299.5	15 ⁻	590 <i>I</i>		2709.3	14 ⁻		
		1118 <i>I</i>		2180.9	13 ⁻		
3389.8	15 ⁻	486 <i>I</i>		2904.0	14 ⁻		
		680 <i>I</i>		2709.3	14 ⁻		
		949 <i>I</i>		2440.1	13 ⁻		
		1210 <i>I</i>		2180.9	13 ⁻		
3870.2	16 ⁻	571 <i>I</i>		3299.5	15 ⁻		
		1161 <i>I</i>		2709.3	14 ⁻		
3945.2	16 ⁻	556 <i>I</i>		3389.8	15 ⁻		
		645 <i>I</i>		3299.5	15 ⁻		
		1041 <i>I</i>		2904.0	14 ⁻		
		1237 <i>I</i>		2709.3	14 ⁻		
4474.5	17 ⁻	530 <i>I</i>		3945.2	16 ⁻		
		1084 <i>I</i>		3389.8	15 ⁻		
		1175 <i>I</i>		3299.5	15 ⁻		
4475.9	17 ⁻	606 <i>I</i>		3870.2	16 ⁻		
		1176 <i>I</i>		3299.5	15 ⁻		

[†] Relative photon branching from each level.

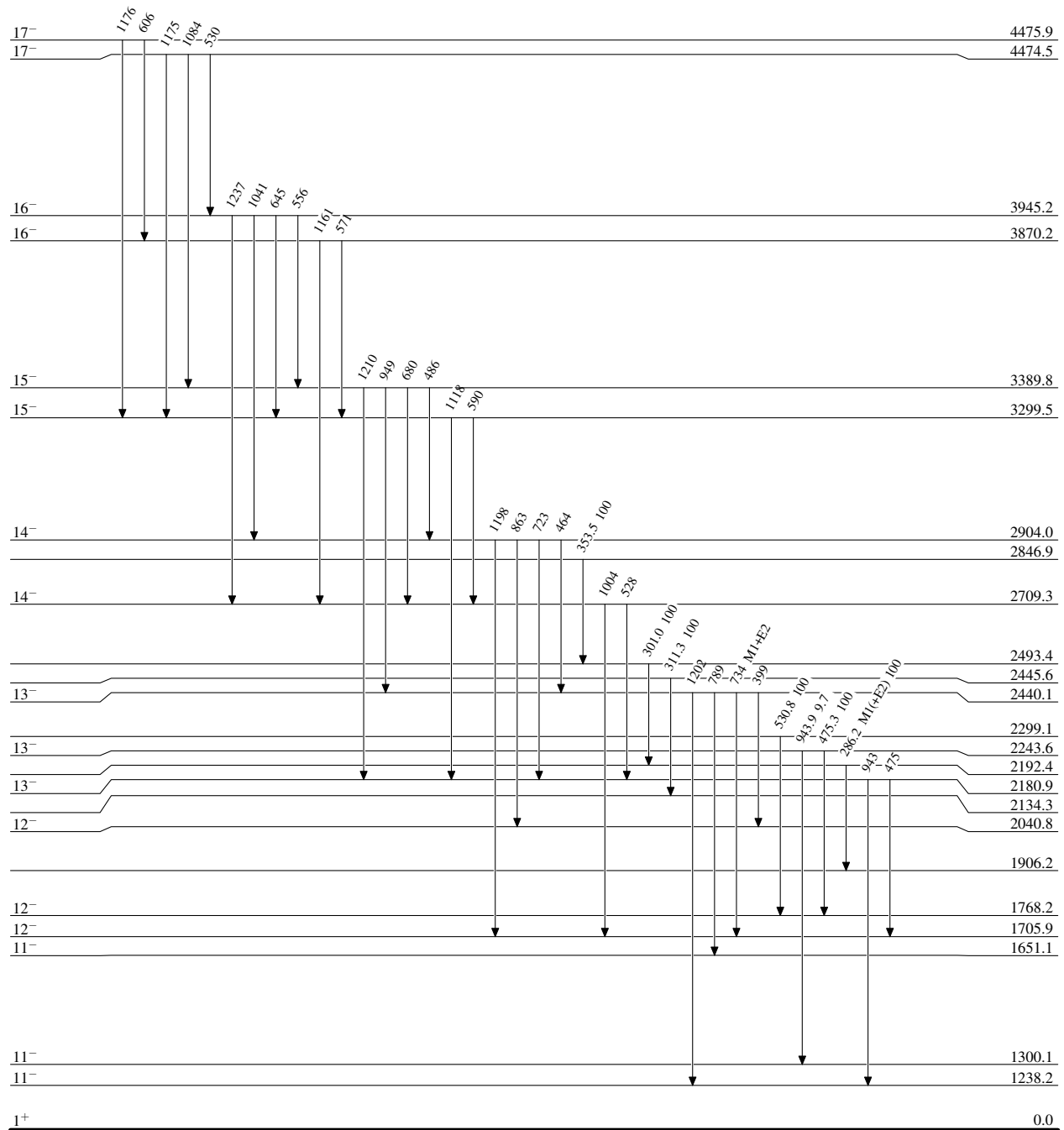
[‡] From $^{103}\text{Rh}(n,\gamma)$ when measured.

[#] From α measurements in ^{104}Rh IT decay and (n,γ) , and from linear polarization in $^{100}\text{Mo}(^7\text{Li},3n\gamma)$.

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

Adopted Levels, GammasLevel Scheme

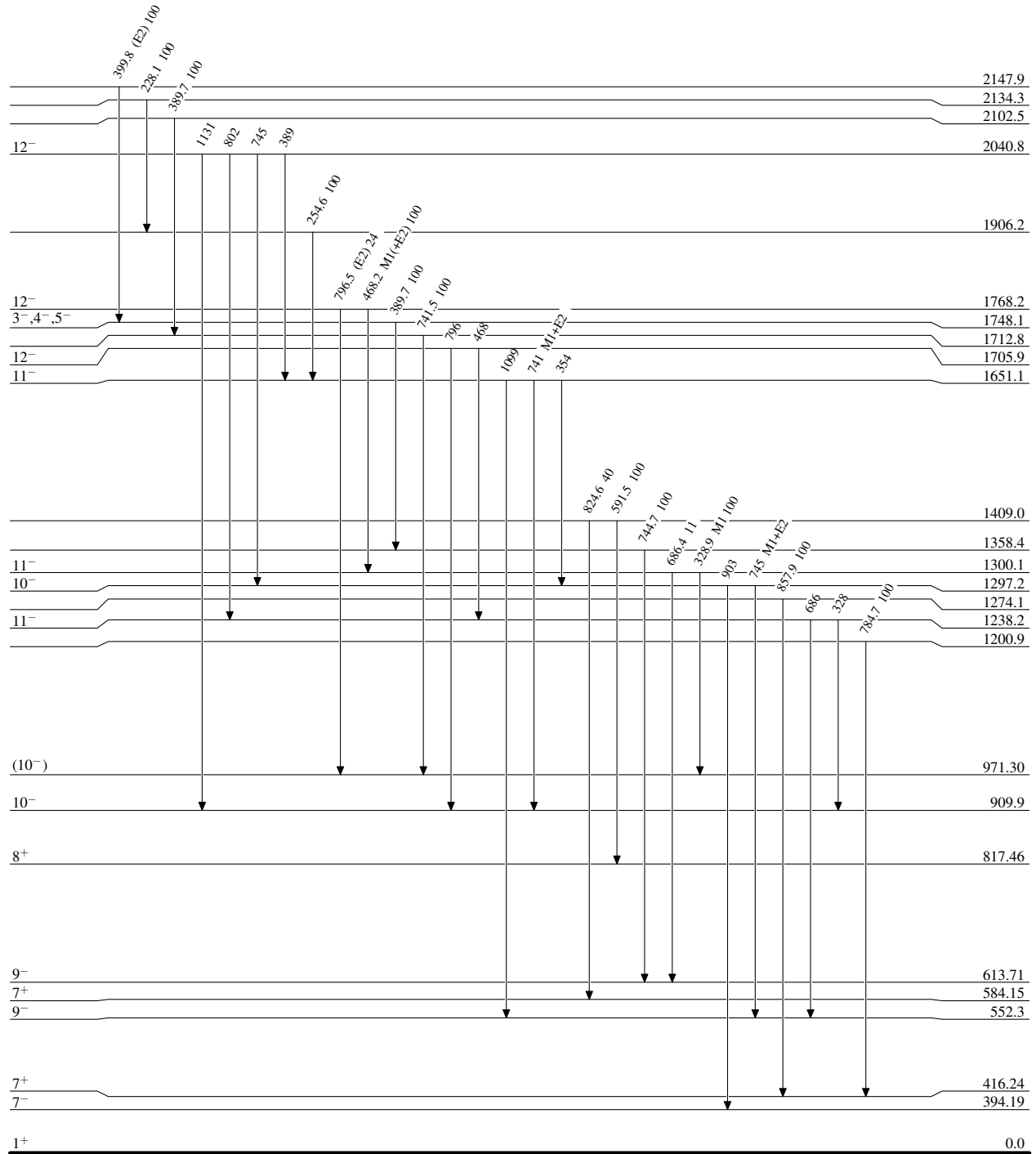
Intensities: Relative photon branching from each level



42.3 s 4

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

Intensities: Relative photon branching from each level

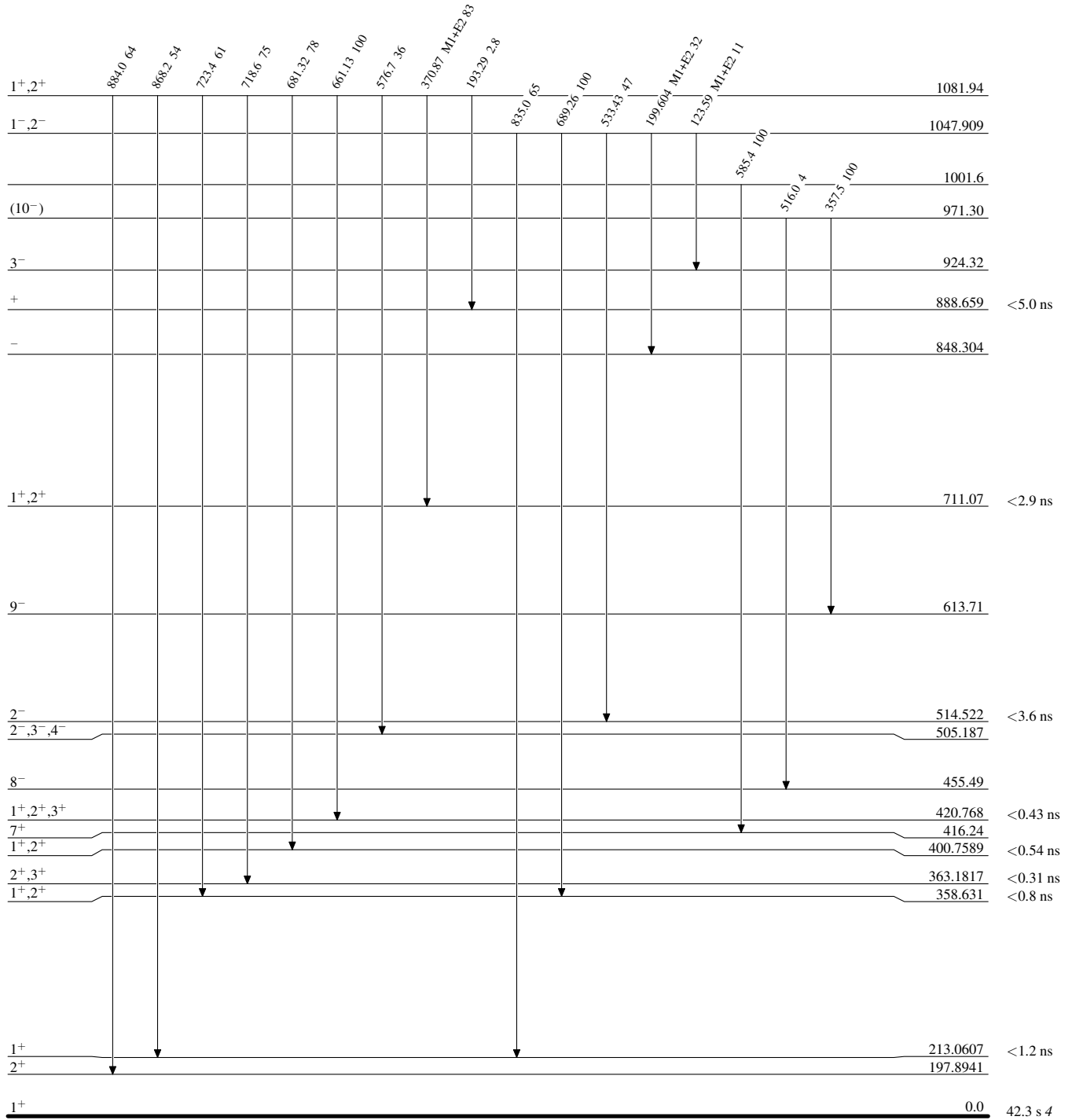


42.3 s 4

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

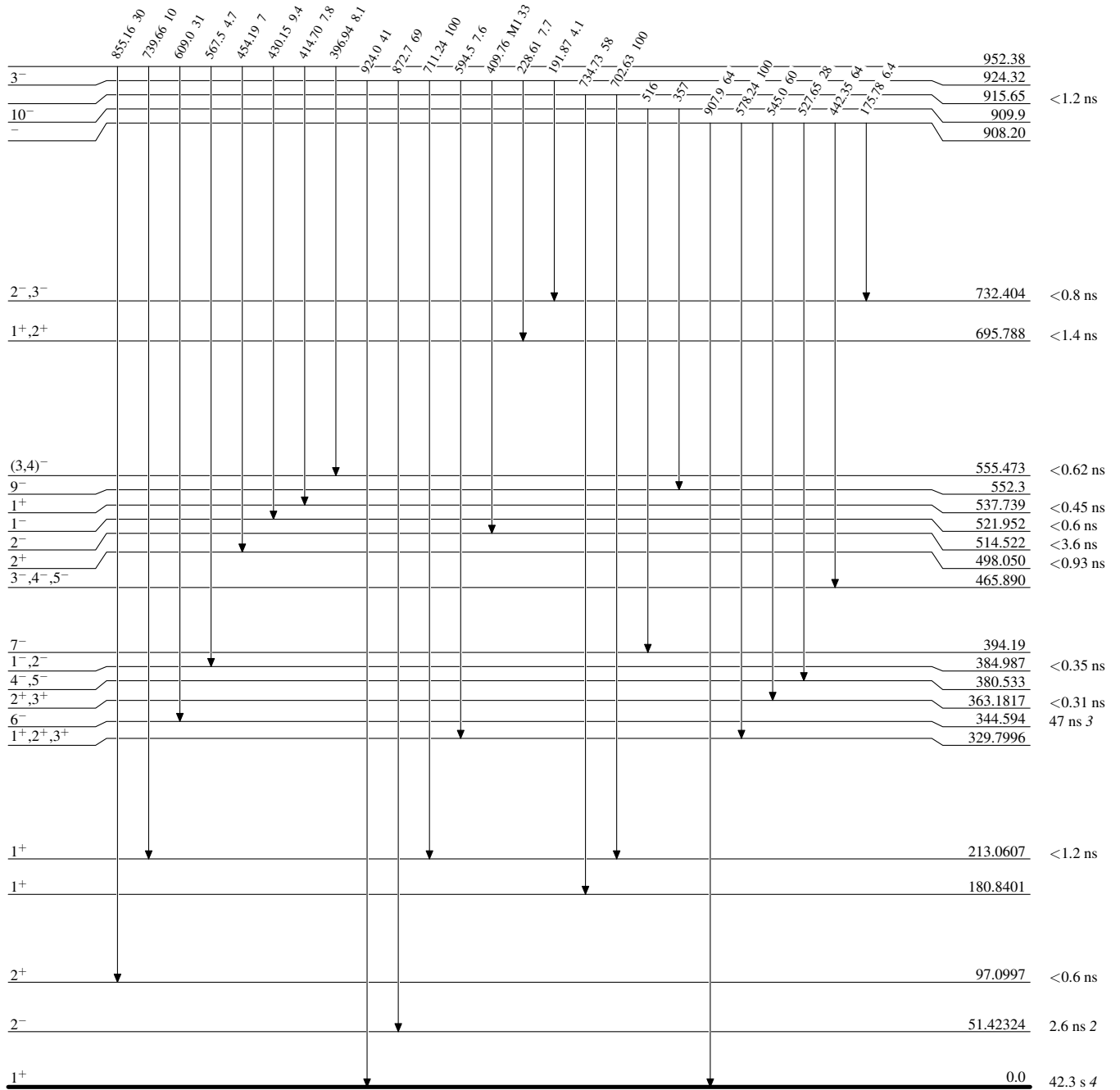


$^{104}_{45}\text{Rh}_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

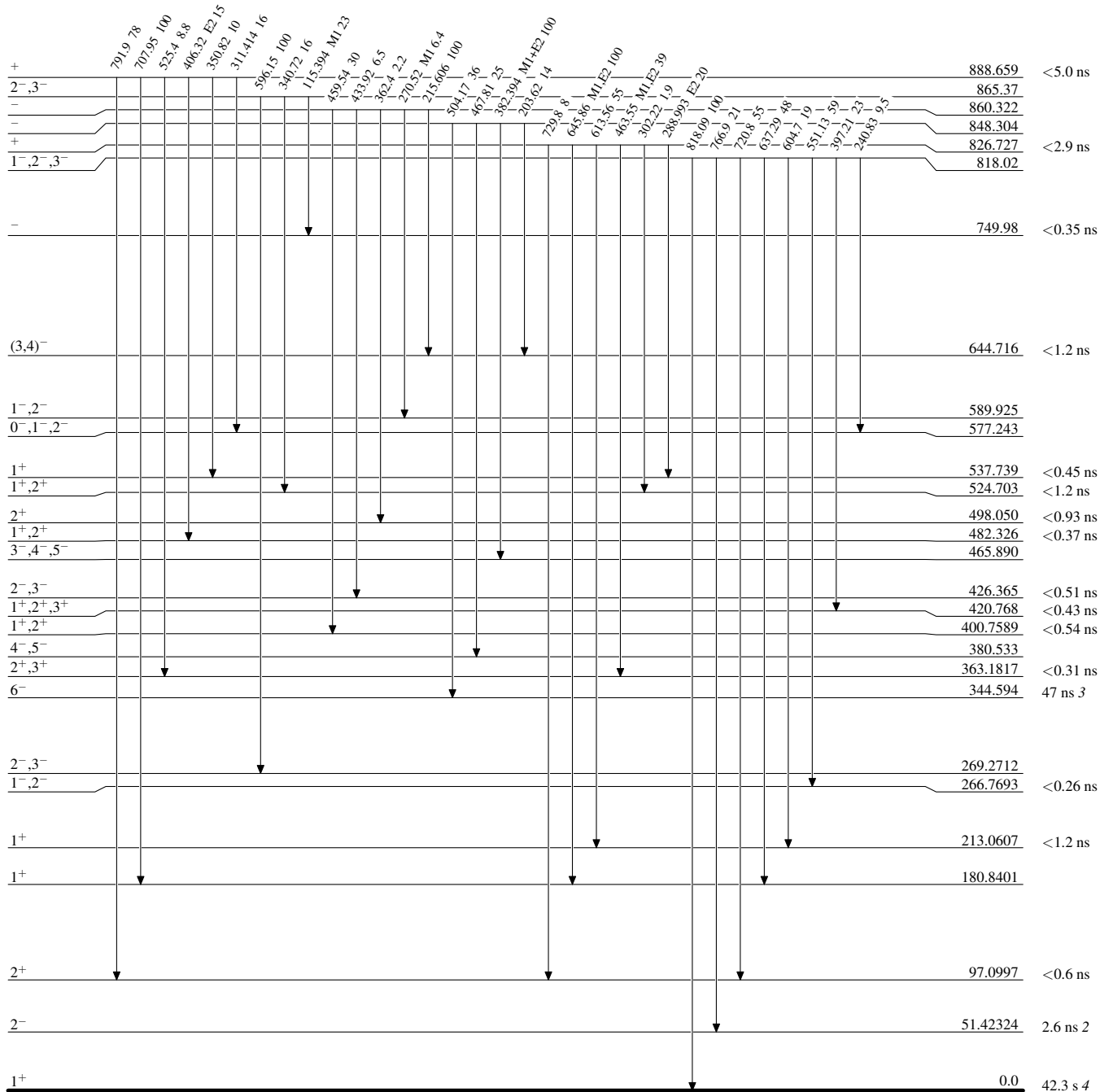


$^{104}_{45}\text{Rh}_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

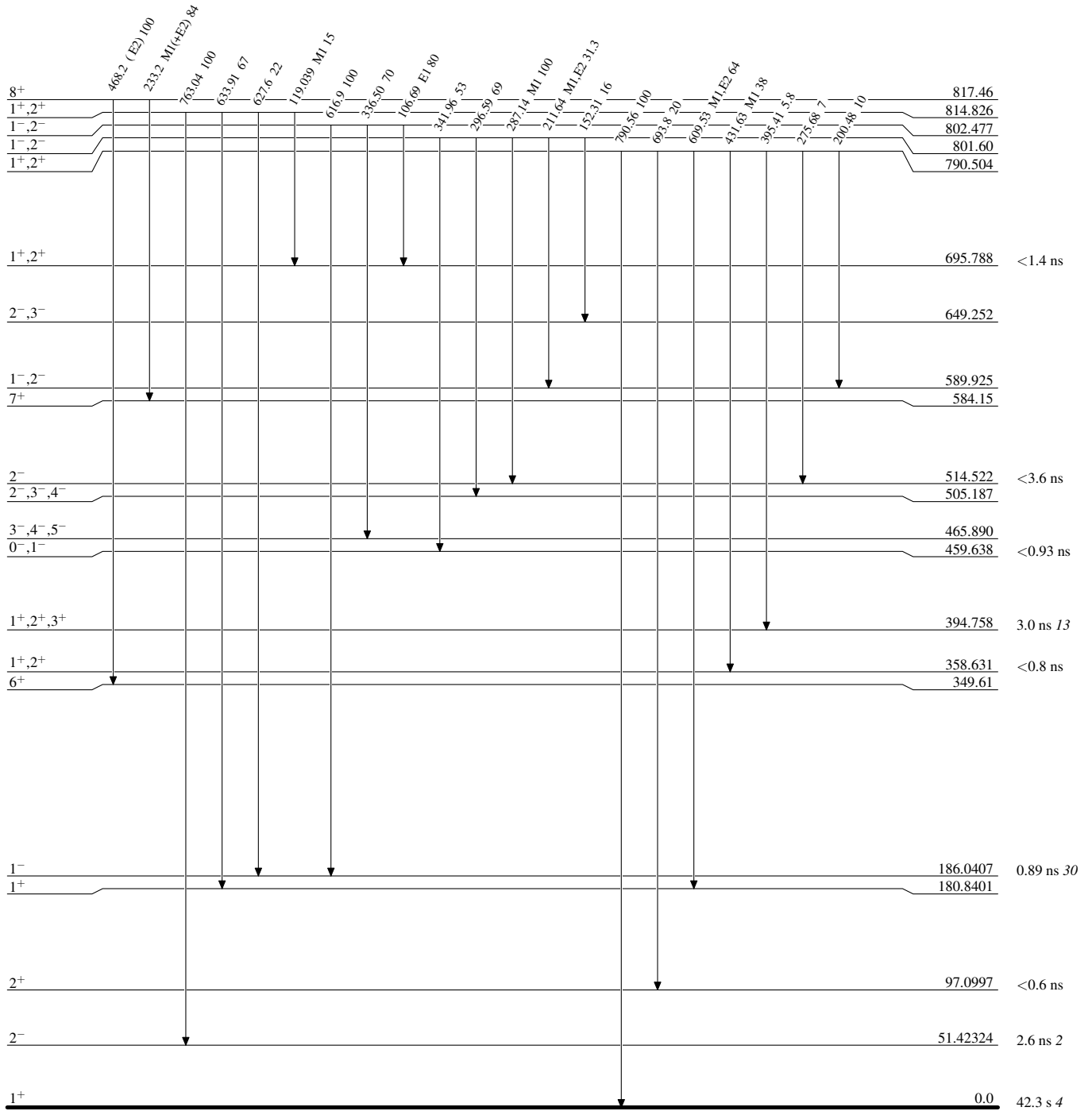
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

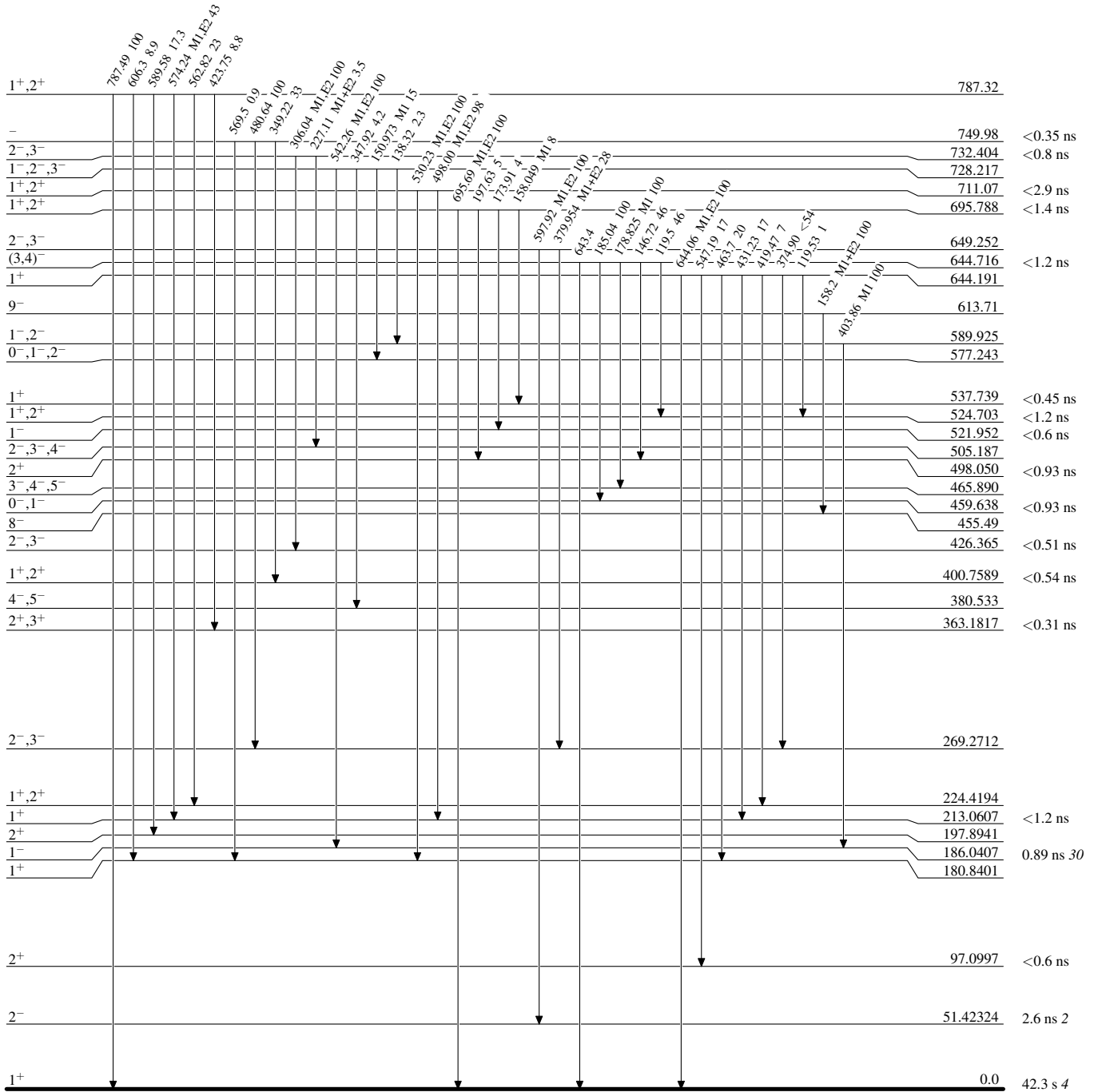


¹⁰⁴Rh₅₉

Adopted Levels, Gammas

Level Scheme (continued)

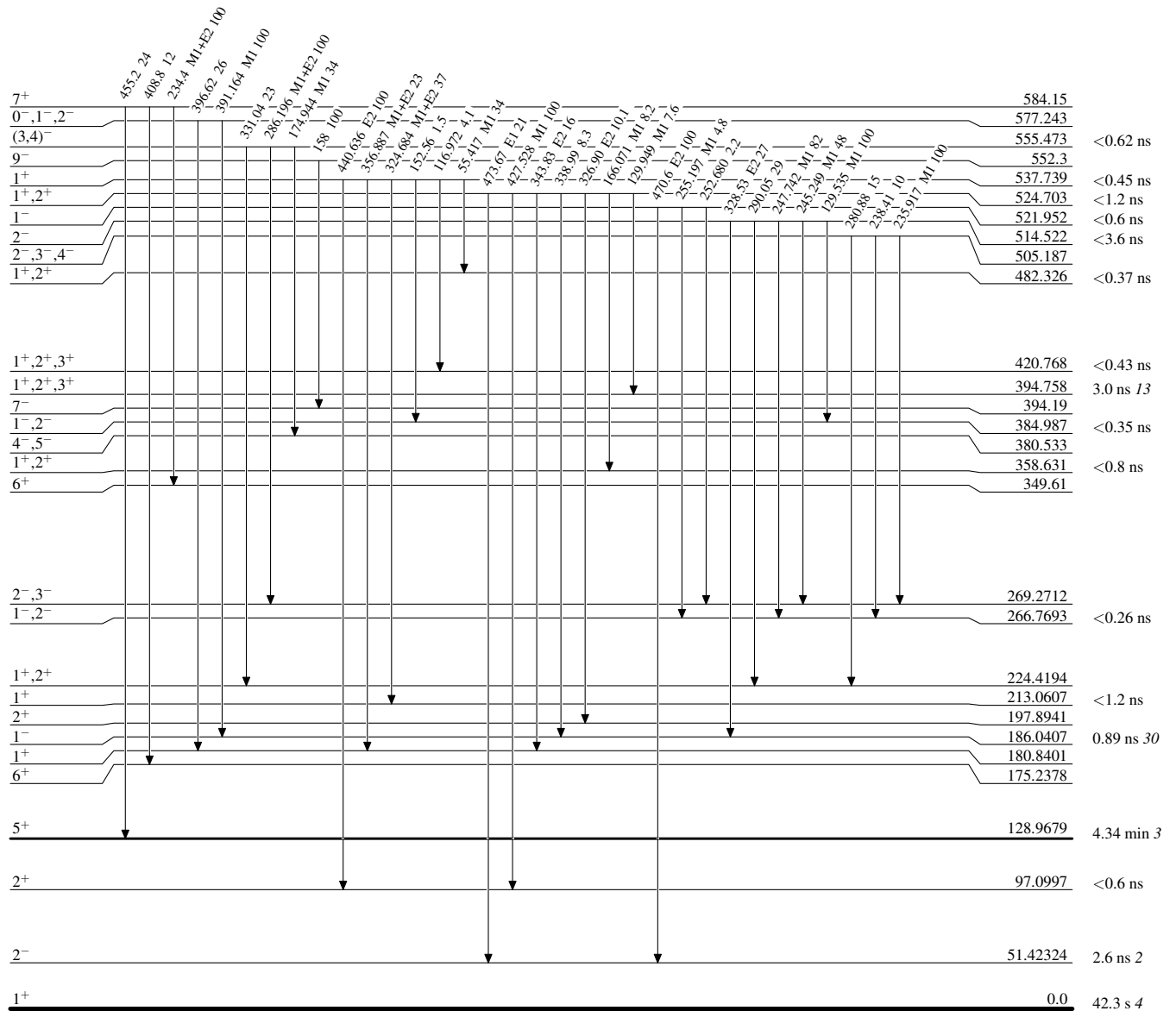
Intensities: Relative photon branching from each level



¹⁰⁴Rh₅₉

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

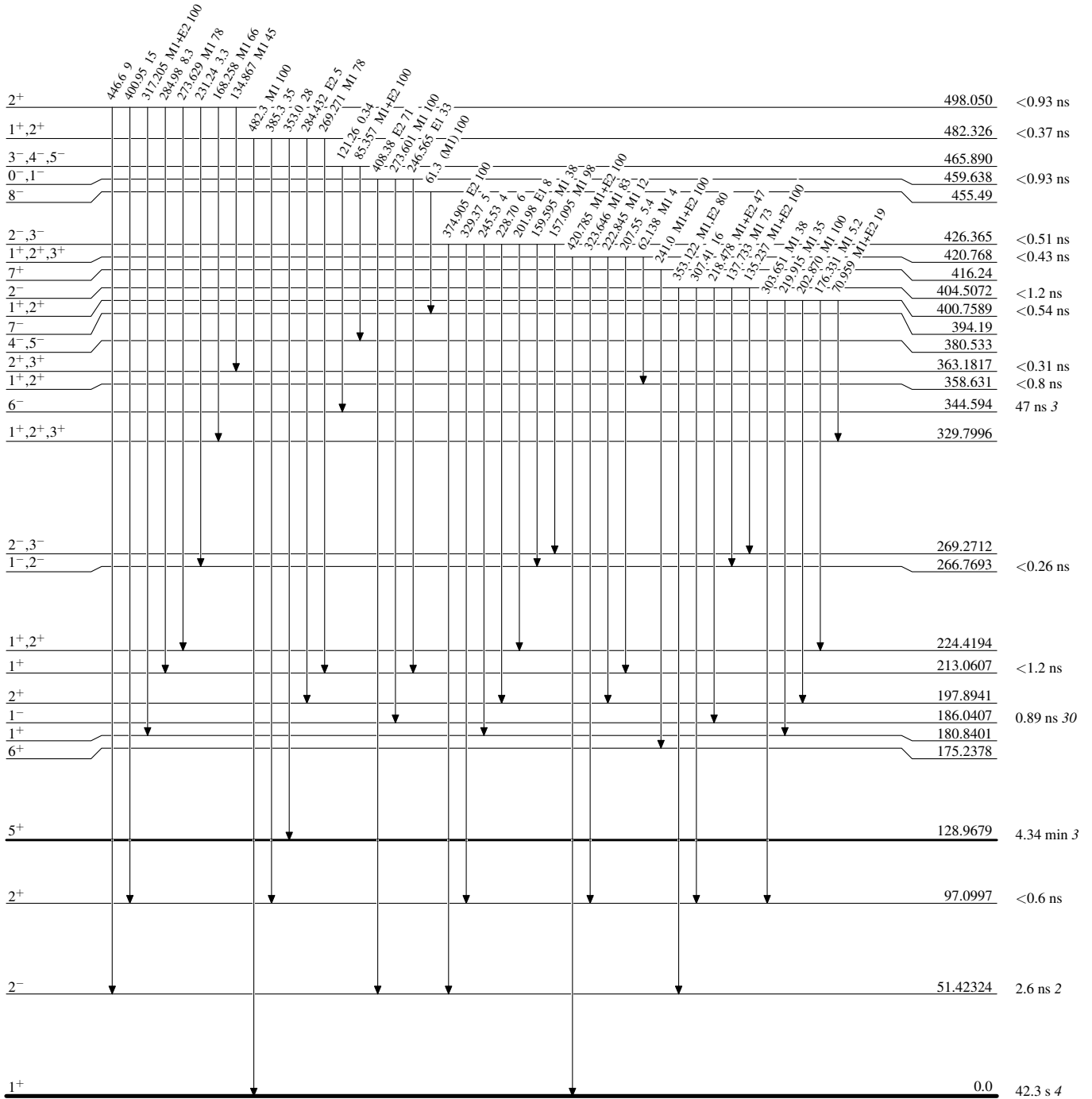
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

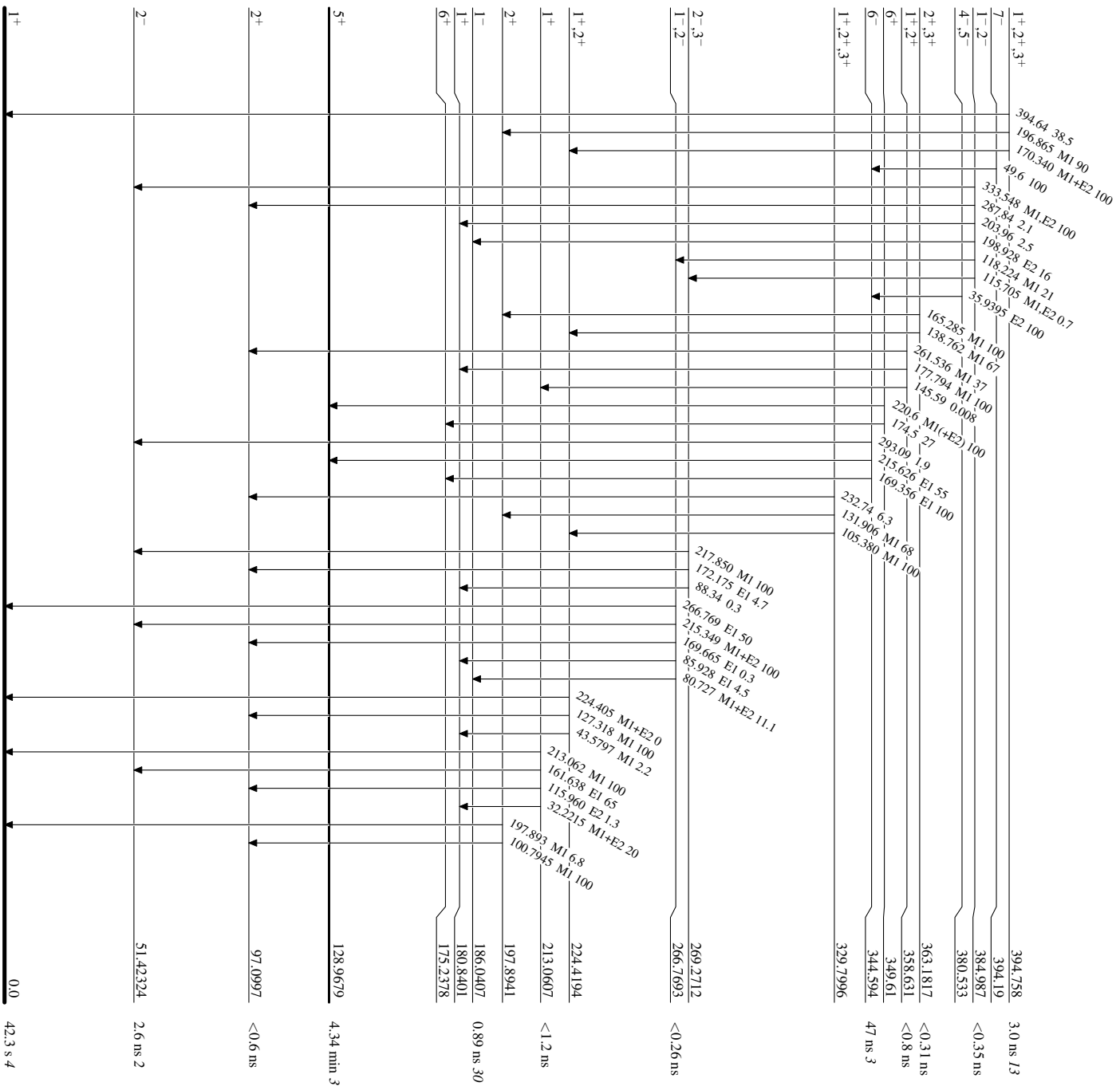


$^{104}_{45}\text{Rh}_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

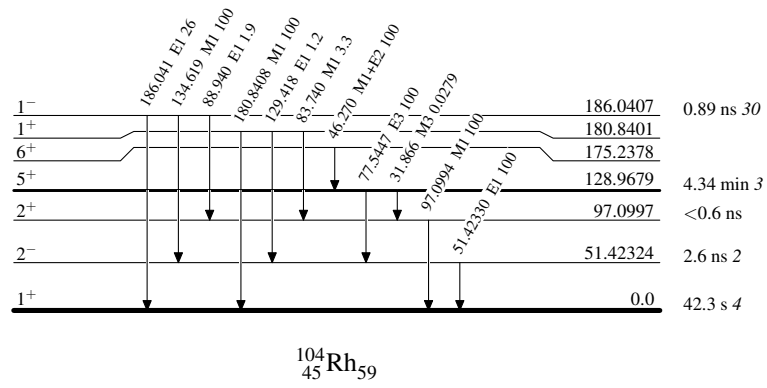
Intensities: Relative photon branching from each level

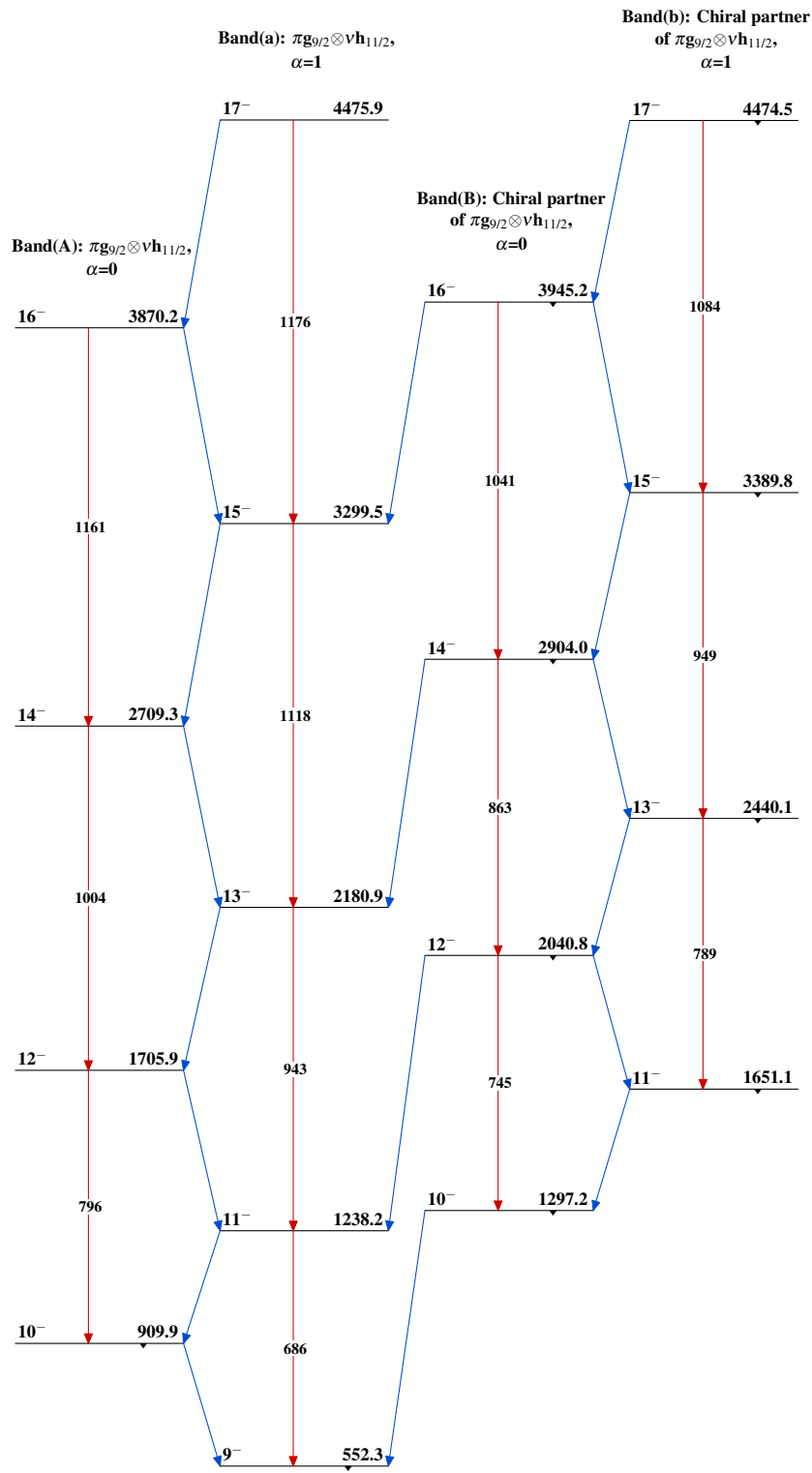


¹⁰⁴Rh₅₉

Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas $^{104}_{45}\text{Rh}_{59}$