^{189}Ir IT decay (13.3 ms)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, Balraj Singh	NDS 142, 1 (2017)	15-Apr-2017

Parent: ^{189}Ir: E=372.17 *4*; $J^{\pi}=11/2^{-}$; $T_{1/2}$=13.3 ms *3*; %IT decay=100.0

^{189}Ir Levels

E(level)[†]	J^{π}[†]	$T_{1/2}$[†]	Comments
0.0	$3/2^{+}$		
113.831 *23*	$5/2^{+}$		
300.50 *4*	$7/2^{+}$		
372.17 *4*	$11/2^{-}$	13.3 ms *3*	%IT=100 $T_{1/2}$: weighted average of 13.4 ms *2* (1973RoYQ), 12.3 ms *5* (1967Co20), and 14 ms *1* (1963Re13). Other values: 10.0 ms *6* (1960Mo19), 14 ms *3* (1968Io01).

[†] From Adopted Levels.

$\gamma(^{189}Ir)$

Iγ normalization: I(γ+ce)(71.7γ+258.4γ)=100.

E_γ[†]	I_γ[@]	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.[†]	δ[†]	α[#]	Comments
71.69 *4*	30[†] *5*	372.17	$11/2^{-}$	300.50	$7/2^{+}$	M2(+E3)	<0.1	76 *4*	α(L)=57 *3*; α(M)=14.6 *8* α(N)=3.63 *18*; α(O)=0.62 *3*; α(P)=0.0361 *6* Mult.: in 1967Co20, this was assumed to be M2, although a strong Kα x-ray obscured the transition so the analysis was not possible.
113.82 *4*	28×10[1][‡] *6*	113.831	$5/2^{+}$	0.0	$3/2^{+}$	M1+E2	0.55 *5*	3.88 *8*	α(K)=2.82 *11*; α(L)=0.81 *4*; α(M)=0.196 *10* α(N)=0.0479 *23*; α(O)=0.0079 *4*; α(P)=0.000347 *13*
186.70 *6*	62×10[1][‡] *13*	300.50	$7/2^{+}$	113.831	$5/2^{+}$	M1+E2	−0.7 *2*	0.84 *8*	α(K)=0.64 *9*; α(L)=0.152 *6*; α(M)=0.0364 *18* α(N)=0.0089 *4*; α(O)=0.00150 *5*; α(P)=7.8×10^{-5} *11*
258.37 *6*	100[†] *8*	372.17	$11/2^{-}$	113.831	$5/2^{+}$	E3		0.876	α(K)=0.248 *4*; α(L)=0.470 *7*; α(M)=0.1235 *18* α(N)=0.0301 *5*; α(O)=0.00468 *7*; α(P)=4.26×10^{-5} *6* Mult.: in 1967Co20, M2 was obtained by comparing the ratio of x-ray intensity to that of the isomeric transition. Subsequent electron conversion measurements from electron capture establish E3.
300.51 *6*	103×10[1][‡] *22*	300.50	$7/2^{+}$	0.0	$3/2^{+}$	E2		0.0943	α(K)=0.0598 *9*; α(L)=0.0262 *4*; α(M)=0.00652 *10* α(N)=0.001583 *23*;

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^{189}Ir IT decay (13.3 ms) (continued)

$\gamma(^{189}Ir)$ (continued)

E_γ †	E_i(level)	Comments
		α(O)=0.000253 *4*; α(P)=6.43×10^{-6} *9*

† From Adopted Gammas.
‡ From intensity balance, with branching ratios from Adopted Gammas.
# Theoretical values from BrIcc code (2008Ki07) with "Frozen Orbitals" approximation, unless otherwise stated.
@ For absolute intensity per 100 decays, multiply by 0.040 *7*.

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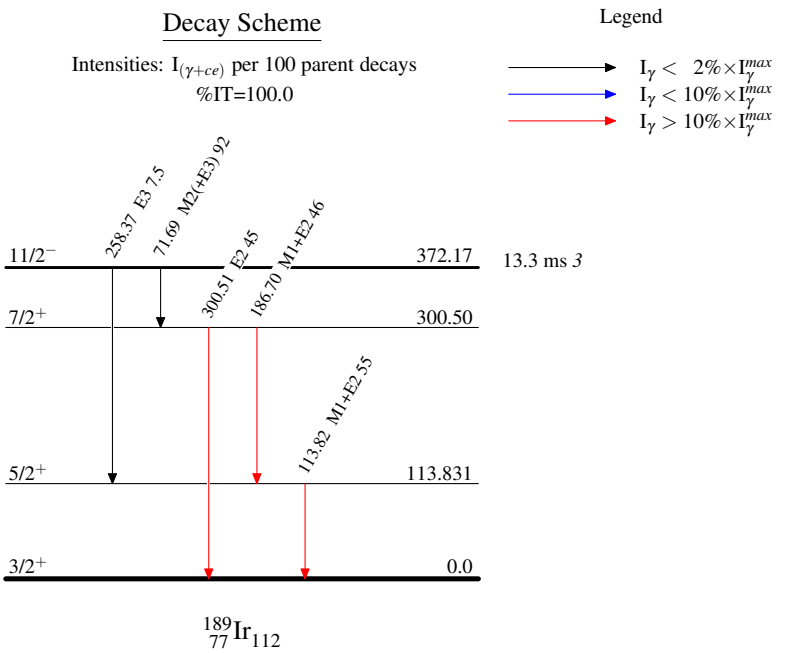
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0



$^{189}_{77}Ir_{112}$