Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, [1] and Jun Chen[2]	NDS 169, 1 (2020)	15-Oct-2020

Q(β^-)=−1463 *16*; S(n)=7323 *20*; S(p)=3653 *11*; Q(α)=3914 *17* 2017Wa10
S(2n)=16605 *4*, S(2p)=9067 *10* (2017Wa10).
Mass measurement: 2017Ma29: using ISOLTRAP at ISOLDE-CERN.
Other reaction: ^{190}Pt(^{3}He,t) E=60 MeV (1986LeZS).
Theory references: consult the NSR database (www.nndc.bnl.gov/nsr/) for about 12 primary references dealing with nuclear structure and other calculations.
Additional information 1.
Isotope shift measurements: 1990Sa21, 1989Wa11, 1987Wa06, 1985St10, 1985Kl09.
Search for superdeformed structures: 1992ZwZZ, 1992MaZP. None seems to have been confirmed.

^{190}Au Levels

Quasiparticle labeling scheme (2004Gu07):
A: $\nu i_{13/2},\alpha=+1/2$.
B: $\nu i_{13/2},\alpha=-1/2$.
C: $\nu i_{13/2},\alpha=+1/2$.
D: $\nu i_{13/2},\alpha=-1/2$.
E: $\nu h_{9/2},\alpha=-1/2$.
F: $\nu h_{9/2},\alpha=+1/2$.
e: $\pi h_{11/2},\alpha=-1/2$.

Cross Reference (XREF) Flags

A ^{190}Hg ε decay (20.0 min)
B ^{190}Au IT decay (125 ms)
C ^{186}W(^{11}B,7nγ)
D ^{191}Ir(α,5nγ)

E(level)	$J^{\pi\dagger}$	$T_{1/2}$	XREF	Comments
0.0	1^-	42.8 min *10*	A	%ε+%β^+=100; %α<1×10^{-6} (1963Ka17) μ=−0.065 *7* (1990Sa21,2019StZV) Evaluated rms charge radius=5.4109 fm *49* (2013An02). Evaluated δ<r^2>(^{197}Au,^{190}Au)=−0.284 fm^2 *5* (2013An02). %β^+=2 (1961Ja17), <1 (1959Al94). From ε/β^+(theory), deduced %β^+<0.2 (Q(β^-)=−1600). μ: laser-resonant ionization spectroscopy on mass-separated ^{190}Au (1990Sa21). Others: −0.068 *26* (1989Wa11); −0.063 (1985St10); 0.065 (1964Li06,1964Li11,1966Ch05). Δ<r^2>(^{197}Au,^{190}Au)=−0.285 fm^2 *6* (1989Wa11,1987Wa06), −0.261 fm^2 *12* (1985St10), −0.282 fm^2 *8* (1990Sa21). Methods employed resonance ionization spectroscopy and fluorescence spectroscopy on mass-separated radioactive ion beams. β_2=−0.139 (1989Wa11), −0.148 *3* (1985St10), 0.139 (1990Sa21); deduced from Δ<r^2> given above. E(level): From least-squares fit to Eγ data, assuming 0.3 keV uncertainty for Eγ when not stated. J$^\pi$: spin from atomic beam (1964Li06,1966Ch05). π from cascade of E1 and M1+E2 γ transitions from 171.6, 1$^+$ level through the 29.1-keV level. Based on measured magnetic dipole moments for ^{188}Au and ^{190}Au ground states, 1985Ab03 and 1980Ek04 suggested oblate structure for ^{190}Au ground state with possible configurations of $\pi d_{3/2}\otimes\nu 3p_{1/2}$ or $\pi d_{3/2}\otimes\nu 3p_{3/2}$, both giving $J^\pi=1^-$. $T_{1/2}$: from 1973Jo11. Others: 43 min *1* (1969Na10), 38.8 min *18* (1961An02); 1960Po07,

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Adopted Levels, Gammas (continued)

^{190}Au Levels (continued)

E(level)	Jπ†	$T_{1/2}$	XREF	Comments
				1960Al20, 1961Ja17.
29.1 *2*	$1^-,2^-$	0.55 ns *4*	A	$T_{1/2}$: ce(L)(28.9γ)(γ,ce(L))(142.6γ)(t) (1985Ab03). Jπ: M1+E2 γ to 1^-.
122.0? *3*	(≤3)		A	Jπ: γ to 1^-.
129.6 *2*	$(0,1,2)^-$		A	Jπ: M1 γ to $1^-,2^-$; (M1) γ to 1^-.
165.4? *3*	$(1^-,2^-)$		A	Jπ: E2+M1 γ to 1^-.
171.6 *2*	1^+	0.16 ns *2*	A	$T_{1/2}$: ce(K)(142.6γ)(K x ray)(t) (1985Ab03). Jπ: log *ft*=4.8 from 0^+.
284.5 *2*	$(0,1,2)^-$		A	Jπ: M1 γ to $(0,1,2)^-$; possible γ to 1^+.
347.7? *5*			A	
414.0 *3*	(≤3)		A	Jπ: probable γ to 1^+.
417.9? *4*			A	
419.9? *3*			A	
421.8? *4*			A	
431.0? *4*			A	
545.4? *3*			A	
0.0+x‡	(11^-)	125 ms *20*	CD	%IT≈100 E(level): x=200 *150* (2017Au03,syst); 260 *100* (from energies of γ rays observed, but unplaced). Jπ: from systematics, similar isomers in ^{192}Au and ^{194}Au with possible configuration=$(\pi h^{-1}_{11/2}\otimes\nu i^{-1}_{13/2})_{11-}$ (1982Ne05). $T_{1/2}$: from γ(t) pulsed beam (1982Ne05). Four γ rays observed (see ^{190}Au IT decay) from this isomer but no level scheme is established.
282.07+x# *16*	(12^-)		CD	
427.73+x‡ *16*	(13^-)		CD	
743.55+x# *23*	(14^-)		CD	
1145.45+x‡ *23*	(15^-)		CD	
1468.33+x# *25*	(16^-)		CD	
1598.4+x[f] *3*	(15^+)		CD	
1830.7+x[f] *3*	(17^+)		CD	
1834.8+x? *3*	(16)		D	E(level): level not confirmed in (^{11}B,7nγ).
1929.8+x‡ *3*	(17^-)		CD	
2093.0+x *4*	(17^-)		C	
2110.1+x *4*	(18^+)		C	
2148.9+x *4*	(18^+)		CD	
2172.1+x[b] *4*	(20^+)	7.0 ns *3*	CD	$T_{1/2}$: from γ(t) pulsed beam (2001Gu29). Configuration=$\pi h^{-1}_{11/2}\otimes\nu(i^{-2}_{13/2},h^{-1}_{9/2})$.
2265.4+x# *3*	(18^-)		C	
2283.3+x *3*	(19^-)		CD	
2365.8+x[f] *4*	(19^+)		C	
2436.3+x‡ *3*	(19^-)		CD	
2496.7+x *5*	(19^+)		C	
2662.6+x[c] *4*	(21^+)		CD	
2665.5+x *5*	(20^+)		C	
2727.5+x[b] *4*	(22^+)		CD	
2728.9+x# *4*	(20^-)		CD	
2816.3+x *5*			C	
2899.2+x‡ *4*	(21^-)		C	
2978.4+x@ *4*	(22^-)		C	
2995.4+x[f] *4*	(21^+)		C	

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Adopted Levels, Gammas (continued)

^{190}Au Levels (continued)

E(level)	J$^{\pi}$†	XREF	E(level)	J$^{\pi}$†	XREF	E(level)	J$^{\pi}$†	XREF
3002.3+x[d] *4*	(22^{+})	C	4373.2+x[e] *5*	(27^{+})	C	5567.3+x *6*	(29)	C
3067.1+x *4*	(22^{-})	C	4400.1+x[a] *5*	(26^{-})	C	5587.6+x[@] *7*	(30^{-})	C
3088.5+x *4*	(21^{+})	C	4516.0+x[d] *6*	(26^{+})	C	5587.8+x *5*	(30^{-})	C
3213.8+x *5*		C	4546.9+x *5*	(27^{-})	C	5740.8+x[d] *6*	(30^{+})	C
3255.6+x[c] *4*	(23^{+})	C	4644.5+x[b] *5*	(28^{+})	C	5928.2+x *8*		C
3340.7+x *6*	(22^{+})	C	4674.5+x[&] *5*	(27^{-})	C	6052.3+x[b] *6*	(32^{+})	C
3456.8+x[e] *4*	(23^{+})	C	4734.0+x *6*	(27^{+})	C	6069.5+x[&] *7*	(31^{-})	C
3459.9+x[a] *4*	(23^{-})	C	4736.6+x *6*	(27^{-})	C	6135.3+x *6*	(32^{+})	C
3490.5+x[@] *5*	(24^{-})	C	4746.0+x *6*	(27^{+})	C	6220.3+x[d] *7*	(32^{+})	C
3494.4+x[b] *4*	(24^{+})	C	4794.6+x[a] *5*	(28^{-})	C	6330.9+x *8*		C
3524.0+x *5*	(23)	C	4813.0+x *7*		C	6344.2+x *6*	(32^{-})	C
3677.7+x[d] *5*	(24^{+})	C	4938.3+x[e] *7*	(29^{+})	C	6386.5+x[a] *6*	(32^{-})	C
3741.9+x[f] *6*	(23^{+})	C	5031.6+x[&] *5*	(28^{-})	C	6388.9+x[@] *8*		C
3792.1+x[a] *4*	(25^{-})	C	5120.0+x[@] *7*	(28^{-})	C	6759.9+x[&] *8*	(33^{-})	C
3822.5+x[e] *5*	(25^{+})	C	5151.1+x *6*	(28)	C	6769.9+x *7*	(34^{+})	C
4104.9+x *7*	(24^{+})	C	5151.2+x[d] *6*	(28^{+})	C	7019.7+x[a] *6*	(34^{-})	C
4105.3+x[c] *4*	(25^{+})	C	5309.3+x[&] *5*	(29^{-})	C	7033.7+x[b] *7*	(34^{+})	C
4213.9+x[&] *5*	(26^{-})	C	5331.8+x *6*	(29^{-})	C	7066.1+x[d] *9*		C
4268.2+x[@] *5*	(26^{-})	C	5378.8+x[b] *5*	(30^{+})	C	7268.1+x *7*	(36^{+})	C
4288.2+x *6*		C	5437.5+x *8*	(29^{+})	C	7886.0+x[a] *7*	(36^{-})	C
4333.4+x[b] *5*	(26^{+})	C	5506.4+x[a] *5*	(30^{-})	C			

† For levels populated in in-beam γ-ray studies, assignments are based on (11^{-}) for 0.0+x isomer, and bands based on this isomer. The $\gamma(\theta)$, γ(lin pol) and ce data support these assignments. Transitions with mult=Q are assumed as ΔJ=2, E2; and mult=D as ΔJ=1. Generally ascending spins are assumed as the excitation energy rises.

‡ Band(A): $\pi h^{-1}_{11/2}\otimes\nu i^{-1}_{13/2}$,$\alpha$=1. Rotation-aligned band based on 11^{+}.

Band(a): $\pi h^{-1}_{11/2}\otimes\nu i^{-1}_{13/2}$,$\alpha$=0. Rotation-aligned band based on 12^{+}.

@ Band(B): $\pi h^{-1}_{11/2}\otimes\nu i^{-3}_{13/2}$. Band based on 22^{-}.

& Band(C): Multi-qp band based on 26^{-}. Configuration=$\pi h^{-1}_{11/2}\otimes\ \nu[(i^{-3}_{13/2}h^{-1}_{9/2})(p_{3/2},f_{5/2})^{1}]$.

a Band(D): Multi-qp band based on 23^{-}. Configuration=$\pi h^{-1}_{11/2}\otimes\ \nu[(i^{-3}_{13/2}h^{-1}_{9/2})(p_{3/2},f_{5/2})^{1}]$. Members of this band are not clearly labeled in either Fig. 1 or the text in 2004Gu07.

b Band(E): $\pi h^{-1}_{11/2}\nu(i^{-2}_{13/2}h^{-1}_{9/2})$,$\alpha$=0. eFBC configuration; band based on 20^{+} isomer.

c Band(e): $\pi h^{-1}_{11/2}\nu(i^{-2}_{13/2}h^{-1}_{9/2})$,$\alpha$=1. eFAC configuration; band based on 20^{+} isomer.

d Band(F): eFAB band based on 22^{+}.

e Band(G): Possible non-collective band based on 23^{+}.

f Band(H): Multi-qp band based on 15^{+}. Configuration=$\pi h^{-1}_{11/2}\otimes\nu[(i^{-2}_{13/2})(p_{3/2},f_{5/2})^{1}]$.

$\gamma(^{190}Au)$

E$_i$(level)	J$^\pi_i$	E$_\gamma$[†]	I$_\gamma$[†]	E$_f$	J$^\pi_f$	Mult.[#]	δ[#]	α[@]	Comments
29.1	1$^-$,2$^-$	28.9	100	0.0	1$^-$	M1+E2	0.071 *5*	58.7 *16*	B(M1)(W.u.)=0.0276 *23*; B(E2)(W.u.)=66 *11*
122.0?	(≤3)	122.0[a]		0.0	1$^-$				
129.6	(0,1,2)$^-$	100.8	26	29.1	1$^-$,2$^-$	M1(+E2)	>1.1	5.5 *5*	
		129.6	100	0.0	1$^-$	(M1)		3.46	
165.4?	(1$^-$,2$^-$)	165.4[a]		0.0	1$^-$	E2+M1	1.4 *+16−6*	1.07 *28*	
171.6	1$^+$	142.6	100	29.1	1$^-$,2$^-$	E1		0.1689	B(E1)(W.u.)=3.6×10^{-4} *6*
		171.5	7.0	0.0	1$^-$	(E1)		0.1059	B(E1)(W.u.)=1.50×10^{-5} *47*
284.5	(0,1,2)$^-$	112.6[a]		171.6	1$^+$				
		154.7	100	129.6	(0,1,2)$^-$	M1(+E2)	<0.9	1.8 *3*	
		255.3[a]		29.1	1$^-$,2$^-$				
		284.8[&]	<24[&]	0.0	1$^-$				
347.7?		182.3[a]		165.4?	(1$^-$,2$^-$)				
414.0	(≤3)	129.6	<270	284.5	(0,1,2)$^-$				
		242.6		171.6	1$^+$				
		284.8[&]	<300[&]	129.6	(0,1,2)$^-$				
		384.5	100	29.1	1$^-$,2$^-$				
417.9?		133.4[a]		284.5	(0,1,2)$^-$				
419.9?		135.4[a]		284.5	(0,1,2)$^-$				
421.8?		137.3[a]		284.5	(0,1,2)$^-$				
431.0?		146.5[a]		284.5	(0,1,2)$^-$				
545.4?		125.3[a]	<25	419.9?					
		373.8[a]	100	171.6	1$^+$				
282.07+x	(12$^-$)	282.0 *2*	100	0.0+x	(11$^-$)	M1		0.393	
427.73+x	(13$^-$)	145.5 *2*	14.8 *16*	282.07+x	(12$^-$)	M1		2.49	
		427.8 *2*	100 *8*	0.0+x	(11$^-$)	E2		0.0382	
743.55+x	(14$^-$)	315.7 *3*	100 *9*	427.73+x	(13$^-$)	M1		0.289	
		461.8 *4*	14.5 *15*	282.07+x	(12$^-$)	E2		0.0314	
1145.45+x	(15$^-$)	402.0 *2*	45 *4*	743.55+x	(14$^-$)	M1		0.1508	
		717.7 *2*	100 *10*	427.73+x	(13$^-$)	E2		0.01134	
1468.33+x	(16$^-$)	322.8 *2*	73 *7*	1145.45+x	(15$^-$)	M1		0.272	
		724.7 *2*	100 *9*	743.55+x	(14$^-$)	E2		0.01110	
1598.4+x	(15$^+$)	854.9 *3*	100	743.55+x	(14$^-$)	E1		0.00295	
1830.7+x	(17$^+$)	232.3 *2*	100 *10*	1598.4+x	(15$^+$)	E2		0.227	I$_\gamma$: uncertainty of 10% assumed by evaluators.
		362.3 *2*	44 *4*	1468.33+x	(16$^-$)	E1		0.01739	
1834.8+x?	(16)	236.8[a] *3*	100	1598.4+x	(15$^+$)	D			
1929.8+x	(17$^-$)	461.4 *5*	34 *10*	1468.33+x	(16$^-$)	M1		0.1045	
		784.5 *2*	100 *7*	1145.45+x	(15$^-$)	E2		0.00939	
2093.0+x	(17$^-$)	624.7 *3*	100	1468.33+x	(16$^-$)				
2110.1+x	(18$^+$)	279.3 *3*	100	1830.7+x	(17$^+$)	M1		0.404	
2148.9+x	(18$^+$)	318.2 *2*	100	1830.7+x	(17$^+$)	M1		0.283	
2172.1+x	(20$^+$)	(23.1[‡] *5*)		2148.9+x	(18$^+$)				

$^{190}_{79}Au_{111}$-4

$\gamma(^{190}Au)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.#	α@	Comments
2172.1+x	(20+)	(62.0‡ 5)		2110.1+x	(18+)			
2265.4+x	(18−)	335.6 2	41 5	1929.8+x	(17−)	M1	0.245	
		797.0 2	100 9	1468.33+x	(16−)	E2	0.00909	
2283.3+x	(19−)	111.1 2	100 9	2172.1+x	(20+)	E1	0.318	
		134.2 3	7.3 27	2148.9+x	(18+)	[E1]	0.197	
		190.2 3	2.7 9	2093.0+x	(17−)	E2	0.445	
		353.6 4	55 18	1929.8+x	(17−)	E2	0.0637	
2365.8+x	(19+)	255.7 4	100 25	2110.1+x	(18+)	M1	0.514	
		535.2 3	88 20	1830.7+x	(17+)	E2	0.0219	
2436.3+x	(19−)	152.8 3	3.5 10	2283.3+x	(19−)	[M1]	2.17	
		170.4 4	50 10	2265.4+x	(18−)	M1	1.592 25	
		343.6 5	9.5 20	2093.0+x	(17−)	[E2]	0.0691	
		506.6 2	100 10	1929.8+x	(17−)	E2	0.0250	
2496.7+x	(19+)	386.5 3	100	2110.1+x	(18+)	M1	0.1675	
2662.6+x	(21+)	490.5 2	100	2172.1+x	(20+)	M1	0.0889	
2665.5+x	(20+)	299.6 4	67 17	2365.8+x	(19+)	[M1]	0.333	
		555.3 4	100 33	2110.1+x	(18+)			
2727.5+x	(22+)	(65.1‡ 5)	1.7	2662.6+x	(21+)	[M1]	4.54	I_γ: deduced by evaluators from I(γ+ce)=6 for 65.1-keV transition relative to Iγ(555.6γ)=63 5 in 2004Gu07, assuming M1 for 65.1-keV transition.
		555.6 2	100 8	2172.1+x	(20+)	E2	0.0201	
2728.9+x	(20−)	292.6 2	100 11	2436.3+x	(19−)	M1	0.355	
		445.7 2	15 4	2283.3+x	(19−)	[M1]	0.1146	
2816.3+x		319.5 3	100	2496.7+x	(19+)			
2899.2+x	(21−)	170.2 3	56 12	2728.9+x	(20−)	M1	1.597	
		462.7 5	100 25	2436.3+x	(19−)	(E2)	0.0313	
		615.9 2	75 13	2283.3+x	(19−)	E2	0.01586	
2978.4+x	(22−)	79.2 4	≈320	2899.2+x	(21−)	M1	2.57 6	I_γ: deduced by evaluators from I(γ+ce)=34 for 79.2-keV transition relative to Iγ(249.6γ)=3 1 in 2004Gu07.
		249.6 4	100 33	2728.9+x	(20−)	[E2]	0.180	
2995.4+x	(21+)	179.0 4	6.7 33	2816.3+x				
		329.8 3	43 13	2665.5+x	(20+)	[M1]	0.257	
		629.8 3	100 33	2365.8+x	(19+)			
3002.3+x	(22+)	339.7 2	100	2662.6+x	(21+)	M1	0.237	
3067.1+x	(22−)	167.8 4	100	2899.2+x	(21−)	M1	1.66 3	
3088.5+x	(21+)	361.1 3	30 10	2727.5+x	(22+)	[M1]	0.201	
		916.2 4	100 30	2172.1+x	(20+)			
3213.8+x		548.3 3	100	2665.5+x	(20+)			
3255.6+x	(23+)	528.1 2	100 13	2727.5+x	(22+)	M1	0.0732	
		592.7 5	13 4	2662.6+x	(21+)			
3340.7+x	(22+)	345.4 5	54 19	2995.4+x	(21+)			
		675.2 5	100 19	2665.5+x	(20+)	E2	0.01293	
3456.8+x	(23+)	201.3 4	8.3 28	3255.6+x	(23+)	[M1]	0.998	
		368.4 3	64 14	3088.5+x	(21+)	E2	0.0569	

$^{190}_{79}Au_{111}$-5

Adopted Levels, Gammas (continued)

γ(^{190}Au) (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.#	α@
3456.8+x	(23+)	454.6 *3*	100 *19*	3002.3+x	(22+)	M1	0.1087
		729.5 *4*	31 *8*	2727.5+x	(22+)		
		794.1 *3*	86 *11*	2662.6+x	(21+)	(E2)	
3459.9+x	(23−)	392.7 *3*	26 *4*	3067.1+x	(22−)	M1	0.1605
		481.5 *3*	70 *7*	2978.4+x	(22−)	M1	0.0934
		560.6 *2*	44 *7*	2899.2+x	(21−)	E2	0.0197
		732.5 *2*	100 *7*	2727.5+x	(22+)	E1	0.00396
3490.5+x	(24−)	512.1 *2*	100	2978.4+x	(22−)	E2	0.0244
3494.4+x	(24+)	238.9 *2*	40 *7*	3255.6+x	(23+)	M1	0.620
		492.0 *5*	17 *5*	3002.3+x	(22+)	[E2]	0.0269
		767.0 *2*	100 *13*	2727.5+x	(22+)	E2	0.00985
3524.0+x	(23)	545.6 *3*	100	2978.4+x	(22−)	D	
3677.7+x	(24+)	675.6 *4*	31 *10*	3002.3+x	(22+)	E2	0.01292
		950.1 *4*	100 *38*	2727.5+x	(22+)	Q	
3741.9+x	(23+)	746.5 *4*	100	2995.4+x	(21+)	Q	
3792.1+x	(25−)	332.2 *2*	100	3459.9+x	(23−)	E2	0.0760
3822.5+x	(25+)	365.7 *2*	100	3456.8+x	(23+)	E2	0.0580
4104.9+x	(24+)	764.2 *4*	100	3340.7+x	(22+)	Q	
4105.3+x	(25+)	610.8 *2*	50 *17*	3494.4+x	(24+)	D+Q	
		849.6 *5*	100 *50*	3255.6+x	(23+)		
4213.9+x	(26−)	421.8 *2*	100	3792.1+x	(25−)	M1	0.1326
4268.2+x	(26−)	777.7 *2*	100	3490.5+x	(24−)	E2	0.00957
4288.2+x		764.2 *3*	100	3524.0+x	(23)		
4333.4+x	(26+)	228.0 *3*	15.3 *20*	4105.3+x	(25+)	M1	0.706
		839.1 *3*	100 *13*	3494.4+x	(24+)	E2	0.00817
4373.2+x	(27+)	550.6 *2*	100	3822.5+x	(25+)	(Q)	
4400.1+x	(26−)	608.0 *3*	100	3792.1+x	(25−)	D	
4516.0+x	(26+)	838.3 *4*	100	3677.7+x	(24+)	Q	
4546.9+x	(27−)	754.8 *3*	100	3792.1+x	(25−)	E2	0.01018
4644.5+x	(28+)	311.1 *2*	100	4333.4+x	(26+)	E2	0.0919
4674.5+x	(27−)	460.2 *5*	100	4213.9+x	(26−)	(M1)	0.1053
4734.0+x	(27+)	911.4 *3*	100	3822.5+x	(25+)	Q	
4736.6+x	(27−)	944.6 *4*	100	3792.1+x	(25−)	(Q)	
4746.0+x	(27+)	923.4 *3*	100	3822.5+x	(25+)	(Q)	
4794.6+x	(28−)	247.6 *3*	100 *20*	4546.9+x	(27−)	(M1)	0.562
		394.5 *4*	48 *16*	4400.1+x	(26−)	E2	0.0472
		580.8 *2*	100 *20*	4213.9+x	(26−)	E2	0.0181
4813.0+x		524.8 *4*	100	4288.2+x			
4938.3+x	(29+)	565.1 *4*	100	4373.2+x	(27+)	Q	
5031.6+x	(28−)	357.0 *4*	30 *15*	4674.5+x	(27−)	[M1]	0.207
		484.8 *4*	100 *19*	4546.9+x	(27−)	M1	0.0917
		817.8 *4*	67 *30*	4213.9+x	(26−)	Q	
5120.0+x	(28−)	851.8 *4*	100	4268.2+x	(26−)	Q	

$^{190}_{79}Au_{111}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{190}Au)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.#	α@
5151.1+x	(28)	476.5 *4*	100	4674.5+x	(27⁻)	D	
5151.2+x	(28⁺)	635.1 *4*	100	4516.0+x	(26⁺)	Q	
5309.3+x	(29⁻)	158.2 *3*	9 *5*	5151.1+x	(28)		
		277.7 *3*	45 *18*	5031.6+x	(28⁻)	M1	0.410
		514.8 *3*	86 *23*	4794.6+x	(28⁻)	(M1)	0.0783
		634.8 *3*	100 *14*	4674.5+x	(27⁻)	E2	0.01482
5331.8+x	(29⁻)	595.3 *5*	100	4736.6+x	(27⁻)		
5378.8+x	(30⁺)	734.3 *2*	100	4644.5+x	(28⁺)	E2	0.01080
5437.5+x	(29⁺)	691.5 *5*	100	4746.0+x	(27⁺)	Q	
5506.4+x	(30⁻)	711.8 *2*	100	4794.6+x	(28⁻)	E2	0.01154
5567.3+x	(29)	416.1 *4*	100	5151.2+x	(28⁺)	D	
5587.6+x	(30⁻)	467.6 *3*	100	5120.0+x	(28⁻)	Q	
5587.8+x	(30⁻)	256.0 *3*	100 *22*	5331.8+x	(29⁻)	(M1)	0.513
		793.0 *4*	72 *22*	4794.6+x	(28⁻)		
5740.8+x	(30⁺)	173.5 *4*	100 *27*	5567.3+x	(29)		
		362.0 *3*	100 *36*	5378.8+x	(30⁺)	[M1]	0.200
		589.7 *5*	82 *36*	5151.2+x	(28⁺)		
5928.2+x		808.2 *4*	100	5120.0+x	(28⁻)		
6052.3+x	(32⁺)	673.5 *3*	100	5378.8+x	(30⁺)	E2	0.01301
6069.5+x	(31⁻)	760.2 *4*	100	5309.3+x	(29⁻)	E2	0.01003
6135.3+x	(32⁺)	756.5 *3*	100	5378.8+x	(30⁺)	(Q)	
6220.3+x	(32⁺)	479.5 *4*	100	5740.8+x	(30⁺)	[E2]	0.0286
6330.9+x		893.4 *3*	100	5437.5+x	(29⁺)		
6344.2+x	(32⁻)	756.3 *4*	43 *13*	5587.8+x	(30⁻)		
		837.5 *4*	100 *25*	5506.4+x	(30⁻)		
6386.5+x	(32⁻)	798.8 *3*	52 *14*	5587.8+x	(30⁻)	Q	
		880.3 *3*	100 *19*	5506.4+x	(30⁻)	(Q)	
6388.9+x		801.3 *4*	100	5587.6+x	(30⁻)		
6759.9+x	(33⁻)	690.4 *4*	100	6069.5+x	(31⁻)	(Q)	
6769.9+x	(34⁺)	634.6 *3*	100	6135.3+x	(32⁺)	(Q)	
7019.7+x	(34⁻)	633.4 *3*	100 *33*	6386.5+x	(32⁻)	E2	0.01489
		675.3 *3*	94 *17*	6344.2+x	(32⁻)	Q	
7033.7+x	(34⁺)	981.4 *4*	100	6052.3+x	(32⁺)	(Q)	
7066.1+x		845.8 *5*	100	6220.3+x	(32⁺)		
7268.1+x	(36⁺)	498.2 *2*	100	6769.9+x	(34⁺)	[E2]	0.0260
7886.0+x	(36⁻)	866.3 *3*	100	7019.7+x	(34⁻)	E2	0.00766

† From (^{11}B,7nγ) for γ rays from high-spin levels. Available values from (α,5nγ) are in agreement, but less complete. Values for γ rays from low-spin levels (J≤4) are from ^{190}Hg ε decay.

‡ γ not observed, deduced from $\gamma\gamma$ coin relationships in (^{11}B,7nγ).

$^{190}_{79}Au_{111}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{190}Au)$ (continued)

[#] From ce data for levels populated by ^{190}Hg ε decay. From $\gamma(\theta)$, γ(lin pol) and ce data for high-spin levels populated in (^{11}B,7nγ). Mult=Q indicates ΔJ=2, quadrupole (most likely E2) and mult=D indicates ΔJ=1, dipole.

[@] 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.

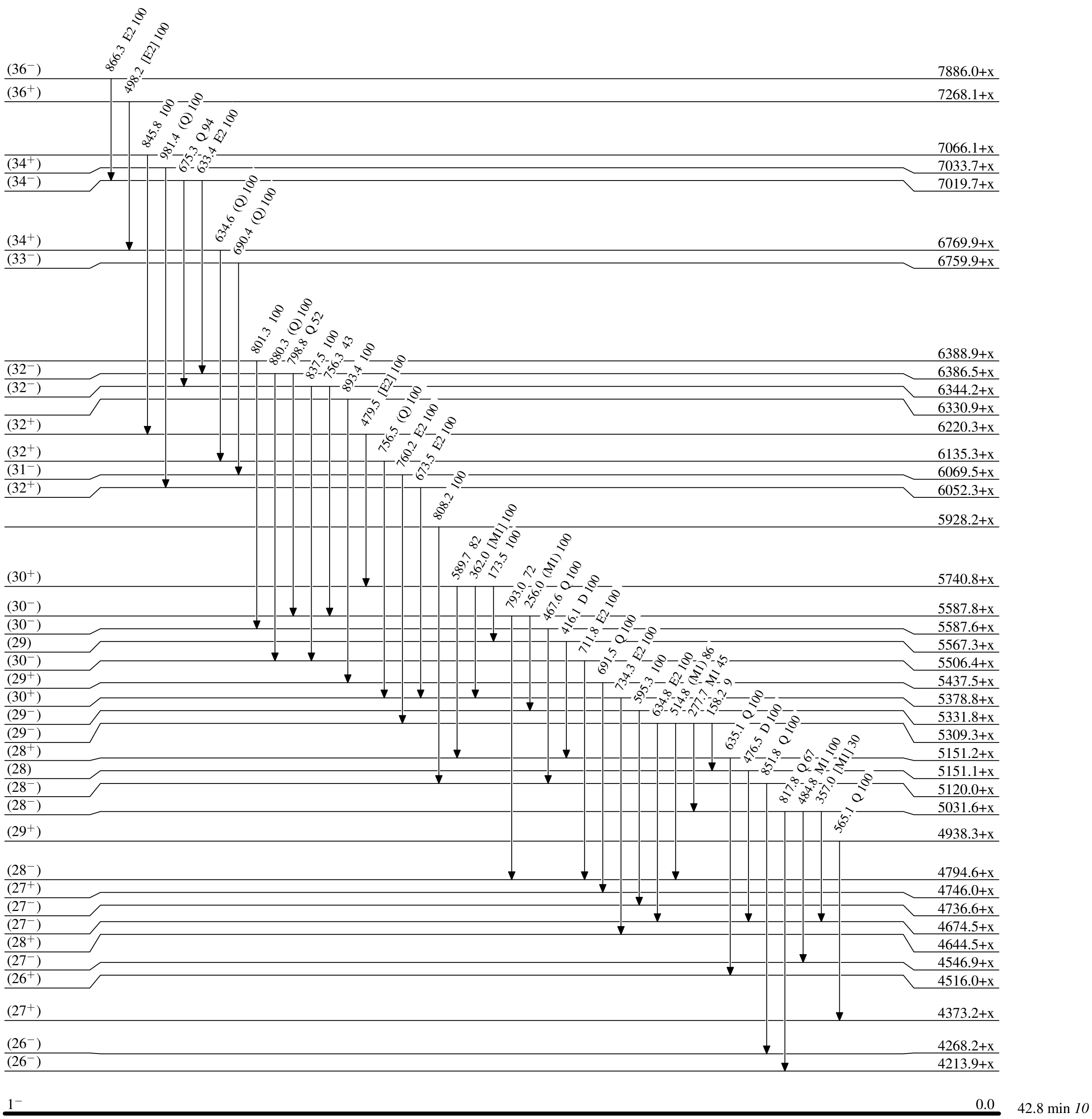
[&] Multiply placed with undivided intensity.

[a] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

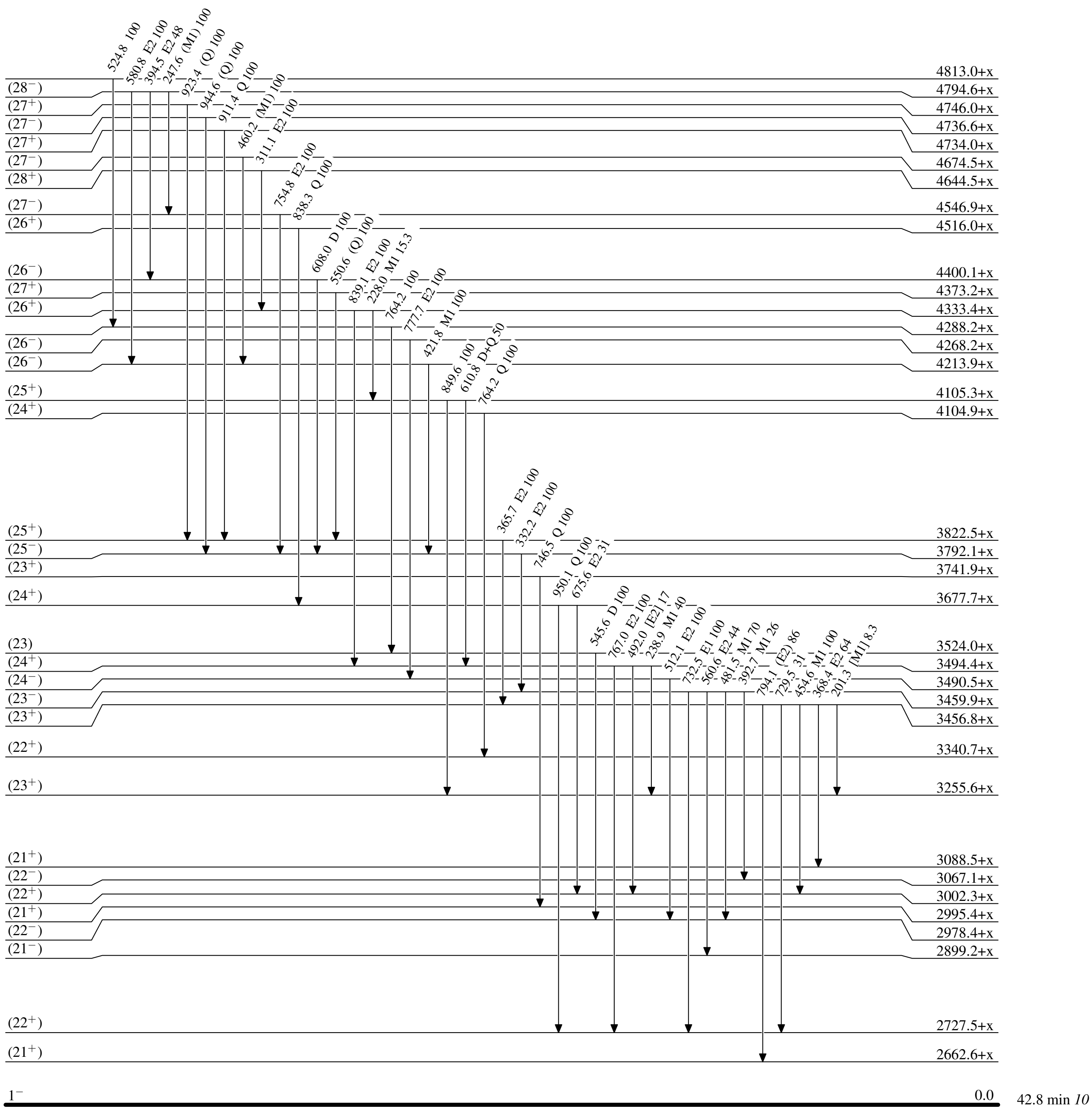


$^{190}_{79}Au_{111}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

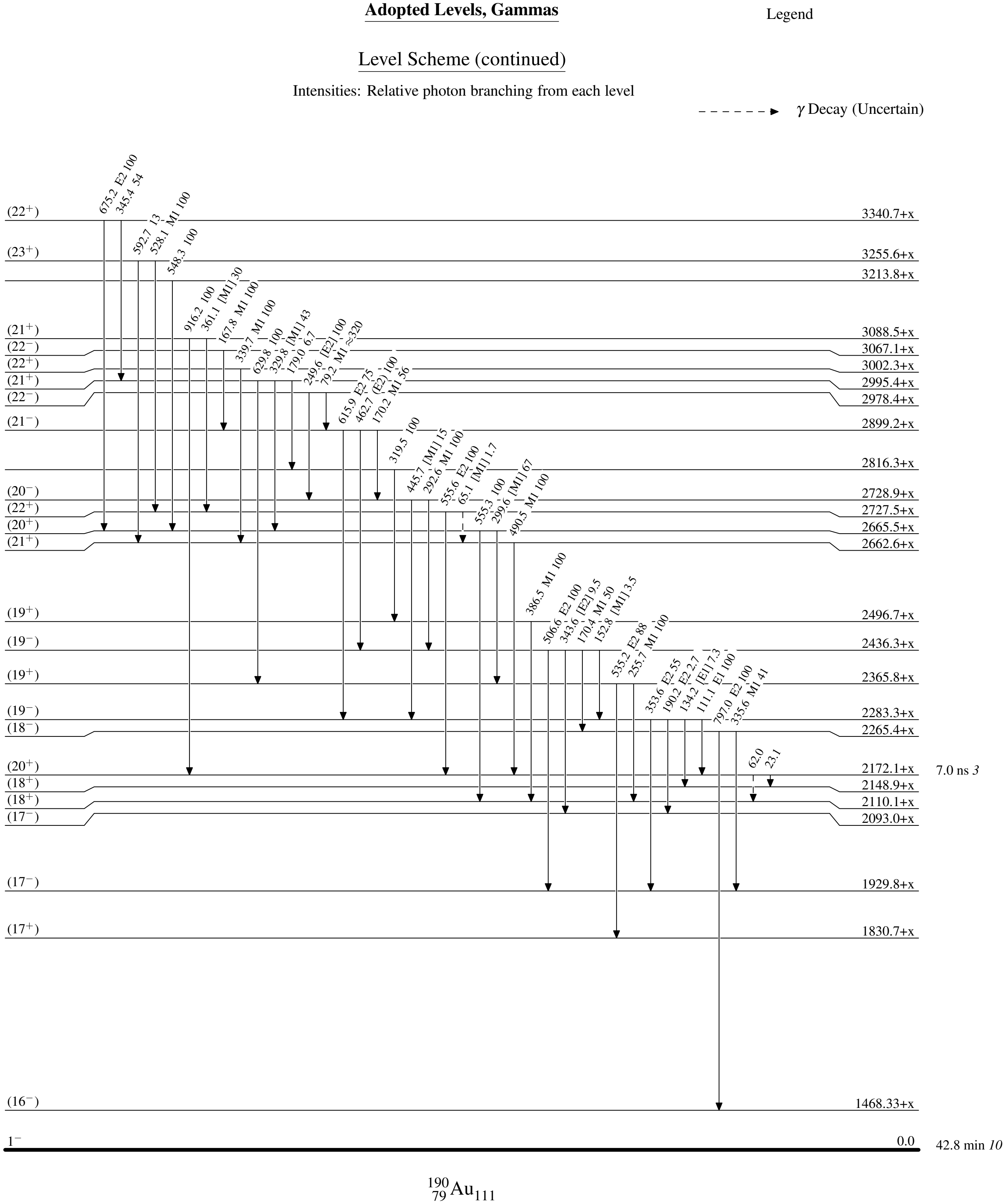


$^{190}_{79}Au_{111}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

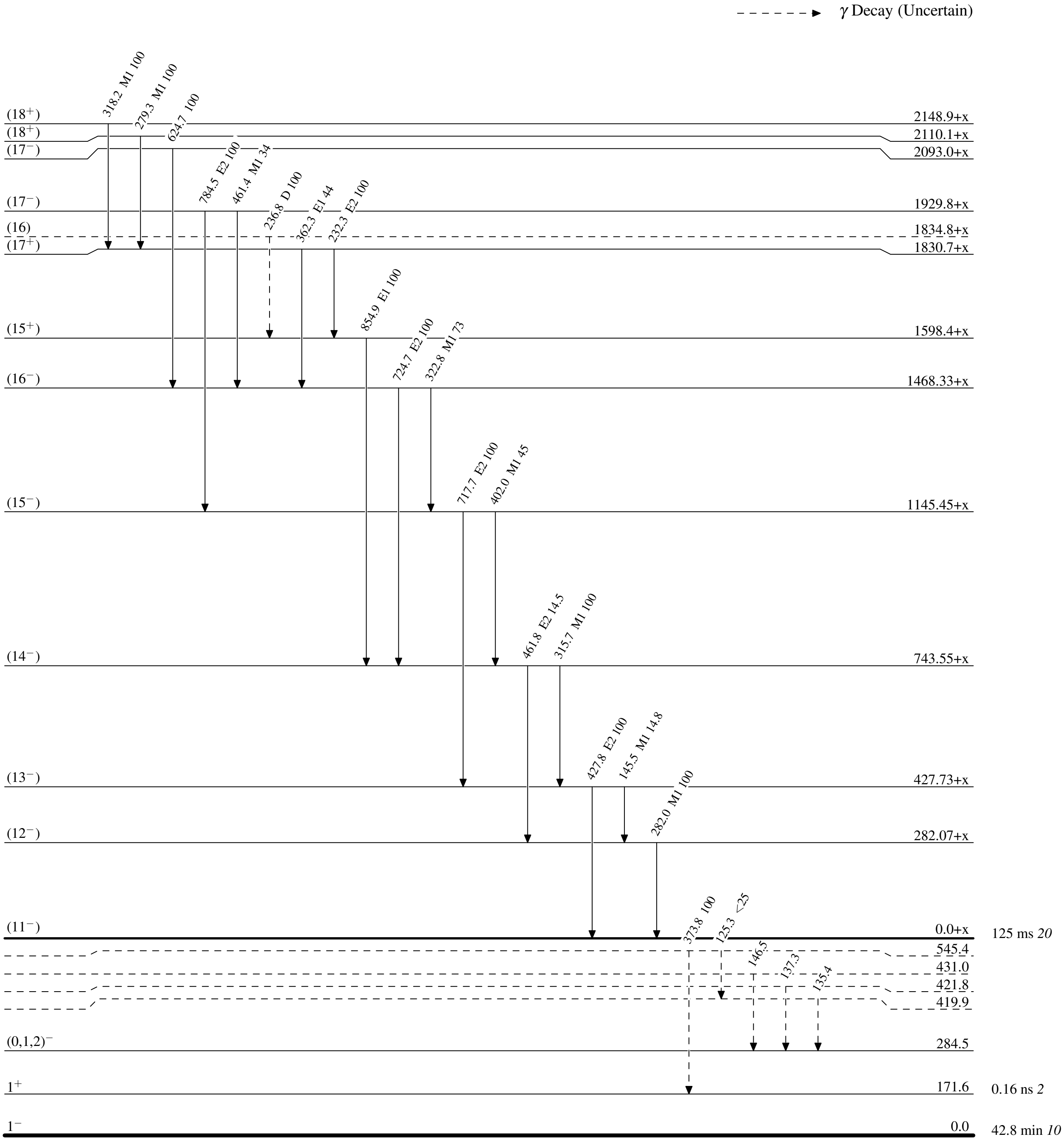


Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

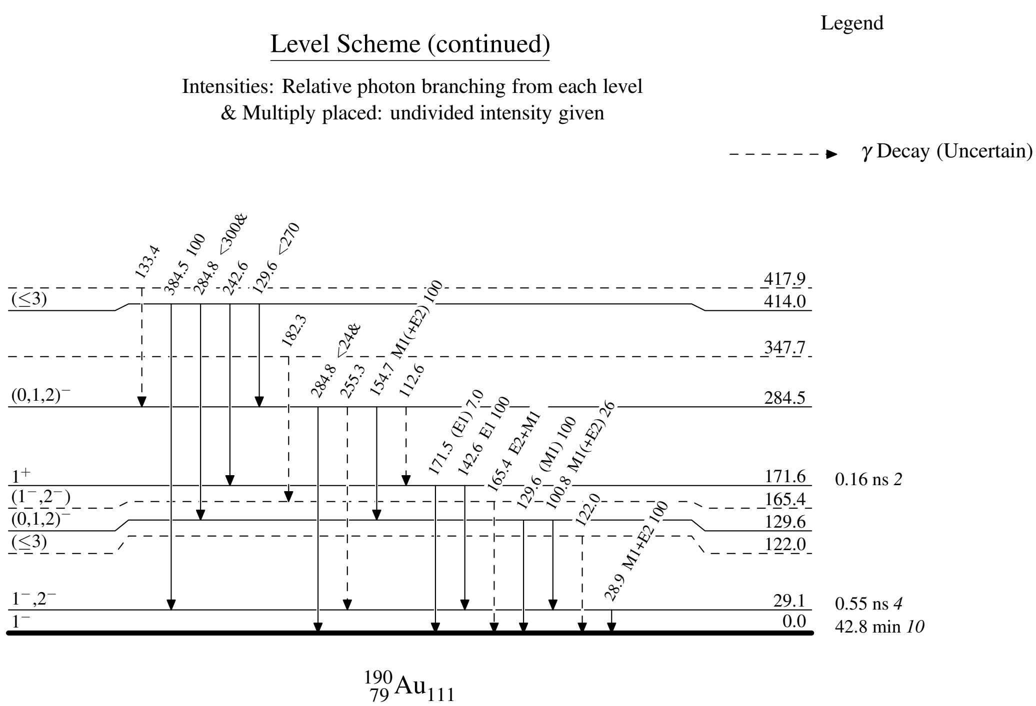


$^{190}_{79}Au_{111}$

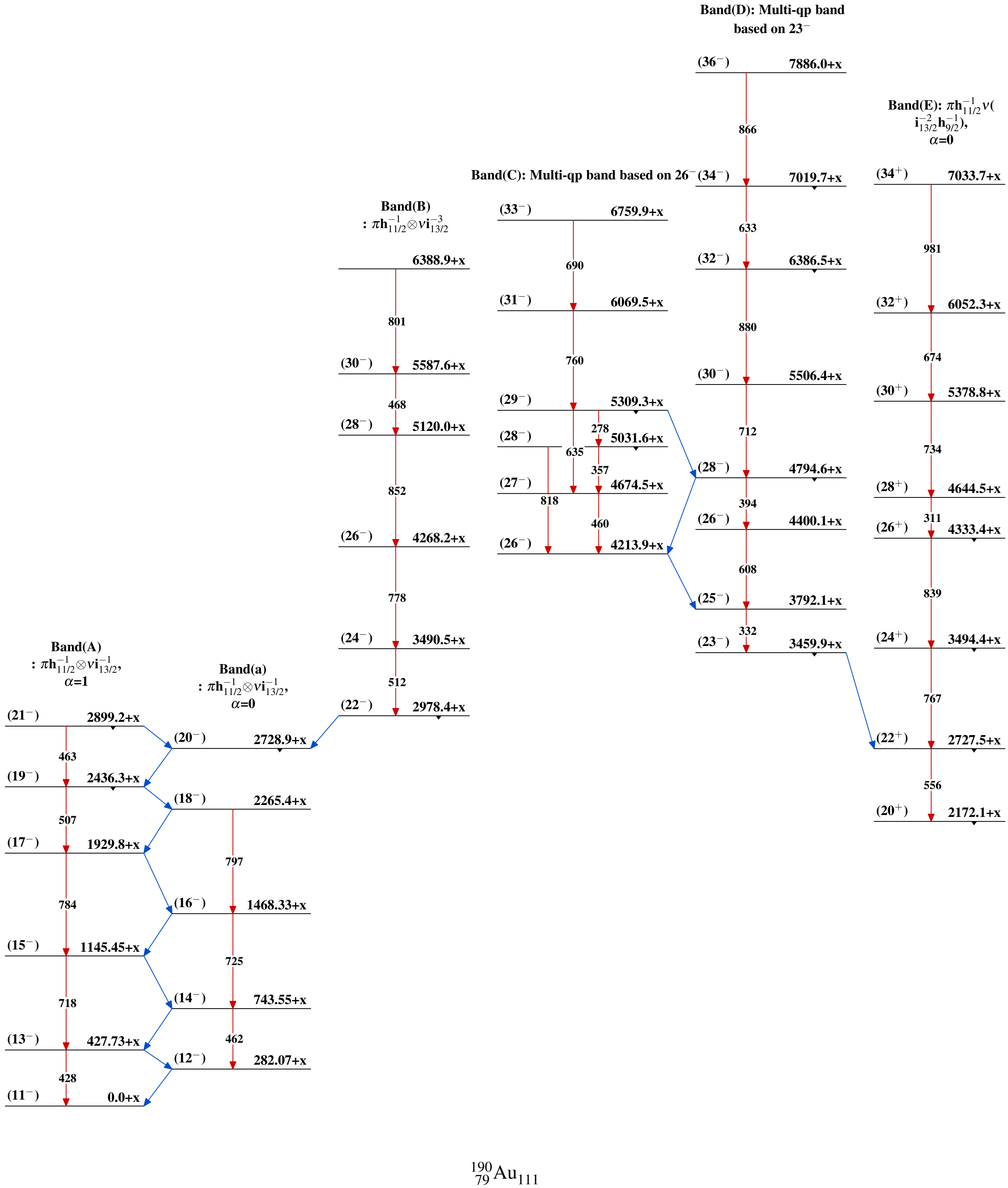
Adopted Levels, Gammas

Level Scheme (continued)

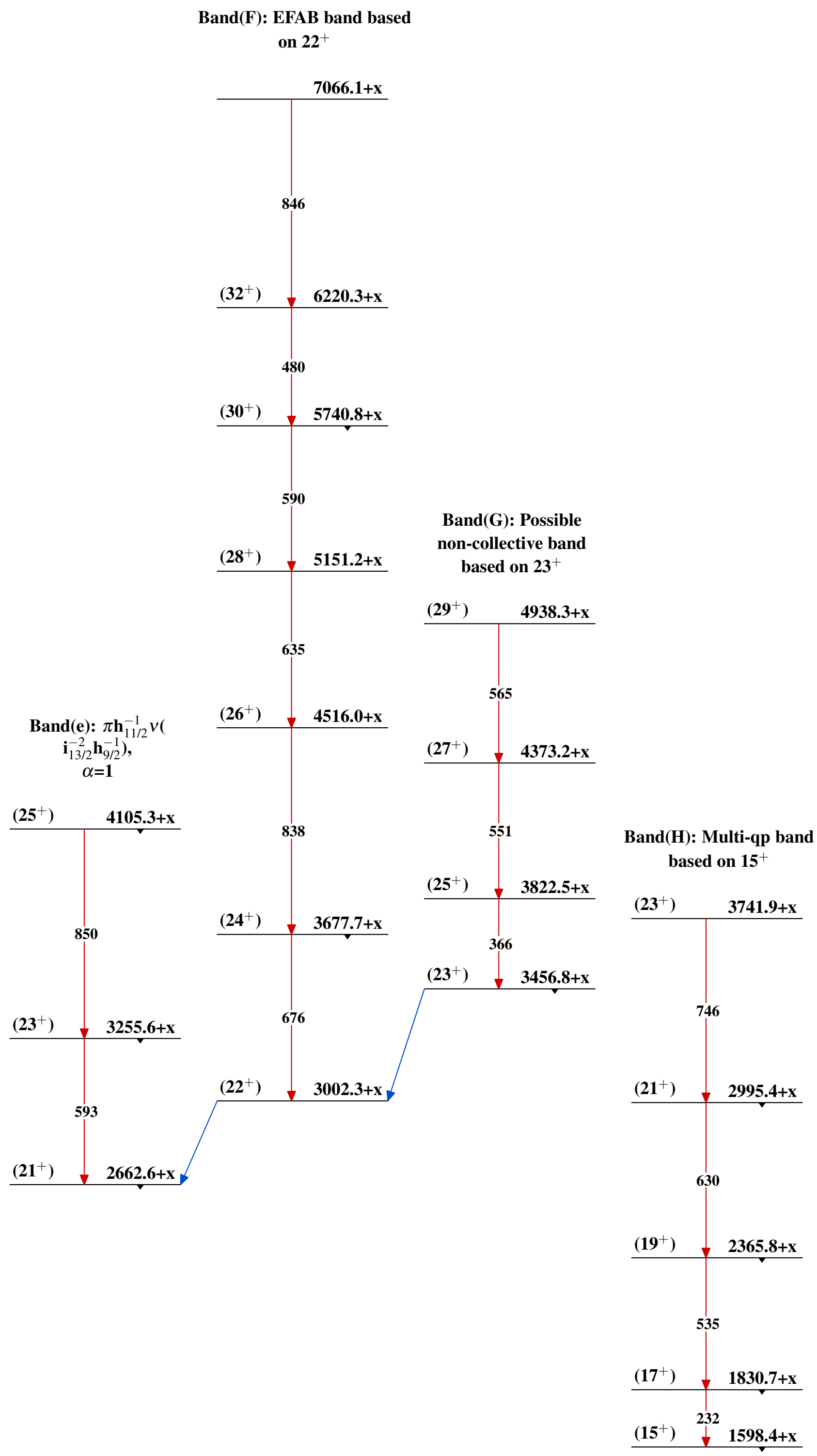
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



Adopted Levels, Gammas



Adopted Levels, Gammas (continued)



$^{190}_{79}Au_{111}$