^{196}Pt(^{12}C,6nγ) 1990Fa03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Zhu and F. G. Kondev	NDS 109, 699 (2008)	1-May-2007

1990Fa03: E(^{12}C)=100 MeV, pulsed beam; detectors: HPGe and Ge(Li); measured: $\gamma\gamma$(t), $\gamma(\theta)$, γ(t), Eγ and Iγ.

^{202}Po Levels

E(level)†	J$^\pi$‡	T$_{1/2}$#	Comments
0	0$^+$		
677.2 *5*	2$^+$		
1248.7 *7*	4$^+$		
1691.7 *9*	6$^+$		
1691.7+x *5*	8$^+$	85 ns *15*	Additional information 1. E(level): x<40 keV from 1976Be12 (^{11}B,4nγ).
2218.1+x *4*	9$^-$	<11 ns	
2604.2+x *4*	11$^-$	>200 ns	T$_{1/2}$: Because 912.5γ(t) and 386.0γ(t) are close to the repetition time of beam bursts, value can not be determined accurately.
2897.5+x *6*	11$^-$		
3040.6+x *6*	12$^+$	19 ns *4*	
3435.3+x *7*	13$^-$		
3573.6+x *9*	15$^-$	11 ns *3*	
3616.0+x *7*	14$^+$		
4071.2+x *9*	16$^+$		
4609+x *5*	(18$^+$)		
4612.7+x *10*	18$^+$		
4738.8+x *10*	18$^+$		
4823+x *5*	(20$^+$)		
4923.5+x *11*	(19$^+$)		
5189+x *6*	(22$^+$)		
5210+x *5*	(20$^+$)		
5293+x *6*	(21$^+$)		
5529+x *6*			

† From a least-square fit to Eγ.
‡ From 1990Fa03 based on deduced transition multipolarities and syst.
# From 1990Fa03, but details were not specified by the authors.

γ(^{202}Po)

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.‡	α#	Comments
138.3 *5*	14	3573.6+x	15$^-$	3435.3+x	13$^-$	E2	1.88 *4*	α(K)=0.343 *6*; α(L)=1.141 *25*; α(M)=0.304 *7*; α(N+..)=0.0942 *21* α(N)=0.0779 *17*; α(O)=0.0149 *4*; α(P)=0.00136 *3* Mult.: From adopted gammas.
143.1 *5*	23	3040.6+x	12$^+$	2897.5+x	11$^-$	[E1]	0.187	α(K)=0.1492 *25*; α(L)=0.0287 *5*; α(M)=0.00679 *12*; α(N+..)=0.00211 *4* α(N)=0.00172 *3*; α(O)=0.000346 *6*; α(P)=3.96×10^{-5} *7* Mult.: A$_2$/A$_0$>0.
180.7 *5*	4	3616.0+x	14$^+$	3435.3+x	13$^-$	[E1]	0.1051 *17*	α(K)=0.0846 *14*; α(L)=0.01564 *25*; α(M)=0.00369 *6*; α(N+..)=0.001152 *19* α(N)=0.000940 *15*; α(O)=0.000190 *3*; α(P)=2.21×10^{-5} *4*

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^{196}Pt(^{12}C,6nγ) 1990Fa03 (continued)

γ(^{202}Po) (continued)

E_γ †	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Mult. ‡	α #	Comments
213.7 *5*	10	4823+x	(20$^+$)	4609+x	(18$^+$)	(E2)	0.375	α(K)=0.1441 *22*; α(L)=0.171 *3*; α(M)=0.0452 *8*; α(N+..)=0.01403 *24* α(N)=0.01158 *20*; α(O)=0.00223 *4*; α(P)=0.000212 *4* Mult.: A_2/A_0>0.
310.8 *5*	2	4923.5+x	(19$^+$)	4612.7+x	18$^+$	(M1)	0.459	α(K)=0.373 *6*; α(L)=0.0652 *10*; α(M)=0.01536 *23*; α(N+..)=0.00489 *8* α(N)=0.00395 *6*; α(O)=0.000827 *13*; α(P)=0.0001069 *16* Mult.: A_2/A_0<0.
365.8 *5*	5	5189+x	(22$^+$)	4823+x	(20$^+$)	(E2)	0.0714	α(K)=0.0431 *7*; α(L)=0.0212 *4*; α(M)=0.00544 *8*; α(N+..)=0.00170 *3* α(N)=0.001397 *21*; α(O)=0.000275 *4*; α(P)=2.84×10^{-5} *5* Mult.: A_2/A_0>0.
386.0 *5*	13	2604.2+x	11$^-$	2218.1+x	9$^-$	E2	0.0617	α(K)=0.0383 *6*; α(L)=0.0176 *3*; α(M)=0.00449 *7*; α(N+..)=0.001404 *21* Mult.: A_2=0.37 *5*, A_4=−0.17 *7*.
436.4 *5*	21	3040.6+x	12$^+$	2604.2+x	11$^-$	E1	0.01366	α(K)=0.01122 *16*; α(L)=0.00187 *3*; α(M)=0.000437 *7*; α(N+..)=0.0001377 *20* α(N)=0.0001118 *16*; α(O)=2.30×10^{-5} *4*; α(P)=2.84×10^{-6} *4* Mult.: From adopted gammas. Note: A_2=−0.04 *4*, A_4=0.12 *5*.
443.0 *5*	89	1691.7	6$^+$	1248.7	4$^+$	E2	0.0432	α(N)=0.000717 *11*; α(O)=0.0001423 *21*; α(P)=1.526×10^{-5} *22* Mult.: A_2=0.14 *1*, A_4=0.03 *3*.
455.2 *5*	26	4071.2+x	16$^+$	3616.0+x	14$^+$	E2	0.0404	α(N)=0.000655 *10*; α(O)=0.0001301 *19*; α(P)=1.403×10^{-5} *21* Mult.: A_2=0.42 *3*, A_4=−0.06 *6*.
470.4 *5*	3	5293+x	(21$^+$)	4823+x	(20$^+$)	(M1)	0.1498	α(K)=0.1222 *18*; α(L)=0.0211 *3*; α(M)=0.00497 *8*; α(N+..)=0.001581 *23* α(N)=0.001279 *19*; α(O)=0.000268 *4*; α(P)=3.46×10^{-5} *5* Mult.: A_2=−0.33 *23*, A_4=0.19 *30*.
526.4 *5*	44	2218.1+x	9$^-$	1691.7+x	8$^+$	E1	0.00924	α(K)=0.00761 *11*; α(L)=0.001244 *18*; α(M)=0.000291 *5*; α(N+..)=9.16×10^{-5} *13* Mult.: From adopted gammas. Note: A_2=−0.09 *2*, A_4=0.08 *4*.
537.7 *5*	17	3435.3+x	13$^-$	2897.5+x	11$^-$	E2	0.0271	α(K)=0.0191 *3*; α(L)=0.00599 *9*; α(M)=0.001497 *22*; α(N+..)=0.000470 *7* α(N)=0.000385 *6*; α(O)=7.70×10^{-5} *11*; α(P)=8.57×10^{-6} *13* Mult.: A_2=0.38 *3*, A_4=−0.01 *5*. Doublet with 538.0γ.
538.0 *5*	11	4609+x	(18$^+$)	4071.2+x	16$^+$	(E2)		Mult.: A_2=0.38 *3*, A_4=−0.01 *5*. Doublet with 537.7γ.
541.5 *5*	4	4612.7+x	18$^+$	4071.2+x	16$^+$	E2	0.0266	α(K)=0.0188 *3*; α(L)=0.00586 *9*; α(M)=0.001465 *21*; α(N+..)=0.000460 *7* α(N)=0.000376 *6*; α(O)=7.54×10^{-5} *11*; α(P)=8.40×10^{-6} *12* Mult.: A_2=0.21 *18*, A_4=0.03 *30*.
571.5 *5*	86	1248.7	4$^+$	677.2	2$^+$	E2	0.0235	α(K)=0.01689 *24*; α(L)=0.00500 *8*; α(M)=0.001244 *18*; α(N+..)=0.000391 *6* α(N)=0.000320 *5*; α(O)=6.42×10^{-5} *10*;

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^{196}Pt(^{12}C,6nγ) 1990Fa03 (continued)

γ(^{202}Po) (continued)

E_γ †	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Mult. ‡	α #	Comments
								α(P)=7.22×10^{-6} *11* Mult.: A_2=0.22 *2*, A_4=0.05 *3*.
575.5 *5*	31	3616.0+x	14$^+$	3040.6+x	12$^+$	E2	0.0232	α(K)=0.01666 *24*; α(L)=0.00490 *7*; α(M)=0.001219 *18*; α(N+..)=0.000383 *6* Mult.: A_2=0.40 *3*, A_4=−0.02 *5*.
600.4 *5*	1	5210+x	(20$^+$)	4609+x	(18$^+$)	(E2)	0.0211	α(K)=0.01531 *22*; α(L)=0.00433 *7*; α(M)=0.001075 *16*; α(N+..)=0.000338 *5* Mult.: A_2=0.17 *11*, A_4=0.02 *14*.
667.6 *5*	2	4738.8+x	18$^+$	4071.2+x	16$^+$	E2	0.01670	α(K)=0.01243 *18*; α(L)=0.00322 *5*; α(M)=0.000794 *12*; α(N+..)=0.000250 *4* α(N)=0.000204 *3*; α(O)=4.13×10^{-5} *6*; α(P)=4.76×10^{-6} *7* Mult.: A_2=0.45 *8*, A_4=−0.02 *12*.
677.2 *5*	100	677.2	2$^+$	0	0$^+$	E2	0.01620	α(K)=0.01209 *17*; α(L)=0.00310 *5*; α(M)=0.000763 *11*; α(N+..)=0.000240 *4* Mult.: A_2=0.19 *1*, A_4=0.06 *2*.
679.4 *5*	39	2897.5+x	11$^-$	2218.1+x	9$^-$	E2	0.01609	α(K)=0.01202 *17*; α(L)=0.00308 *5*; α(M)=0.000756 *11*; α(N+..)=0.000238 *4* α(N)=0.000194 *3*; α(O)=3.93×10^{-5} *6*; α(P)=4.55×10^{-6} *7* Mult.: A_2=0.36 *3*, A_4=−0.01 *5*.
706.0 *5*	2	5529+x		4823+x	(20$^+$)			
912.5 *5*	29	2604.2+x	11$^-$	1691.7+x	8$^+$	E3	0.0214	α(K)=0.01515 *22*; α(L)=0.00470 *7*; α(M)=0.001179 *17*; α(N+..)=0.000372 *6* α(N)=0.000304 *5*; α(O)=6.15×10^{-5} *9*; α(P)=7.08×10^{-6} *10* Mult.: From adopted gammas. Note: A_2=0.22 *3*, A_4=0.08 *5*. Additional information 2.

† No uncertainty given by the authors. The evaluators assume $\Delta E\gamma$=0.5 keV.

‡ From 1990Fa03 based on $\gamma(\theta)$, unless stated otherwise.

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.

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Level Scheme

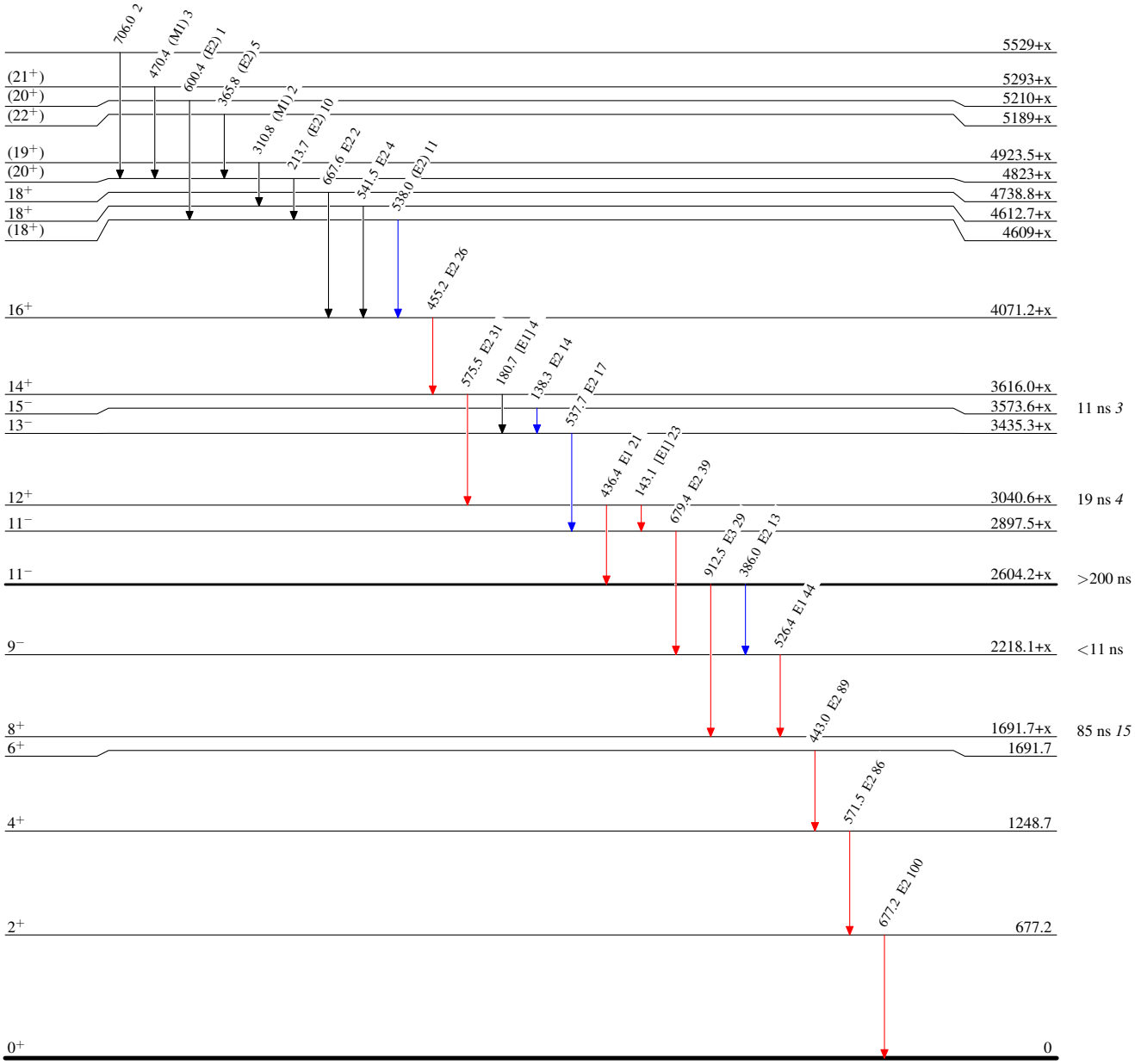
Intensities: Type not specified

Legend

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

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

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



$^{202}_{84}Po_{118}$