^{134}Pm ε decay (22 s) 1989Vi04,1990Ko25

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 103, 1 (2004)	31-Jul-2004

Parent: ^{134}Pm: E=0.0+x; $J^\pi=(5^+)$; $T_{1/2}$=22 s *1*; Q(ε)=8.91×10^3 *6*; %ε+%β^+ decay=100.0

^{134}Nd Levels

Partial decay scheme is that of 1989Vi04 and is based on γγ-coincidence data. Others: 1987Ko24, 1988BeYG, 1988KeZX.

E(level)	J^π†	$T_{1/2}$†	E(level)	J^π†	E(level)	J^π†
0.0	0^+	8.5 min *15*	1313.4 *3*	(4^+)	1910.6 *4*	(6^+)
294.38 *16*	2^+		1420.4 *3*	6^+	1956.3 *4*	(5^-)
753.82 *16*	(2^+)		1605.1 *3*		2036.6 *5*	
789.20 *24*	4^+		1671.1 *5*		2231.8 *6*	
1089.10 *21*	(3^+)		1697.7 *4*	(5^+)		

† From Adopted Levels.

ε,β^+ radiations

log *ft*: approximate values.

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
(6.68×10^3 *6*)	2231.8	4.05	0.35	6.3	4.4	av Eβ= 2606.1 *3*; εK= 0.06658; εL= 0.009292; εM+= 0.002649
(6.87×10^3 *6*)	2036.6	3.43	0.27	6.4	3.7	av Eβ= 2699.46 *25*; εK= 0.06078; εL= 0.008481; εM+= 0.002418
(6.95×10^3 *6*)	1956.3	6.33	0.47	6.2	6.8	av Eβ= 2737.92 *20*; εK= 0.05859; εL= 0.008174; εM+= 0.002330
(7.00×10^3 *6*)	1910.6	4.01	0.29	6.4	4.3	av Eβ= 2759.82 *20*; εK= 0.05739; εL= 0.008006; εM+= 0.002282
(7.21×10^3 *6*)	1697.7	5.91	0.39	6.3	6.3	av Eβ= 2861.95 *20*; εK= 0.05219; εL= 0.007279; εM+= 0.002075
(7.24×10^3 *6*)	1671.1	2.07	0.13	6.7	2.2	av Eβ= 2874.72 *24*; εK= 0.05159; εL= 0.007194; εM+= 0.002051
(7.30×10^3 *6*)	1605.1	11.3	0.7	6.0	12	av Eβ= 2906.42 *15*; εK= 0.05013; εL= 0.006990; εM+= 0.001992
(7.49×10^3 *6*)	1420.4	16.1	0.9	5.9	17	av Eβ= 2995.21 *15*; εK= 0.04631; εL= 0.006456; εM+= 0.001840
(7.60×10^3 *6*)	1313.4	13.3	0.7	6.0	14	av Eβ= 3046.71 *15*; εK= 0.04428; εL= 0.006172; εM+= 0.001759
(8.12×10^3 *6*)	789.20	23.9	1.1	5.9	25	av Eβ= 3299.49 *12*; εK= 0.03584; εL= 0.004992; εM+= 0.001423

† Absolute intensity per 100 decays.

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γ(^{134}Nd)

Iγ normalization: From Σ I(γ+ce)=100 to g.s..

E_γ [†]	I_γ [‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	α [a]	Comments
294.4 *2*	70	294.38	2^+	0.0	0^+	E2	0.0558	α(K)=0.0441 *14*; α(L)=0.0092 *3*; α(M)=0.00201 *6*; α(N+..)=0.00054 *2* Iγ=100 *10* measured by 1989Vi04.
335.3 *3*	2.4	1089.10	(3^+)	753.82	(2^+)			Iγ=4.5 *10* measured by 1989Vi04.
459.4 *2*	7.2	753.82	(2^+)	294.38	2^+			Iγ=14.1 *15* measured by 1989Vi04.
494.9 *2*	53.1	789.20	4^+	294.38	2^+	E2	0.0121	α(K)=0.0100 *3*; α(L)=0.00165 *5*; α(M)=0.00035 *1* Iγ=54 *5* measured by 1989Vi04.
516.0 *3*	7.1 *10*	1605.1		1089.10	(3^+)			
524.4 *3*	5.2 *10*	1313.4	(4^+)	789.20	4^+			
559.4 *3*	10.0 *15*	1313.4	(4^+)	753.82	(2^+)			
597.2 *3*	3.5 *10*	1910.6	(6^+)	1313.4	(4^+)			
608.6 *3*	5.2 *10*	1697.7	(5^+)	1089.10	(3^+)			
631.2 *2*	14.2 *15*	1420.4	6^+	789.20	4^+	E2	0.00650	α=0.00650; α(K)=0.00540 *17*; α(L)=0.00082 *3*
753.8 *2*	7.7	753.82	(2^+)	0.0	0^+			Iγ=15.1 *15* measured by 1989Vi04.
794.7 *2*	10	1089.10	(3^+)	294.38	2^+			Iγ=19.1 *15* measured by 1989Vi04.
851.3 *3*	2.4 *5*	1605.1		753.82	(2^+)			
881.9[@] *4*	1.8[@] *5*	1671.1		789.20	4^+			
1167.1 *3*	5.6 *15*	1956.3	(5^-)	789.20	4^+			
1247.4 *4*	3.0 *10*	2036.6		789.20	4^+			
1442.6 *5*	3.6 *10*	2231.8		789.20	4^+			

[†] From 1989Vi04.
[‡] Given by 1989Vi04 for decay of both ^{134}Pm isomers; intensities suitably divided.
[#] Adopted multipolarity.
[@] From 1990Ko25.
[&] For absolute intensity per 100 decays, multiply by 1.22.
[a] 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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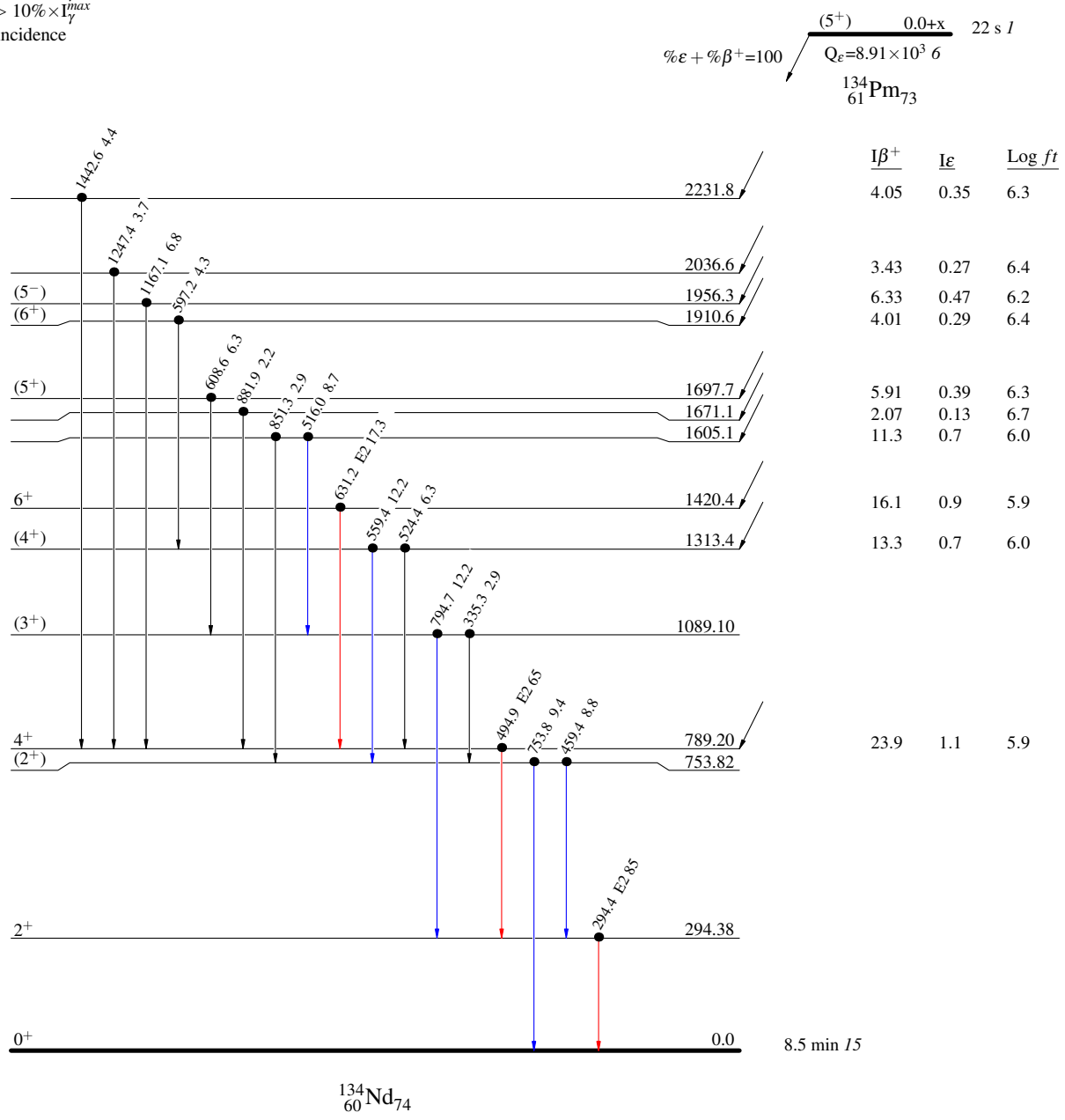
Decay Scheme

Intensities: I_γ per 100 parent decays

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



	Iβ+	Iε	Log *ft*
2231.8	4.05	0.35	6.3
2036.6	3.43	0.27	6.4
1956.3	6.33	0.47	6.2
1910.6	4.01	0.29	6.4
1697.7	5.91	0.39	6.3
1671.1	2.07	0.13	6.7
1605.1	11.3	0.7	6.0
1420.4	16.1	0.9	5.9
1313.4	13.3	0.7	6.0
789.20	23.9	1.1	5.9