^{130}Nd ε decay (13 s)   2000Xu08

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

Parent: ^{130}Nd: E=0.0; J$^{\pi}$=0^{+}; T$_{1/2}$=13 s *3*; Q(ε)=5030 *SY*; %ε+%β^{+} decay=?

^{130}Nd-T$_{1/2}$: 13 s *3* (2000Xu08, timing of γ rays). Other: 28 s *3* (1977Bo02, timing of β^{+} and x rays).

2000Xu08: measured Eγ, Iγ, $\gamma\gamma$, T$_{1/2}$.

Other: 1977Bo02: measured T$_{1/2}$ by timing β^{+} and x rays.

^{130}Pr Levels

E(level)[†]	J$^{\pi}$[‡]	Comments
0+y	(4,5^{+})	J$^{\pi}$: (4^{+}) (2000Xu08).
92.2+y *2*	(2,3^{+})	J$^{\pi}$: (3^{+}) (2000Xu08).
140.5+y *2*	(2,3^{+})	J$^{\pi}$: (2^{+}) (2000Xu08).
164.2+y *3*	(1^{+})	
188.7+y *3*	(1^{+})	
197.1+y *3*	(1^{+})	
245.4+y *3*	(1^{+})	
260.8+y *2*	(1^{+})	
262.1+y *3*	(1^{+})	
301.0+y *3*	(1^{+})	
422.0+y *2*	(1^{+})	
432.7+y *3*	(1^{+})	
442.0+y *4*	(1^{+})	

[†] From least-squares fit to Eγ's. In the opinion of the evaluator, it remains to be established whether the lowest state populated in this decay is the g.s. of ^{130}Pr, thus the lowest state is marked as 0+y.

[‡] From Adopted Levels.

$\gamma(^{130}$Pr)

Iγ normalization:$\approx$0.8 from level scheme of 2000Xu08, but in view of the evaluator, sufficient data are lacking to to normalize the level scheme for Iγ/100 decays.

Multipolarities stated by 2000Xu08 in the level-scheme figure are not supported by any conversion data or by intensity balances, thus these are not adopted by the evaluator.

E$_{\gamma}$	I$_{\gamma}$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	E$_{\gamma}$	I$_{\gamma}$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$
48.5[†] *2*	10 *2*	140.5+y	(2,3^{+})	92.2+y	(2,3^{+})	121.5[†] *2*	27 *3*	262.1+y	(1^{+})	140.5+y	(2,3^{+})
56.5[†] *2*	7 *2*	197.1+y	(1^{+})	140.5+y	(2,3^{+})	140.5[‡] *2*	47 *5*	140.5+y	(2,3^{+})	0+y	(4,5^{+})
72.1[‡] *2*	7 *2*	164.2+y	(1^{+})	92.2+y	(2,3^{+})	161.2[†] *2*	31 *3*	422.0+y	(1^{+})	260.8+y	(1^{+})
92.2[†] *2*	100	92.2+y	(2,3^{+})	0+y	(4,5^{+})	196.6[†] *2*	16 *2*	442.0+y	(1^{+})	245.4+y	(1^{+})
96.6[‡] *2*	9 *2*	188.7+y	(1^{+})	92.2+y	(2,3^{+})	208.9[‡] *2*	21 *2*	301.0+y	(1^{+})	92.2+y	(2,3^{+})
104.8[†] *2*	12 *2*	245.4+y	(1^{+})	140.5+y	(2,3^{+})	329.8[‡] *2*	23 *2*	422.0+y	(1^{+})	92.2+y	(2,3^{+})
120.3[†] *2*	39 *4*	260.8+y	(1^{+})	140.5+y	(2,3^{+})	340.6[‡] *2*	19 *2*	432.7+y	(1^{+})	92.2+y	(2,3^{+})

[†] Mult=M1 assigned by 2000Xu08.

[‡] Mult=E2 assigned by 2000Xu08.

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Decay Scheme

Intensities: Relative I_γ

Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$
● Coincidence

$^{130}_{59}Pr_{71}$