^{130}Pm ε decay (2.6 s)   1999Xi03

| | | History | |
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

Parent: ^{130}Pm: E=0.0; J$^\pi$=(4,5,6); T$_{1/2}$=2.6 s 2; Q(ε)=10871 SY; %ε+%β^+ decay=100.0

Measured Eγ, Iγ, $\gamma\gamma$, Xγ coin, T$_{1/2}$. Deduced level scheme.

Other: 1985Wi07: measured T$_{1/2}$, delayed proton decay.

1999Xi03 have calculated log ft values based on the level scheme presented here, but in view of large gap of almost 8 MeV
between highest known level at 1185 and Q value, the $\varepsilon+\beta^+$ branches quoted by 1999Xi03 are considered as uncertain (evaluator)
and are not given here.

^{130}Nd Levels

E(level)	J$^{\pi\dagger}$
0.0	0$^+$
158.9 2	2$^+$
485.2 3	4$^+$
939.4 5	(6$^+$)
946.3 4	
952.3 4	
1032.4 5	
1185.1 4	

† From Adopted Levels.

γ(^{130}Nd)

Iγ normalization: Ti(158.9γ)=100, assuming no other g.s. transitions exist and that delayed proton decay branch is small.

E$_\gamma$	I$_\gamma^\ddagger$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.†	$\alpha^{\#}$	Comments
158.9 2	70	158.9	2$^+$	0.0	0$^+$	E2	0.43	I$_\gamma$: from I(γ+ce)=100 (1999Xi03) and α(158.9γ)=0.43.
326.3 4	76 3	485.2	4$^+$	158.9	2$^+$	E2	0.041	
454.2 3	44 3	939.4	(6$^+$)	485.2	4$^+$			
547.2 4	13 5	1032.4		485.2	4$^+$			
787.4 4	7 6	946.3		158.9	2$^+$			
793.4 4	7 5	952.3		158.9	2$^+$			
1026.2 4	9 8	1185.1		158.9	2$^+$			E$_\gamma$: misprinted as 1062.2 in table 1 of 1999Xi03.

† From adopted gammas.

‡ For absolute intensity per 100 decays, multiply by $\approx$1.0.

$^{\#}$ 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: $I_{(\gamma+ce)}$ per 100 parent decays

Legend

$\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{max}$
$\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{max}$
$\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{max}$
$\bullet$ Coincidence

(4,5,6)   0.0   2.6 s 2

%ε + %β^+=100   Q$_\varepsilon$=10871 *SY*

$^{130}_{61}$Pm$_{69}$

1026.2 ≈9.0
547.2 ≈13.0
793.4 ≈7.0
787.4 ≈7.0
454.2 ≈44

1185.1
1032.4
952.3
946.3

(6$^+$)   939.4

326.3 E2 ≈79

4$^+$ 485.2

158.9 E2 ≈100

2$^+$ 158.9

0$^+$ 0.0

$^{130}_{60}$Nd$_{70}$