

**Adopted Levels, Gammas**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 109,1383 (2008)	1-Mar-2008

Q( $\beta^-$ )=1509 13; S(n)=8573 14; S(p)=7830 14; Q( $\alpha$ )=-4687 16    [2012Wa38](#)  
 Note: Current evaluation has used the following Q record 1504    12 8573 14 7830 14-4691 16    [2003Au03](#).

<sup>107</sup>Rh Levels

Cross Reference (XREF) Flags

- A    <sup>107</sup>Ru  $\beta^-$  decay
- B    <sup>108</sup>Pd(d,<sup>3</sup>He)
- C    <sup>108</sup>Pd(pol t, $\alpha$ )
- D    <sup>176</sup>Yb(<sup>28</sup>Si,F $\gamma$ )

E(level) <sup>†</sup>	J $^\pi$	T <sub>1/2</sub>	XREF	Comments
0.0	7/2 <sup>+</sup>	21.7 min 4	ABCD	% $\beta^-$ =100 T <sub>1/2</sub> : av: 23.0 min 5 ( <a href="#">1955Ba19</a> ), 21.7 min 4 ( <a href="#">1962Pi02</a> ), 20.5 min 5 ( <a href="#">1969WiZX</a> ) 303 $\gamma$ -decay curve. Others: <a href="#">1943Bo03</a> , <a href="#">1955Ne03</a> , <a href="#">1969WiZX</a> . J $^\pi$ : L(d, <sup>3</sup> He)=4, J $^\pi$ =9/2 <sup>+</sup> ruled out from analyzing power in (pol t, $\alpha$ ).
194.048 <sup>‡</sup> 25	9/2 <sup>+</sup>		ABCD	J $^\pi$ : J $^\pi$ =7/2 <sup>+</sup> ,9/2 <sup>+</sup> from L=4 in (d, <sup>3</sup> He) and J $^\pi$ =7/2 <sup>+</sup> ruled out by analyzing power data in (pol t, $\alpha$ ).
268.36 <sup>@</sup> 4	1/2 <sup>-</sup>	>10 $\mu$ s	ABCD	T <sub>1/2</sub> : from $\gamma\gamma$ (t) in <sup>107</sup> Ru $\beta^-$ decay ( <a href="#">1986Ka43</a> ). J $^\pi$ : J $^\pi$ =1/2 <sup>-</sup> ,3/2 <sup>-</sup> from L=1 in (d, <sup>3</sup> He) and J $^\pi$ =3/2 <sup>-</sup> ruled out by analyzing power data in (pol t, $\alpha$ ).
374.278 <sup>a</sup> 25	(3/2 <sup>+</sup> )	15 ns 2	A	T <sub>1/2</sub> : from $\gamma\gamma$ (t) in <sup>107</sup> Ru $\beta^-$ decay ( <a href="#">1986Ka43</a> ). J $^\pi$ : in (d, <sup>3</sup> He) state at 386 keV is weakly excited with L=(1,2). Not observed in (pol t, $\alpha$ ). log ft>7.5; strong $\gamma$ transition (E2) to J $^\pi$ =7/2 <sup>+</sup> ground state and weak $\gamma$ transition (E1) to 1/2 <sup>-</sup> level together with an intense 10-keV (M1) $\gamma$ feeding this level suggest J $^\pi$ =(3/2 <sup>+</sup> ). This could be a possible candidate for the theoretically predicted J $^\pi$ =3/2 <sup>+</sup> intruder state. This state should only be excited very weakly, if at all, in proton pickup reactions.
384.82 4	(1/2 <sup>+</sup> )		AB	XREF: B(386). J $^\pi$ : in (d, <sup>3</sup> He) a state at 386 keV is weakly excited with L=(1,2). Not observed in (t, $\alpha$ ). Strong 10.54-keV (E2) $\gamma$ transition to (3/2 <sup>+</sup> ) points to similar character of both states. Could be the theoretically predicted J $^\pi$ =1/2 <sup>+</sup> intruder state. The absence of a measurable $\beta$ branch to this level is in agreement with the J $^\pi$ =(1/2 <sup>+</sup> ) assignment.
405.80 3	(3/2 <sup>+</sup> )		A	J $^\pi$ : $\gamma$ transitions to 7/2 <sup>+</sup> and 1/2 <sup>-</sup> states suggest 3/2 <sup>+</sup> or 5/2 <sup>-</sup> . J $^\pi$ =5/2 <sup>-</sup> is less probable because this would imply that the 31.5 and 405.8 $\gamma$ rays are both E1 transitions which are known to be strongly hindered in this mass region.
462.601 25	5/2 <sup>+</sup>		ABC	XREF: B(468). J $^\pi$ : J $^\pi$ =3/2 <sup>+</sup> ,5/2 <sup>+</sup> from L=2 in (d, <sup>3</sup> He) and L=(2) in (pol t, $\alpha$ ). J $^\pi$ =3/2 <sup>+</sup> ruled out by analyzing power data in (pol t, $\alpha$ ).
485.66 <sup>@</sup> 6	3/2 <sup>-</sup>		ABCD	XREF: B(489). J $^\pi$ : J $^\pi$ =1/2 <sup>-</sup> and 3/2 <sup>-</sup> from L=1 in (d, <sup>3</sup> He) and L=(1) in (pol t, $\alpha$ ). J $^\pi$ =1/2 <sup>-</sup> ruled out by analyzing power data in (pol t, $\alpha$ ).
543.84 <sup>@</sup> 6	(5/2 <sup>-</sup> )		AB D	XREF: B(545). J $^\pi$ : L=(1+3) from (d, <sup>3</sup> He). Not observed in (pol t, $\alpha$ ). log ft=8.1 for the corresponding $\beta$ transition points to a first-forbidden transition. J $^\pi$ =3/2 <sup>-</sup> ,5/2 <sup>-</sup> are the most probable J $^\pi$ values suggested from $\gamma$ decay pattern.
559.96 <sup>‡</sup> 6	(11/2 <sup>+</sup> )		A D	J $^\pi$ : $\gamma$ 's to 9/2 <sup>+</sup> and 7/2 <sup>+</sup> .
568.90 <sup>a</sup> 3	(7/2 <sup>+</sup> )		A D	J $^\pi$ : (M1) $\gamma$ to 5/2 <sup>+</sup> , (M1) to 9/2 <sup>+</sup> .

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**Adopted Levels, Gammas (continued)**

$^{107}\text{Rh}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup>	XREF	Comments
576.5	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	B	J <sup>π</sup> : L=(2) (d, <sup>3</sup> He).
588.92 4	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	A	J <sup>π</sup> : (M1) γ to (3/2 <sup>+</sup> ), (E2) γ to (1/2 <sup>+</sup> ).
680.00 <sup>b</sup> 5	(11/2 <sup>+</sup> )	A D	
683.10 3	(7/2 <sup>+</sup> )	AB	XREF: B(685). J <sup>π</sup> : (M1) γ to 5/2 <sup>+</sup> , γ to 9/2 <sup>+</sup> .
752.55 9	3/2 <sup>-</sup>	ABC	XREF: B(755). J <sup>π</sup> : from L=1 in (d, <sup>3</sup> He) and L=1 in (pol t,α). J <sup>π</sup> =1/2 <sup>-</sup> ruled out by analyzing power data in (pol t,α).
771.1 <sup>‡</sup> 6	(13/2 <sup>+</sup> )	D	
877.75 10	5/2 <sup>-</sup>	ABC	J <sup>π</sup> : from L=3 in (d, <sup>3</sup> He) and L=3 in (pol t,α). J <sup>π</sup> =7/2 <sup>-</sup> ruled out by analyzing power data in (pol t,α).
911.99 4		A C	XREF: C(914).
932.5	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	B	J <sup>π</sup> : L=2 (d, <sup>3</sup> He).
935.9 <sup>a</sup> 10	(11/2 <sup>+</sup> )	D	
948.12 6		A	
953.48 7	(9/2 <sup>+</sup> )	A	
974.44 11	(3/2 <sup>-</sup> ,5/2 <sup>-</sup> ,7/2 <sup>-</sup> )	A C	XREF: C(969). J <sup>π</sup> : from the log ft=8.2 value a negative parity for this level seems to be favored. γ decay to negative parity levels.
1005.3	9/2 <sup>+</sup>	BC	XREF: B(1001)C(1006). J <sup>π</sup> : DWBA analysis, L=4 (d, <sup>3</sup> He). 7/2 <sup>+</sup> ruled out by (pol t,α).
1006.6 <sup>@</sup> 9	(9/2 <sup>-</sup> )	D	
1009.76 9	(3/2 <sup>-</sup> ,5/2 <sup>-</sup> )	A	J <sup>π</sup> : level must be different from those observed in <sup>108</sup> Pd at 1006 keV and at 1001 keV with L=4 in <sup>108</sup> Pd(d, <sup>3</sup> He) γ's to 3/2 <sup>-</sup> and 5/2 <sup>-</sup> and forbidden log ft.
1024.10		B	
1041.950 25	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : from log ft=5.9 the corresponding β transition seems to be allowed which implies J <sup>π</sup> =3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> for this level. J <sup>π</sup> =3/2 <sup>+</sup> is excluded but J <sup>π</sup> =5/2 <sup>+</sup> is not.
1078.10		B	
1166.0 <sup>b</sup> 10	(13/2 <sup>+</sup> )	D	
1251.6	5/2 <sup>-</sup> ,7/2 <sup>-</sup>	BC	XREF: B(1249)C(1252). J <sup>π</sup> : L=3 (d, <sup>3</sup> He).
1255.1 <sup>‡</sup> 7	(15/2 <sup>+</sup> )	D	
1272.202 24	5/2 <sup>+</sup> ,7/2 <sup>+</sup>	A	J <sup>π</sup> : π=+ from allowed β transition with log ft=5.9. 3/2 <sup>+</sup> excluded from γ to 9/2 <sup>+</sup> state.
1306.43 3	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : the relatively low value for the log ft value, namely 6.1, suggests an allowed β transition. A γ to the 9/2 <sup>+</sup> state again excludes 3/2 <sup>+</sup> .
1334.10	(1/2 <sup>-</sup> ,3/2 <sup>-</sup> )	BC	XREF: B(1334)C(1341). J <sup>π</sup> : L=(1) (d, <sup>3</sup> He).
1359.10		B	
1386.36 5	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	AB	J <sup>π</sup> : L=1 (d, <sup>3</sup> He).
1460.9 <sup>a</sup> 15	(15/2 <sup>+</sup> )	D	
1509.1 <sup>‡</sup> 9	(17/2 <sup>+</sup> )	D	
1545.6	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	BC	XREF: B(1540)C(1548). J <sup>π</sup> : L=1(d, <sup>3</sup> He), DWBA gives 3/2 <sup>-</sup> . 3/2 <sup>-</sup> in (pol t,α).
1569.10		B	
1583.0 <sup>b</sup> 13	(15/2 <sup>+</sup> )	D	
1610.4 <sup>@</sup> 10	(13/2 <sup>-</sup> )	D	
1639.07 5	(1/2 <sup>-</sup> ,3/2 <sup>-</sup> )	A	XREF: A(1632).
1665.6	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	BC	XREF: B(1660)C(1669). J <sup>π</sup> : L=1(d, <sup>3</sup> He).
1689.10	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	B	J <sup>π</sup> : L=1(d, <sup>3</sup> He).
1706.6	(5/2,9/2) <sup>+</sup>	BC	XREF: B(1713)C(1701). J <sup>π</sup> : from (pol t,α).

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**Adopted Levels, Gammas (continued)**

<sup>107</sup>Rh Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup>	XREF	Comments
1863.10 6	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : the relatively low value for the log ft value, namely 6.2, suggests an allowed β transition. A γ to the 9/2 <sup>+</sup> state excludes 3/2 <sup>+</sup> . Level at 1871 keV observed in (d, <sup>3</sup> He) with L=(3) and level at 1865 keV in (pol t,α) with L=1, are very probably not the same level as observed in β decay.
1867 6	(3/2 <sup>-</sup> )	BC	XREF: B(1871)C(1865). J <sup>π</sup> : L=(3) (d, <sup>3</sup> He), 3/2 <sup>-</sup> in (pol t,α).
1930 10	5/2 <sup>-</sup> ,7/2 <sup>-</sup>	BC	XREF: C(1931). J <sup>π</sup> : L=3 (d, <sup>3</sup> He).
2020.51 11		A	J <sup>π</sup> : no J <sup>π</sup> suggestion. log ft=6.6. In (d, <sup>3</sup> He) L=1 at 2032 keV. In (pol t,α) L=3 at 2037 keV.
2033.0 <sup>b</sup> 13	(17/2 <sup>+</sup> )	D	
2035 6	1/2 <sup>-</sup>	BC	XREF: B(2033)C(2037). J <sup>π</sup> : L=1 (d, <sup>3</sup> He), analyzing power in (pol t,α) rules out 3/2 <sup>-</sup> .
2053.1 <sup>‡</sup> 10	(19/2 <sup>+</sup> )	D	
2054.20 8	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : the relatively low value for the log ft value, namely 6.0, suggests an allowed β transition. From the γ decay pattern 3/2 <sup>+</sup> cannot be excluded.
2115.42 11		A	
2117.9 <sup>a</sup> 18	(19/2 <sup>+</sup> )	D	
2136 10	(5/2 <sup>-</sup> ,7/2 <sup>-</sup> )	B	J <sup>π</sup> : L=(3) (d, <sup>3</sup> He).
2141.1 <sup>&amp;</sup> 10	(15/2 <sup>-</sup> )	D	
2177.98 16		A	
2199 6		BC	XREF: B(2199)C(2201).
2207.68 17		A	
2249.68 7	(5/2,7/2) <sup>+</sup>	A	J <sup>π</sup> : from the log ft value, namely 5.9, an allowed β transition is most likely. A γ to the 9/2 <sup>+</sup> state again excludes 3/2 <sup>+</sup> .
2277.2 <sup>&amp;</sup> 9	(17/2 <sup>-</sup> )	D	
2291 10		B	J <sup>π</sup> : L(d, <sup>3</sup> He)=(1,3).
2301.3 <sup>@</sup> 12	(17/2 <sup>-</sup> )	D	
2303.39 14	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	A	Suggests an allowed β transition. γ to 3/2 <sup>-</sup> almost excludes 7/2 <sup>+</sup> .
2331.08 14	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : the relatively low value for the log ft value, namely 6.0, suggests an allowed β transition.
2343 10	(1/2 <sup>-</sup> ,3/2 <sup>-</sup> )	B	J <sup>π</sup> : L=(1) (d, <sup>3</sup> He).
2358.1 <sup>‡</sup> 11	(21/2 <sup>+</sup> )	D	
2387 10		B	J <sup>π</sup> : L=(1,2) (d, <sup>3</sup> He).
2428.3 <sup>&amp;</sup> 12	(19/2 <sup>-</sup> )	D	
2469 10	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> )	B	J <sup>π</sup> : L=(4) (d, <sup>3</sup> He).
2510.00 15	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	A	J <sup>π</sup> : the relatively low value for the log ft value, namely 6.1, suggests an allowed β transition. A γ to the 9/2 <sup>+</sup> state again excludes 3/2 <sup>+</sup> .
2660.3 <sup>&amp;</sup> 16	(21/2 <sup>-</sup> )	D	
2846.1 <sup>#</sup> 12	(23/2 <sup>+</sup> )	D	
2873.9 <sup>a</sup> 20	(23/2 <sup>+</sup> )	D	
2962.3 <sup>&amp;</sup> 19	(23/2 <sup>-</sup> )	D	
3135.1 <sup>#</sup> 16	(25/2 <sup>+</sup> )	D	
3311.3 <sup>&amp;</sup> 21	(25/2 <sup>-</sup> )	D	
3434.1 <sup>#</sup> 19	(27/2 <sup>+</sup> )	D	
3709.3 <sup>&amp;</sup> 24	(27/2 <sup>-</sup> )	D	
3802.1 <sup>#</sup> 21	(29/2 <sup>+</sup> )	D	

<sup>†</sup> Level energy from least-squares adjustment.

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**Adopted Levels, Gammas (continued)**

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 $^{107}\text{Rh}$  Levels (continued)

- ‡ Band(A): Band #1, based on  $7/2^+$  g.s..  
# Band(B): Band #2, based on  $(23/2^+)$ .  
@ Band(C): Band #3, based on  $(1/2^-)$ . Possibly  $\pi 1/2[301]$ .  
& Band(D): Band #4, based on  $(15/2^-)$ . Possible configuration= $\pi g_{9/2} \nu h_{11/2} \nu (g_{7/2} / d_{5/2})$ .  
<sup>a</sup> Band(E): Band #5, based on  $(3/2^+)$ . Possibly  $\pi 1/2[431]$ .  
<sup>b</sup> Band(F): Band #6, based on  $(11/2^+)$ .

Adopted Levels, Gammas (continued)

E <sub>i</sub> (level)	J <sup>π</sup> <sub>i</sub>	γ( <sup>107</sup> Rh)							Comments
		E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>‡</sup>	E <sub>f</sub>	J <sup>π</sup> <sub>f</sub>	Mult.	α <sup>#</sup>	I <sub>(γ+ce)</sub>	
194.048	9/2 <sup>+</sup>	194.05 5	100 11	0.0	7/2 <sup>+</sup>				
268.36	1/2 <sup>-</sup>	268.36 5	100	0.0	7/2 <sup>+</sup>	(E3)	0.1727		B(E3)(W.u.)<1520 B(E3)(W.u.): from RUL one expects T <sub>1/2</sub> >152 μs.
374.278	(3/2 <sup>+</sup> )	105.92 5	8.7 7	268.36	1/2 <sup>-</sup>	(E1)	0.1239		B(E1)(W.u.)=1.3×10 <sup>-6</sup> 3
		374.28 5	100 14	0.0	7/2 <sup>+</sup>	(E2)	0.01371		B(E2)(W.u.)=0.16 2
384.82	(1/2 <sup>+</sup> )	(10.54 6)		374.278	(3/2 <sup>+</sup> )			207 70	E <sub>γ</sub> : not observed, energy from the level energy differences.
		116.45 5	100 10	268.36	1/2 <sup>-</sup>				
405.80	(3/2 <sup>+</sup> )	(31.52 4)		374.278	(3/2 <sup>+</sup> )			3.0 15	E <sub>γ</sub> : not observed, energy from the level energy differences.
		405.80 5	100 8	0.0	7/2 <sup>+</sup>				
462.601	5/2 <sup>+</sup>	56.81 5	9.4 5	405.80	(3/2 <sup>+</sup> )				
		88.3 1	0.6 1	374.278	(3/2 <sup>+</sup> )				
		268.5 3	9 3	194.048	9/2 <sup>+</sup>				
		462.61 5	100 6	0.0	7/2 <sup>+</sup>				
485.66	3/2 <sup>-</sup>	217.30 5	100	268.36	1/2 <sup>-</sup>				
543.84	(5/2 <sup>-</sup> )	58.18 5	6.1 20	485.66	3/2 <sup>-</sup>				
		275.48 5	100 8	268.36	1/2 <sup>-</sup>				
559.96	(11/2 <sup>+</sup> )	365.9 1	100 7	194.048	9/2 <sup>+</sup>				
		560.0	17 3	0.0	7/2 <sup>+</sup>				
568.90	(7/2 <sup>+</sup> )	106.3 1	4.0 6	462.601	5/2 <sup>+</sup>				
		194.64 5	100 20	374.278	(3/2 <sup>+</sup> )				
		374.9 1	93. 20	194.048	9/2 <sup>+</sup>				
		568.89 5	53 4	0.0	7/2 <sup>+</sup>				
588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	183.1 1	12.6 15	405.80	(3/2 <sup>+</sup> )				
		204.09 5	100 7	384.82	(1/2 <sup>+</sup> )				
		214.66 5	63 5	374.278	(3/2 <sup>+</sup> )				
		588.9 1	19 3	0.0	7/2 <sup>+</sup>				
680.00	(11/2 <sup>+</sup> )	485.95 5	100	194.048	9/2 <sup>+</sup>				
683.10	(7/2 <sup>+</sup> )	220.49 5	40 4	462.601	5/2 <sup>+</sup>				
		489.05 5	100 8	194.048	9/2 <sup>+</sup>				
		683.11 5	40 4	0.0	7/2 <sup>+</sup>				
752.55	3/2 <sup>-</sup>	266.8 2	13 5	485.66	3/2 <sup>-</sup>				
		484.2 1	100 9	268.36	1/2 <sup>-</sup>				
771.1	(13/2 <sup>+</sup> )	211 1		559.96	(11/2 <sup>+</sup> )				
		577 1		194.048	9/2 <sup>+</sup>				
877.75	5/2 <sup>-</sup>	333.9 1	100 12	543.84	(5/2 <sup>-</sup> )				
		392.1 5	41 17	485.66	3/2 <sup>-</sup>				
		609.4 2	58 58	268.36	1/2 <sup>-</sup>				
911.99		718.0 5	3 3	194.048	9/2 <sup>+</sup>				
		912.0 1	100 4	0.0	7/2 <sup>+</sup>				
935.9	(11/2 <sup>+</sup> )	367 1	100	568.90	(7/2 <sup>+</sup> )				
948.12		265.0 1	17 3	683.10	(7/2 <sup>+</sup> )				

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**Adopted Levels, Gammas (continued)**

$\gamma(^{107}\text{Rh})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$
948.12		948.1 1	100 9	0.0	7/2 <sup>+</sup>
953.48	(9/2 <sup>+</sup> )	364.5 1	56 12	588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )
		384.5 5	6 6	568.90	(7/2 <sup>+</sup> )
		759.5 1	100	194.048	9/2 <sup>+</sup>
974.44	(3/2 <sup>-</sup> ,5/2 <sup>-</sup> ,7/2 <sup>-</sup> )	430.6 1	100 9	543.84	(5/2 <sup>-</sup> )
		488.7 5	18 9	485.66	3/2 <sup>-</sup>
1006.6	(9/2 <sup>-</sup> )	463 1	100	543.84	(5/2 <sup>-</sup> )
1009.76	(3/2 <sup>-</sup> ,5/2 <sup>-</sup> )	257.2 1	100 13	752.55	3/2 <sup>-</sup>
		524.1 1	37 12	485.66	3/2 <sup>-</sup>
1041.950	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	93.8 1	0.4 1	948.12	
		358.8 2	6 2	683.10	(7/2 <sup>+</sup> )
		579.36 5	46 2	462.601	5/2 <sup>+</sup>
		636.10 5	4.5 3	405.80	(3/2 <sup>+</sup> )
		847.93 5	100 5	194.048	9/2 <sup>+</sup>
		1041.95 5	48 2	0.0	7/2 <sup>+</sup>
1166.0	(13/2 <sup>+</sup> )	486 1	100	680.00	(11/2 <sup>+</sup> )
1255.1	(15/2 <sup>+</sup> )	484 1		771.1	(13/2 <sup>+</sup> )
		695 1		559.96	(11/2 <sup>+</sup> )
1272.202	5/2 <sup>+</sup> ,7/2 <sup>+</sup>	230.26 5	5.2 4	1041.950	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
		360.22 5	25.6 14	911.99	
		592.2 1	5.6 4	680.00	(11/2 <sup>+</sup> )
		683.3 3	4.1 20	588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )
		703.30 5	37.5 20	568.90	(7/2 <sup>+</sup> )
		712.3 1	1.6 2	559.96	(11/2 <sup>+</sup> )
		809.57 5	15.8 10	462.601	5/2 <sup>+</sup>
		866.5 1	2.7 2	405.80	(3/2 <sup>+</sup> )
		897.9 1	29.1 16	374.278	(3/2 <sup>+</sup> )
		1078.12 5	30.8 18	194.048	9/2 <sup>+</sup>
		1272.20 5	100	0.0	7/2 <sup>+</sup>
1306.43	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	358.5 5	12 6	948.12	
		394.41 5	43.5 23	911.99	
		626.4 1	10 11	680.00	(11/2 <sup>+</sup> )
		717.5 1	20.5 17	588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )
		737.55 5	100 6	568.90	(7/2 <sup>+</sup> )
		746.4 1	2.9 5	559.96	(11/2 <sup>+</sup> )
		843.9 1	62 4	462.601	5/2 <sup>+</sup>
		932.1 1	76 6	374.278	(3/2 <sup>+</sup> )
		1112.4 1	17.0 17	194.048	9/2 <sup>+</sup>
		1306.43 5	70 6	0.0	7/2 <sup>+</sup>
1386.36	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	924.0 5	2.6 11	462.601	5/2 <sup>+</sup>
		980.6 1	100 12	405.80	(3/2 <sup>+</sup> )
		1386.3 1	46 8	0.0	7/2 <sup>+</sup>

6

Adopted Levels, Gammas (continued)

$\gamma(^{107}\text{Rh})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$
1460.9	(15/2 <sup>+</sup> )	525 <i>I</i>	100	935.9	(11/2 <sup>+</sup> )
1509.1	(17/2 <sup>+</sup> )	254 <i>I</i>		1255.1	(15/2 <sup>+</sup> )
		738 <i>I</i>		771.1	(13/2 <sup>+</sup> )
1583.0	(15/2 <sup>+</sup> )	417 <i>I</i>		1166.0	(13/2 <sup>+</sup> )
1610.4	(13/2 <sup>-</sup> )	604 <i>I</i>		1006.6	(9/2 <sup>-</sup> )
1639.07	(1/2 <sup>-</sup> ,3/2 <sup>-</sup> )	252.70 <i>5</i>	56 <i>5</i>	1386.36	1/2 <sup>-</sup> ,3/2 <sup>-</sup>
		597.1 <i>I</i>	14.3 <i>25</i>	1041.950	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
		690.9 <i>2</i>	28 <i>5</i>	948.12	
		727.1 <i>I</i>	30.7 <i>25</i>	911.99	
		956.0 <i>2</i>	31 <i>5</i>	683.10	(7/2 <sup>+</sup> )
		1050.3 <i>2</i>	21 <i>5</i>	588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )
		1176.5 <i>2</i>	28 <i>5</i>	462.601	5/2 <sup>+</sup>
		1445.0 <i>I</i>	100 <i>8</i>	194.048	9/2 <sup>+</sup>
		1639.0 <i>2</i>	26 <i>5</i>	0.0	7/2 <sup>+</sup>
1863.10	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	476.8 <i>I</i>	42 <i>5</i>	1386.36	1/2 <sup>-</sup> ,3/2 <sup>-</sup>
		821.1 <i>I</i>	86 <i>12</i>	1041.950	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
		951.2 <i>I</i>	65 <i>12</i>	911.99	
		1294.0 <i>5</i>	14 <i>9</i>	568.90	(7/2 <sup>+</sup> )
		1669.0 <i>2</i>	53 <i>5</i>	194.048	9/2 <sup>+</sup>
		1863.0 <i>I</i>	100 <i>9</i>	0.0	7/2 <sup>+</sup>
2020.51		1067.0 <i>2</i>	448 <i>5</i>	953.48	(9/2 <sup>+</sup> )
		1558.0 <i>2</i>	100 <i>11</i>	462.601	5/2 <sup>+</sup>
		1826.5 <i>3</i>	33 <i>11</i>	194.048	9/2 <sup>+</sup>
		2020.4 <i>2</i>	38 <i>5</i>	0.0	7/2 <sup>+</sup>
2033.0	(17/2 <sup>+</sup> )	450 <i>I</i>		1583.0	(15/2 <sup>+</sup> )
		867 <i>I</i>		1166.0	(13/2 <sup>+</sup> )
2053.1	(19/2 <sup>+</sup> )	544 <i>I</i>		1509.1	(17/2 <sup>+</sup> )
		798 <i>I</i>		1255.1	(15/2 <sup>+</sup> )
2054.20	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1106.0 <i>5</i>	10 <i>5</i>	948.12	
		1142.2 <i>I</i>	26 <i>3</i>	911.99	
		1591.6 <i>I</i>	100 <i>6</i>	462.601	5/2 <sup>+</sup>
		1648.4 <i>3</i>	17 <i>6</i>	405.80	(3/2 <sup>+</sup> )
2115.42		1161.9 <i>2</i>	22 <i>4</i>	953.48	(9/2 <sup>+</sup> )
		1167.3 <i>I</i>	100 <i>11</i>	948.12	
2117.9	(19/2 <sup>+</sup> )	657 <i>I</i>	100	1460.9	(15/2 <sup>+</sup> )
2141.1	(15/2 <sup>-</sup> )	1370 <i>I</i>	100	771.1	(13/2 <sup>+</sup> )
2177.98		1589.1 <i>3</i>	57 <i>14</i>	588.92	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )
		1692.5 <i>5</i>	14 <i>7</i>	485.66	3/2 <sup>-</sup>
		1772.1 <i>2</i>	100 <i>15</i>	405.80	(3/2 <sup>+</sup> )
2207.68		2013.5 <i>3</i>	83 <i>16</i>	194.048	9/2 <sup>+</sup>
		2207.7 <i>2</i>	100 <i>8</i>	0.0	7/2 <sup>+</sup>
2249.68	(5/2,7/2) <sup>+</sup>	1296.3 <i>2</i>	38 <i>5</i>	953.48	(9/2 <sup>+</sup> )

**Adopted Levels, Gammas (continued)**

$\gamma(^{107}\text{Rh})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$
2249.68	(5/2,7/2) <sup>+</sup>	1566.7 2	100 8	683.10	(7/2 <sup>+</sup> )	2358.1	(21/2 <sup>+</sup> )	849 1		1509.1	(17/2 <sup>+</sup> )
		2055.5 1	51 5	194.048	9/2 <sup>+</sup>	2428.3	(19/2 <sup>-</sup> )	127 1		2301.3	(17/2 <sup>-</sup> )
		2249.7 1	32 2	0.0	7/2 <sup>+</sup>			151 1		2277.2	(17/2 <sup>-</sup> )
2277.2	(17/2 <sup>-</sup> )	136 1		2141.1	(15/2 <sup>-</sup> )	2510.00	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	2316.0 2	100 22	194.048	9/2 <sup>+</sup>
		667 1		1610.4	(13/2 <sup>-</sup> )			2509.9 2	78 11	0.0	7/2 <sup>+</sup>
		1022 1		1255.1	(15/2 <sup>+</sup> )	2660.3	(21/2 <sup>-</sup> )	232 1	100	2428.3	(19/2 <sup>-</sup> )
2301.3	(17/2 <sup>-</sup> )	691 1	100	1610.4	(13/2 <sup>-</sup> )	2846.1	(23/2 <sup>+</sup> )	488 1		2358.1	(21/2 <sup>+</sup> )
2303.39	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	1293.7 5	18 12	1009.76	(3/2 <sup>-</sup> ,5/2 <sup>-</sup> )			793 1		2053.1	(19/2 <sup>+</sup> )
		1425.6 3	50 12	877.75	5/2 <sup>-</sup>	2873.9	(23/2 <sup>+</sup> )	756 1	100		
		1817.7 3	25 6	485.66	3/2 <sup>-</sup>	2962.3	(23/2 <sup>-</sup> )	302 1	100	2660.3	(21/2 <sup>-</sup> )
		1897.6 2	100 13	405.80	(3/2 <sup>+</sup> )	3135.1	(25/2 <sup>+</sup> )	289 1	100	2846.1	(23/2 <sup>+</sup> )
		1929.0 5	87 43	374.278	(3/2 <sup>+</sup> )	3311.3	(25/2 <sup>-</sup> )	349 1	100	2962.3	(23/2 <sup>-</sup> )
2331.08	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1648.0 5	52 26	683.10	(7/2 <sup>+</sup> )	3434.1	(27/2 <sup>+</sup> )	299 1	100	3135.1	(25/2 <sup>+</sup> )
		1868.5 2	52 10	462.601	5/2 <sup>+</sup>	3709.3	(27/2 <sup>-</sup> )	398 1	100	3311.3	(25/2 <sup>-</sup> )
		2331.0 2	100 11	0.0	7/2 <sup>+</sup>	3802.1	(29/2 <sup>+</sup> )	368 1	100	3434.1	(27/2 <sup>+</sup> )
2358.1	(21/2 <sup>+</sup> )	305 1		2053.1	(19/2 <sup>+</sup> )						

† From <sup>107</sup>Ru  $\beta^-$  decay.

‡ Relative photon branching from each level.

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






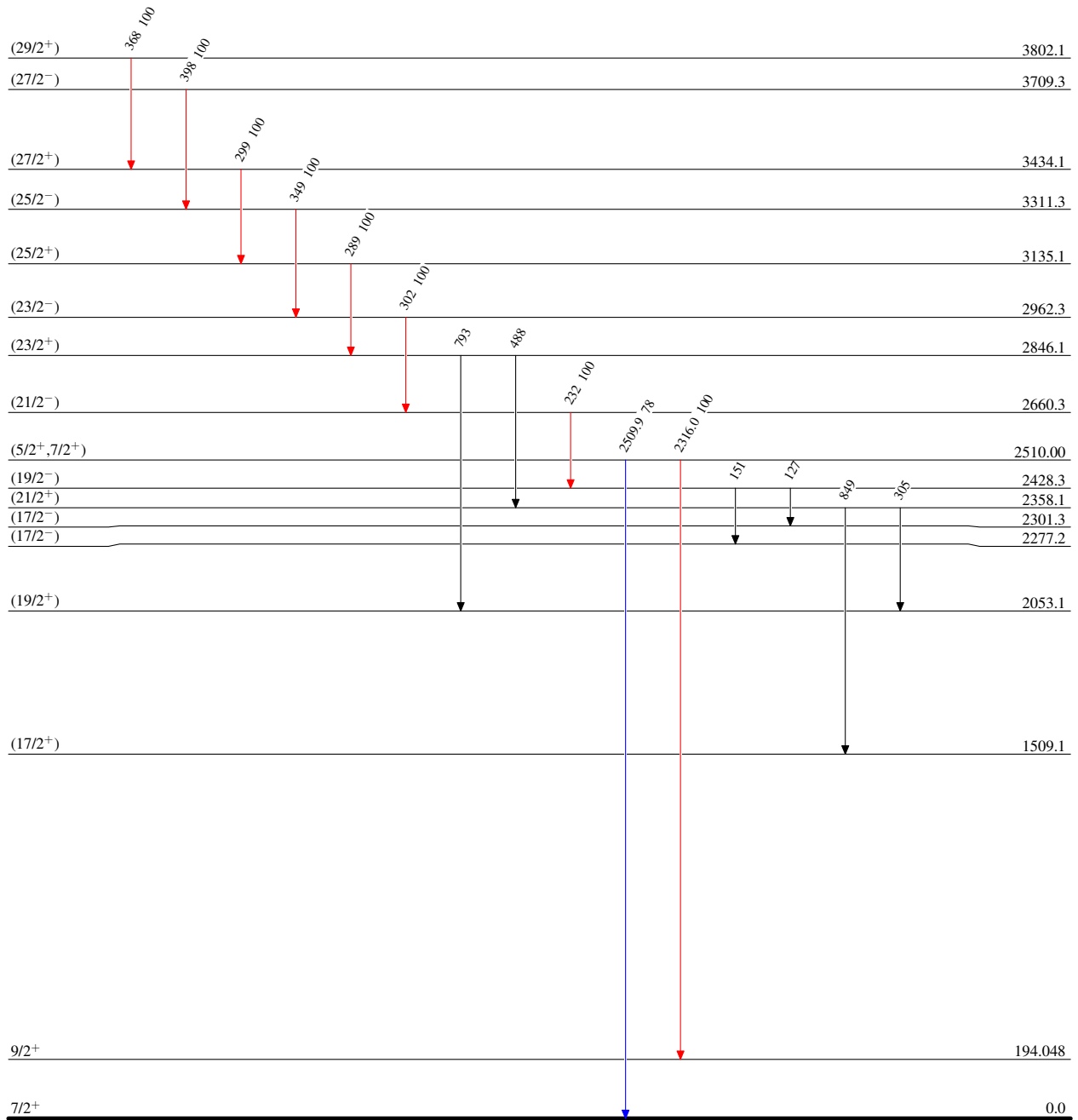
**Adopted Levels, Gammas**

Level Scheme

Intensities: Type not specified

Legend

-   $I_\gamma < 2\% \times I_\gamma^{max}$
-   $I_\gamma < 10\% \times I_\gamma^{max}$
-   $I_\gamma > 10\% \times I_\gamma^{max}$



$^{107}_{45}\text{Rh}_{62}$

21.7 min 4

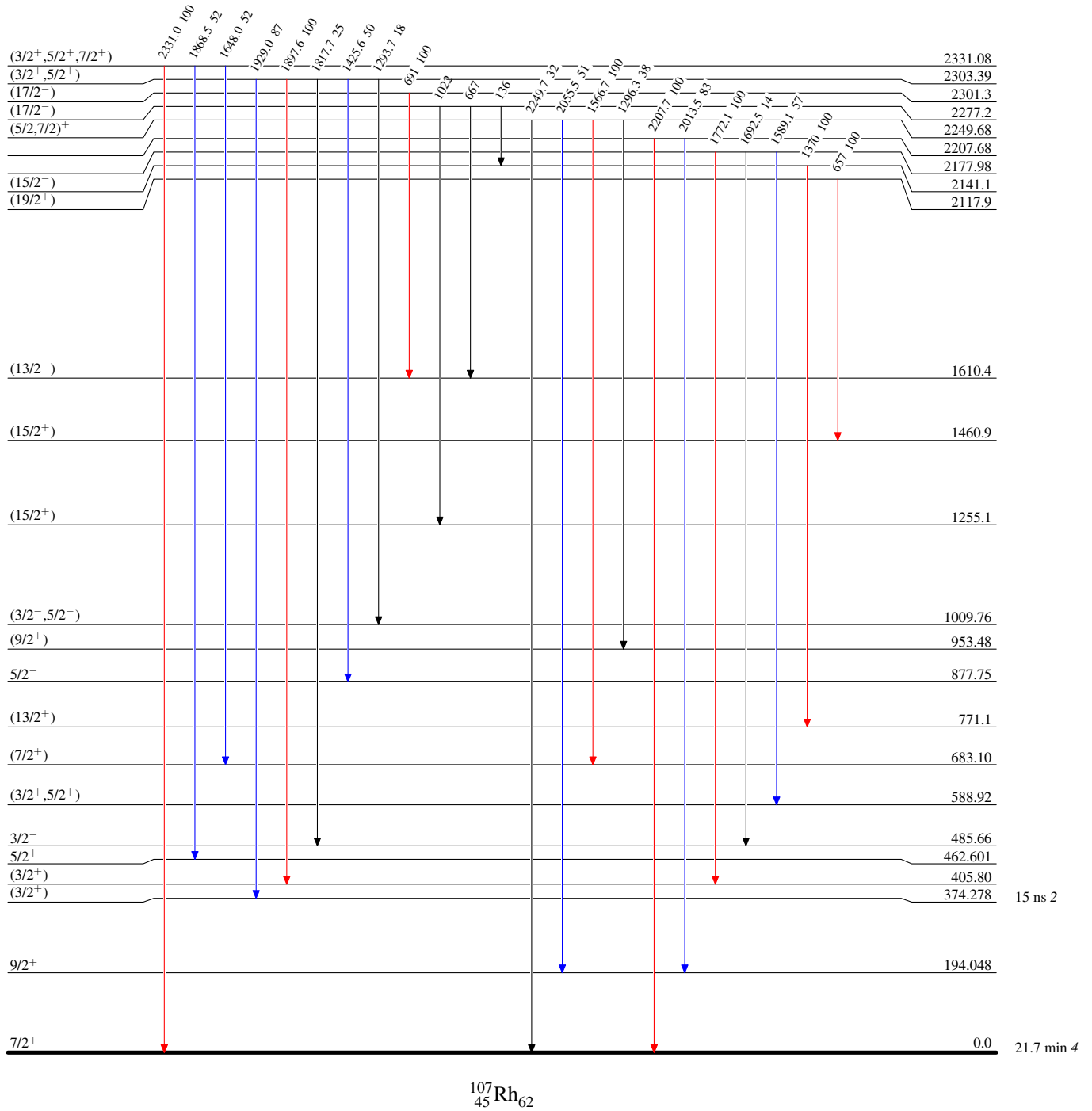
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified

**Legend**

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$



$^{107}_{45}\text{Rh}_{62}$

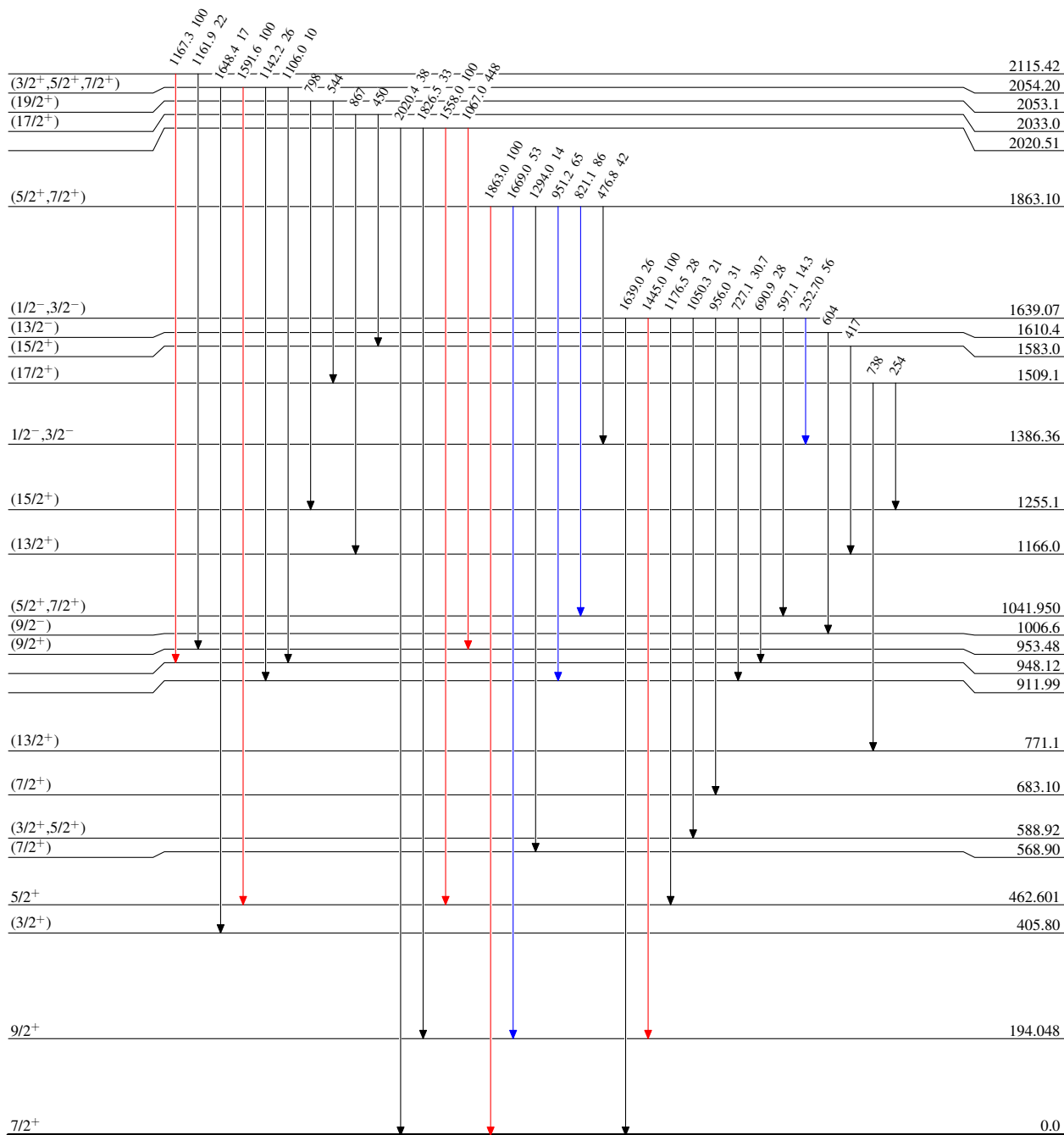
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified

**Legend**

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



<sup>107</sup>Rh<sub>45</sub>

21.7 min 4

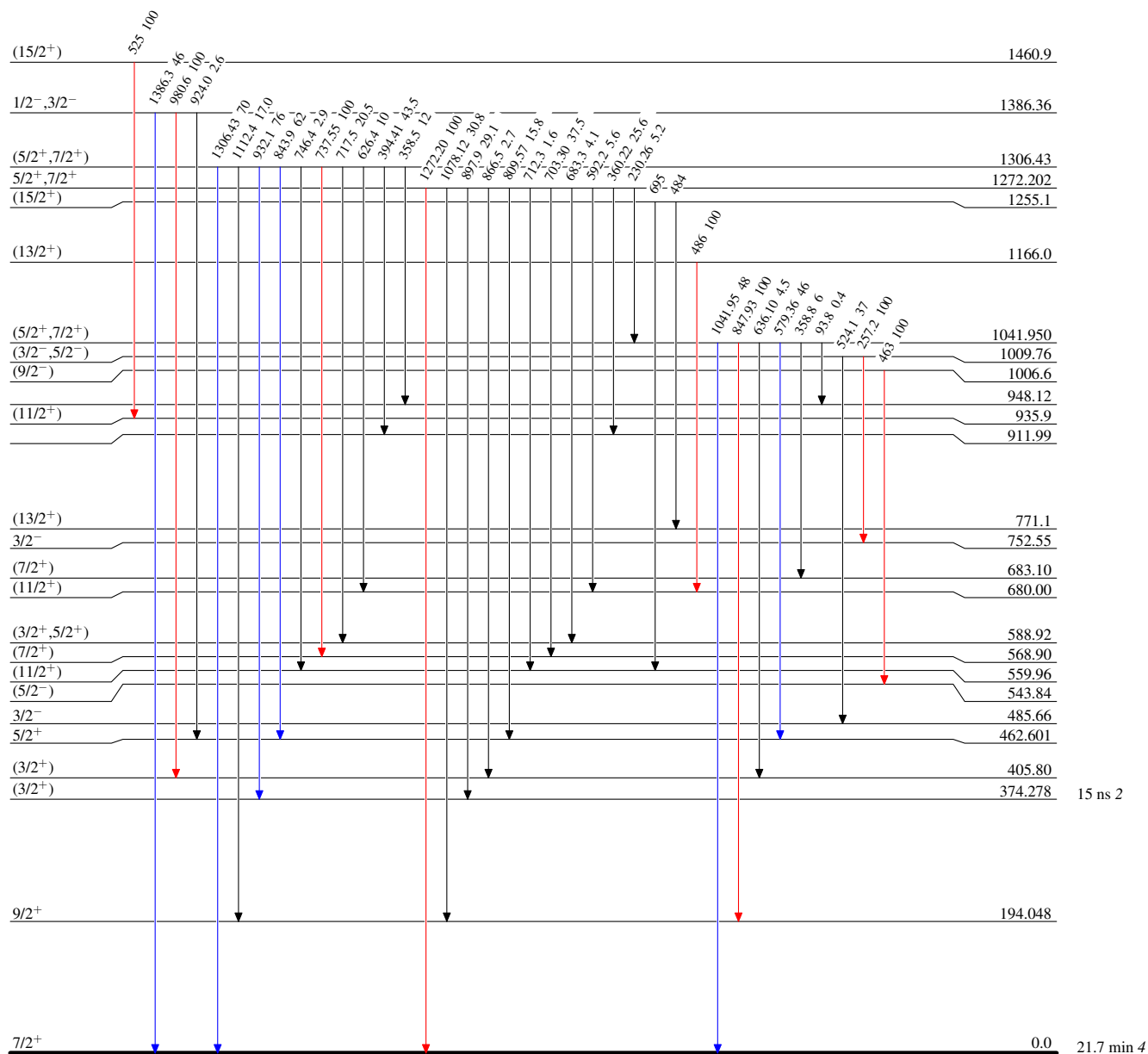
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$



$^{107}_{45}\text{Rh}_{62}$

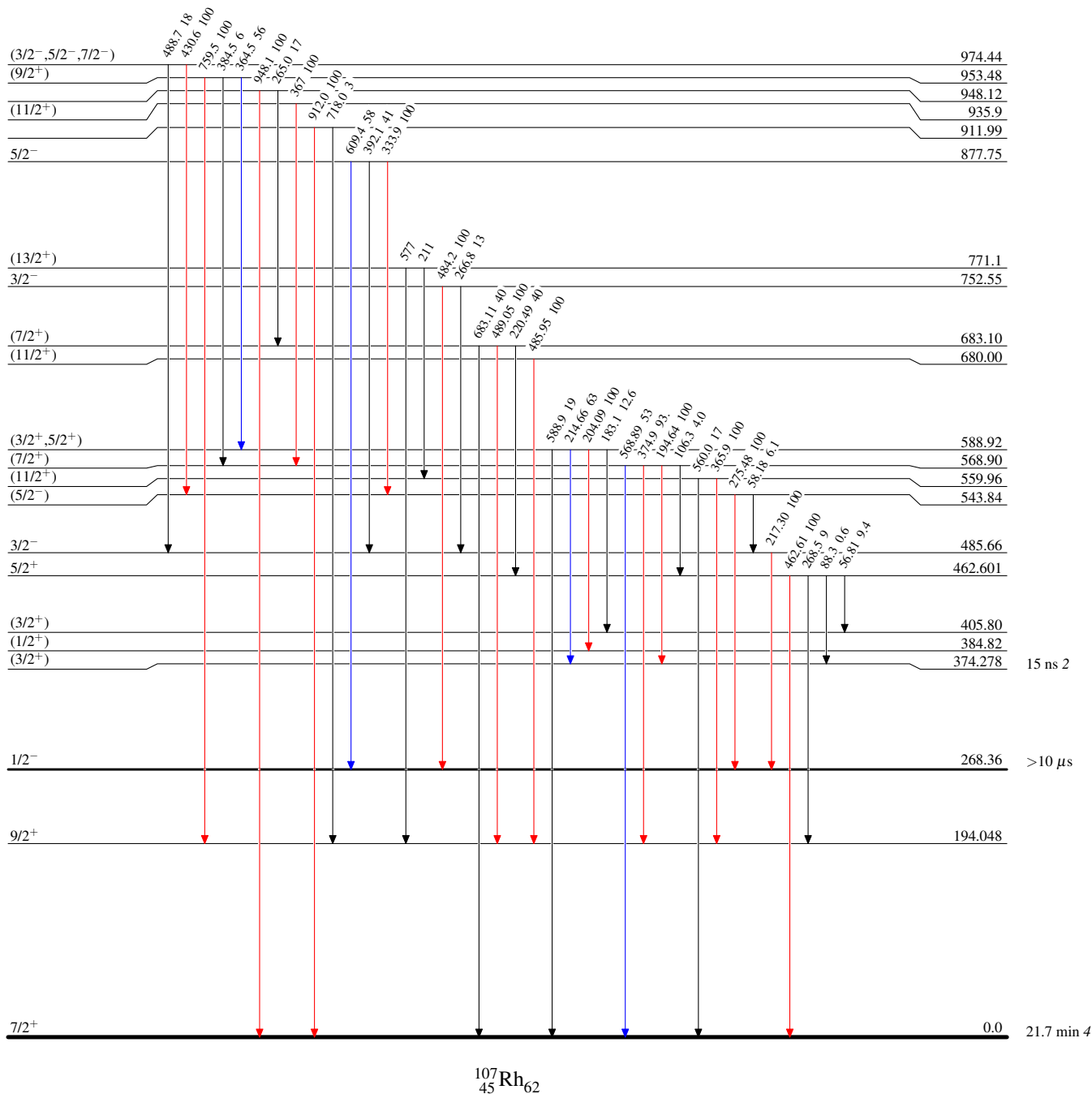
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified

**Legend**

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$

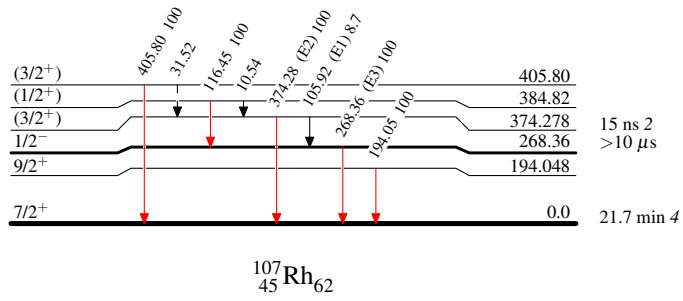


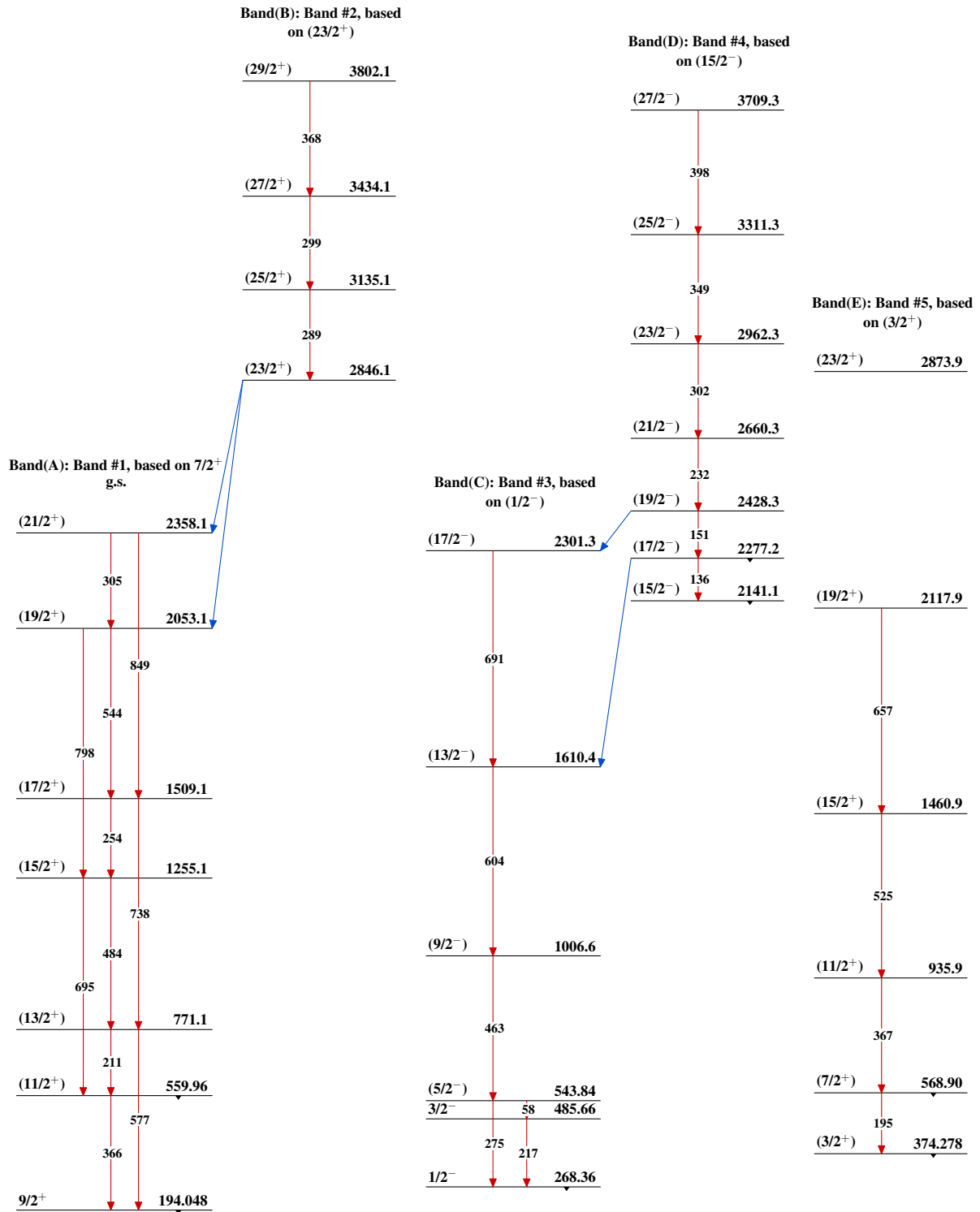
**Adopted Levels, Gammas****Level Scheme (continued)**

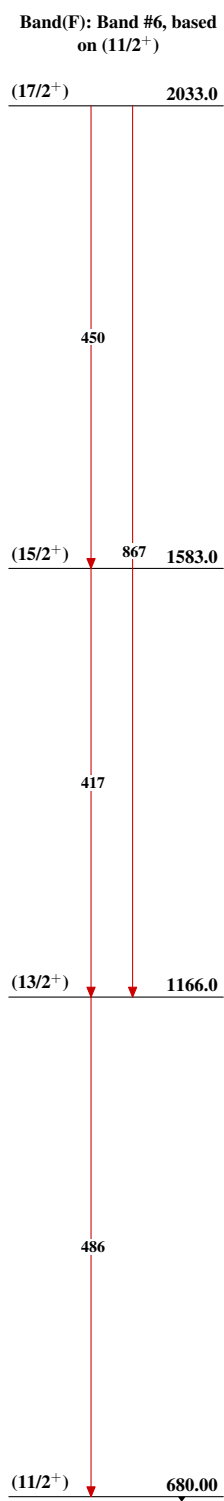
Intensities: Type not specified

## Legend

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



Adopted Levels, Gammas $^{107}_{45}\text{Rh}_{62}$

**Adopted Levels, Gammas (continued)** $^{107}_{45}\text{Rh}_{62}$