

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Update	M. S. Basunia		31-Jan-2005

$Q(\beta^-) = -7694$ 22; $S(n) = 1.060 \times 10^4$ 3; $S(p) = 688$ 16; $Q(\alpha) = 5.43 \times 10^3$ 3 [2012Wa38](#)

Note: Current evaluation has used the following Q record -7740 3010630 30721 235400 30 [2003Au03](#).

 ^{175}Ir LevelsCross Reference (XREF) Flags

A $^{147}\text{Sm}(^{32}\text{S}, p3n\gamma)$
B ^{179}Au α decay

E(level) [†]	J^π [‡]	$T_{1/2}$	XREF	Comments
0.0 [#]	(5/2 ⁻)	9 s 2	AB	$\% \epsilon + \% \beta^+ = 99.15$ 28; $\% \alpha = 0.85$ 28 $\% \alpha$: From 1986Ke03 . Other value: $\% \alpha \leq 5$ (1992Sc16). J^π : Assignments are based on the systematic properties of odd-proton nuclei in this mass region, on measured angular anisotropies for the strongest γ -rays and on total-Routhian-surface (TRS) calculations (1991Ce02). $T_{1/2}$: weighted average of 7.2 s 13, α counting (1992Sc16); 11 s 3, γ -ray counting (1992Sc16); and 13 s 2, γ -ray counting (1992Bo21). Other value: 4.5 s 10 (1967Si02).
0.0+x ^a	(9/2 ⁻)		A	J^π : From systematics of neighboring odd Ir nuclei and population intensity arguments and BCS calculation (1991Dr06).
49 [#]	(9/2 ⁻)		AB	
53 ^{&}	(5/2)		A	
89+x ^a	(11/2 ⁻)		A	
132			A	
156 ^{&}	(7/2)		A	
196 [#]	(7/2 ⁻)		A	
263+x ^a	(13/2 ⁻)		A	
277	(11/2)		A	
279 [#]	(13/2 ⁻)		A	
282 ^{&}	(9/2)		A	
422 [#]	(11/2 ⁻)		A	
426 ^{&}	(11/2)		A	
433+x ^a	(15/2 ⁻)		A	
438			A	
611			A	
622+x ^a	(17/2 ⁻)		A	
652 [#]	(17/2 ⁻)		A	
660 [@]	(13/2 ⁺)		A	
767 [#]	(15/2 ⁻)		A	
812 [@]	(17/2 ⁺)		A	
822+x ^a	(19/2 ⁻)		A	
1038+x ^a	(21/2 ⁻)		A	
1061 [@]	(21/2 ⁺)		A	
1114 [#]	(21/2 ⁻)		A	
1266+x ^a	(23/2 ⁻)		A	
1388 [@]	(25/2 ⁺)		A	

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Adopted Levels, Gammas (continued) ^{175}Ir Levels (continued)

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	XREF	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	XREF	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	XREF
1508+x ^a	(25/2 ⁻)	A	2735 [#]	(33/2 ⁻)	A	3939 [@]	(45/2 ⁺)	A
1629 [#]	(25/2 ⁻)	A	2756 [@]	(37/2 ⁺)	A	4154+x ^a	(43/2 ⁻)	A
1762+x ^a	(27/2 ⁻)	A	2890+x ^a	(35/2 ⁻)	A	4490+x ^a	(45/2 ⁻)	A
1784 [@]	(29/2 ⁺)	A	3194+x ^a	(37/2 ⁻)	A	4549 [#]	(45/2 ⁻)	A
2029+x ^a	(29/2 ⁻)	A	3301 [#]	(37/2 ⁻)	A	4603 [@]	(49/2 ⁺)	A
2174 [#]	(29/2 ⁻)	A	3323 [@]	(41/2 ⁺)	A	4837+x ^a	(47/2 ⁻)	A
2242 [@]	(33/2 ⁺)	A	3507+x ^a	(39/2 ⁻)	A	5315 [@]	(53/2 ⁺)	A
2306+x ^a	(31/2 ⁻)	A	3826+x ^a	(41/2 ⁻)	A	6076 [@]	(57/2 ⁺)	A
2599+x ^a	(33/2 ⁻)	A	3896 [#]	(41/2 ⁻)	A			

[†] From $^{147}\text{Sm}(^{32}\text{S},\text{p}3\text{n}\gamma)$.

[‡] Spin and parity assignments are based on γ -ray angular correlations and rotational structure. Additional support for assignments to members of the 9/2[514] rotational band comes from a comparison in ($^{32}\text{S},\text{p}3\text{n}\gamma$) of gyromagnetic ratios (g_K) predicted by the Nilsson model, with experimental values deduced from B(M1)/B(E2) cascade-to-crossover branching ratio intensities (1991Dr06).

[#] Band(A): 1/2(541) band.

[@] Band(B): 1/2(660) band.

[&] Band(C): 5/2(402) band.

^a Band(D): 9/2(514) band.

 $\gamma(^{175}\text{Ir})$

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π
49	(9/2 ⁻)	(49)		0.0	(5/2 ⁻)
53	(5/2)	(53)		0.0	(5/2 ⁻)
89+x	(11/2 ⁻)	88.9	100	0.0+x	(9/2 ⁻)
156	(7/2)	103.0	100	53	(5/2)
196	(7/2 ⁻)	196.3	100	0.0	(5/2 ⁻)
263+x	(13/2 ⁻)	174.5	100.0 24	89+x	(11/2 ⁻)
		263.4	12.0 17	0.0+x	(9/2 ⁻)
277	(11/2)	144.5	100	132	
279	(13/2 ⁻)	230.3	100	49	(9/2 ⁻)
282	(9/2)	126.1	100 42	156	(7/2)
		229.1	34 6	53	(5/2)
422	(11/2 ⁻)	225.8	100 6	196	(7/2 ⁻)
		373.3	72 7	49	(9/2 ⁻)
426	(11/2)	144.3	100 9	282	(9/2)
		270.9	94 5	156	(7/2)
433+x	(15/2 ⁻)	169.6	100.0 25	263+x	(13/2 ⁻)
		344.5	56 10	89+x	(11/2 ⁻)
438		160.6	100	277	(11/2)
611		173.0	100 19	438	
		333.7	≈ 143	277	(11/2)
622+x	(17/2 ⁻)	188.9	100 33	433+x	(15/2 ⁻)
		359.1	58 3	263+x	(13/2 ⁻)
652	(17/2 ⁻)	372.4	100	279	(13/2 ⁻)
660	(13/2 ⁺)	222.4	4.9 9	438	
		233.8	36.9 12	426	(11/2)
		237.9	30.0 13	422	(11/2 ⁻)
		380.9	100 4	279	(13/2 ⁻)
		383.1	24 3	277	(11/2)
767	(15/2 ⁻)	345.1	100	422	(11/2 ⁻)

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Adopted Levels, Gammas (continued) $\gamma(^{175}\text{Ir})$ (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
812	(17/2 ⁺)	151.8	100.0 13	660	(13/2 ⁺)	2599+x	(33/2 ⁻)	564.7	100 15	2029+x	(29/2 ⁻)
		160.4	13.6 9	652	(17/2 ⁻)	2735	(33/2 ⁻)	560.7	100	2174	(29/2 ⁻)
822+x	(19/2 ⁻)	200.3	100 7	622+x	(17/2 ⁻)	2756	(37/2 ⁺)	514.2	100	2242	(33/2 ⁺)
		389.3	100 7	433+x	(15/2 ⁻)	2890+x	(35/2 ⁻)	296.3	48 3	2599+x	(33/2 ⁻)
1038+x	(21/2 ⁻)	215.5	100 3	822+x	(19/2 ⁻)			583.8	100 10	2306+x	(31/2 ⁻)
		416.2	92 3	622+x	(17/2 ⁻)	3194+x	(37/2 ⁻)	304.3	43 9	2890+x	(35/2 ⁻)
1061	(21/2 ⁺)	248.9	100	812	(17/2 ⁺)			600.5	100 13	2599+x	(33/2 ⁻)
1114	(21/2 ⁻)	462.9	100	652	(17/2 ⁻)	3301	(37/2 ⁻)	566.2	100	2735	(33/2 ⁻)
1266+x	(23/2 ⁻)	228.1	97 48	1038+x	(21/2 ⁻)	3323	(41/2 ⁺)	566.4	100	2756	(37/2 ⁺)
		443.8	100 8	822+x	(19/2 ⁻)	3507+x	(39/2 ⁻)	312	52 12	3194+x	(37/2 ⁻)
1388	(25/2 ⁺)	327.5	100	1061	(21/2 ⁺)			616.7	100 14	2890+x	(35/2 ⁻)
1508+x	(25/2 ⁻)	242.3	60 6	1266+x	(23/2 ⁻)	3826+x	(41/2 ⁻)	319	100 15	3507+x	(39/2 ⁻)
		470.4	100 3	1038+x	(21/2 ⁻)			631	100 16	3194+x	(37/2 ⁻)
1629	(25/2 ⁻)	514.8	100	1114	(21/2 ⁻)	3896	(41/2 ⁻)	595	100	3301	(37/2 ⁻)
1762+x	(27/2 ⁻)	254.1	66.1 22	1508+x	(25/2 ⁻)	3939	(45/2 ⁺)	616.0	100	3323	(41/2 ⁺)
		496.3	100 5	1266+x	(23/2 ⁻)	4154+x	(43/2 ⁻)	328	100 13	3826+x	(41/2 ⁻)
1784	(29/2 ⁺)	395.9	100	1388	(25/2 ⁺)			647.5	100 18	3507+x	(39/2 ⁻)
2029+x	(29/2 ⁻)	266.8	65 4	1762+x	(27/2 ⁻)	4490+x	(45/2 ⁻)	664 [‡]	100	3826+x	(41/2 ⁻)
		520.9	100 9	1508+x	(25/2 ⁻)	4549	(45/2 ⁻)	653	100	3896	(41/2 ⁻)
2174	(29/2 ⁻)	545.2	100	1629	(25/2 ⁻)	4603	(49/2 ⁺)	664.0	100	3939	(45/2 ⁺)
2242	(33/2 ⁺)	457.5	100	1784	(29/2 ⁺)	4837+x	(47/2 ⁻)	683 [‡]	100	4154+x	(43/2 ⁻)
2306+x	(31/2 ⁻)	277.1	60 7	2029+x	(29/2 ⁻)	5315	(53/2 ⁺)	711.8	100	4603	(49/2 ⁺)
		543.9	100 6	1762+x	(27/2 ⁻)	6076	(57/2 ⁺)	761	100	5315	(53/2 ⁺)
2599+x	(33/2 ⁻)	287.5	61 4	2306+x	(31/2 ⁻)						

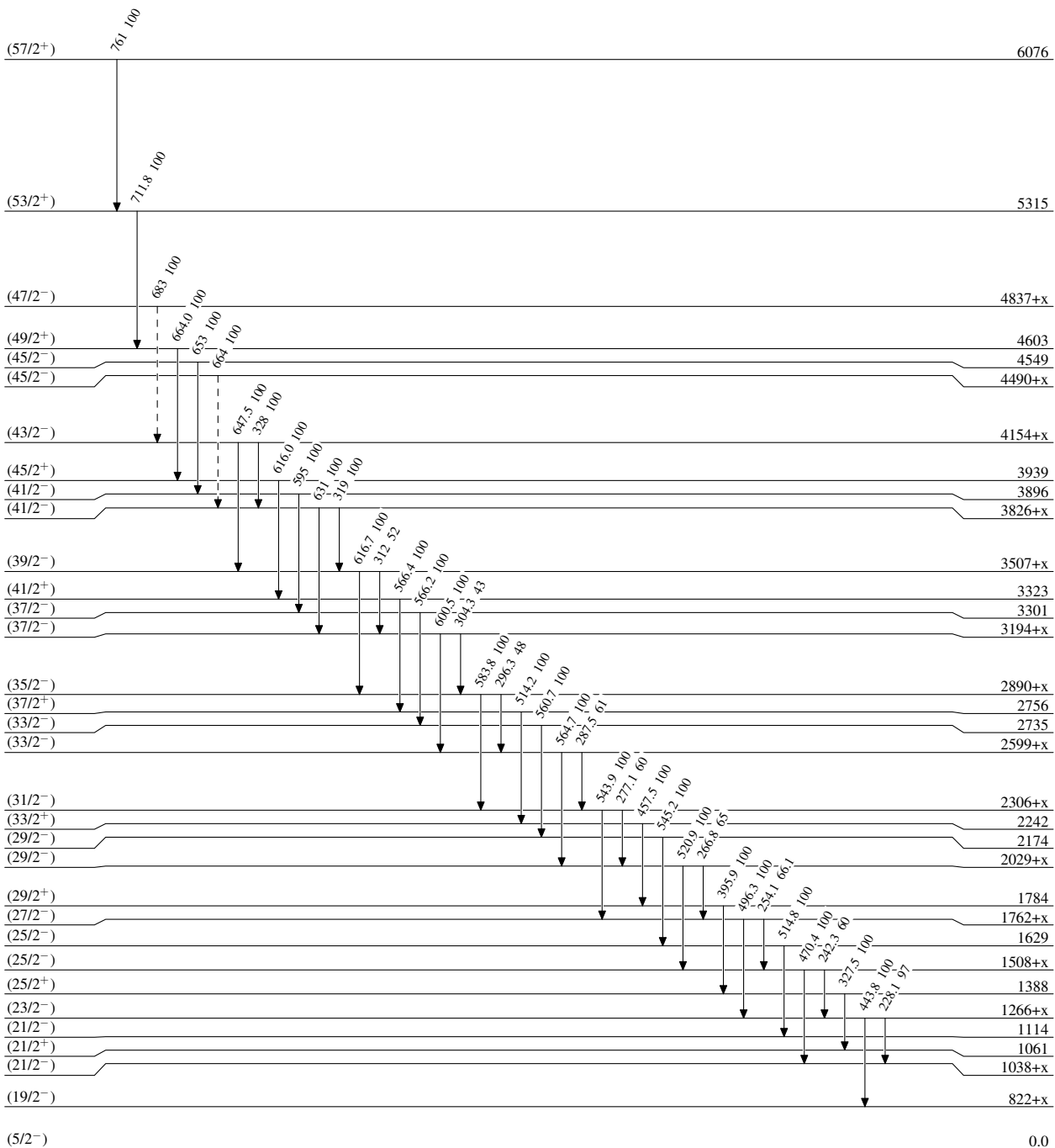
[†] From $^{147}\text{Sm}(^{32}\text{S},\text{p}3\text{n}\gamma)$.[‡] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

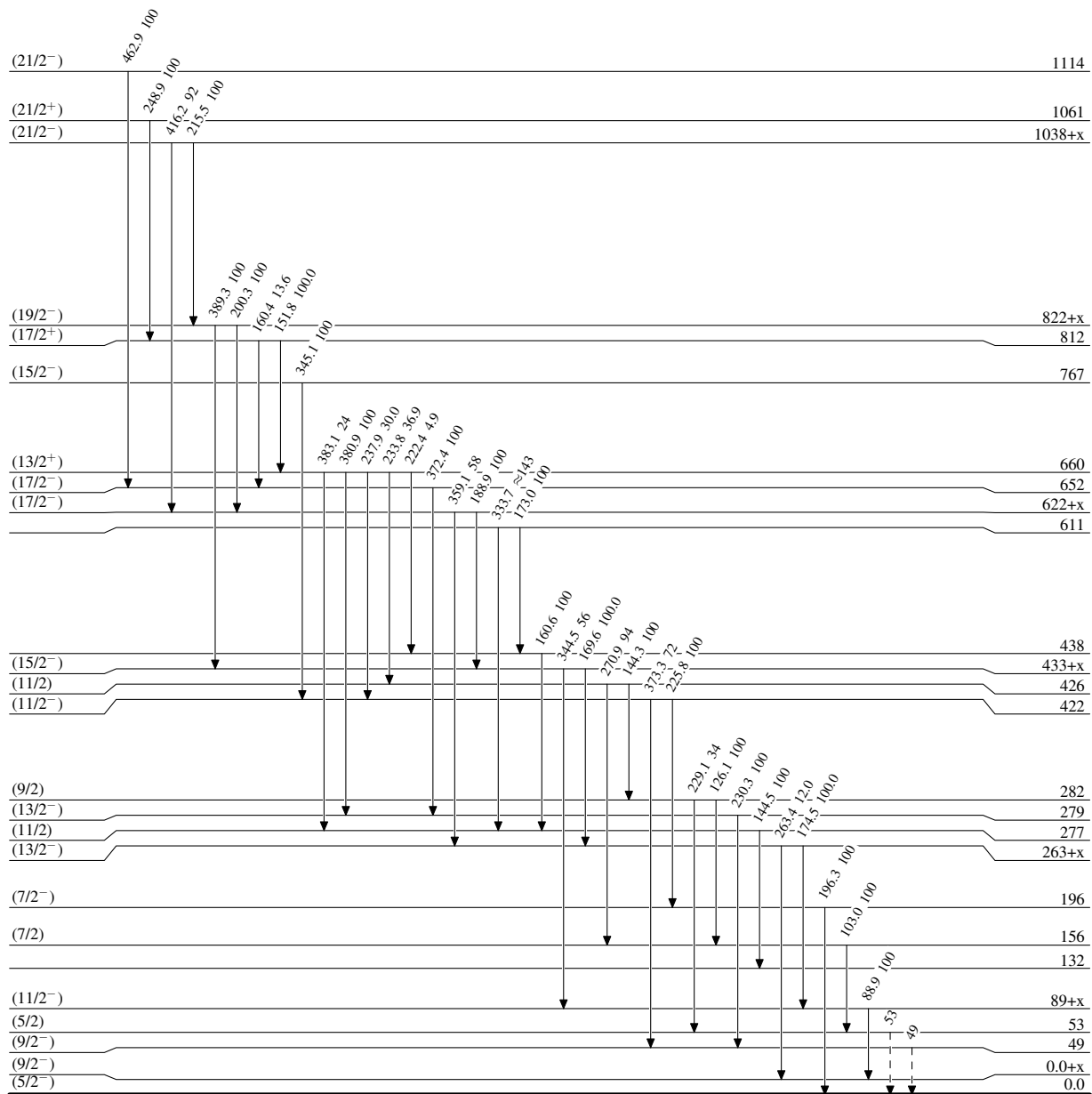
9 s 2

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

9 s 2

Adopted Levels, Gammas