^{131}Ce IT decay (88 ns) 1998Io01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, I. Mitropolsky, A. Rodionov	NDS 107, 2715 (2006)	17-Jul-2006

Parent: ^{131}Ce: E=161.98 *5*; $J^\pi=9/2^-$; $T_{1/2}$=88 ns *2*; %IT decay=100.0

1998Io01:^{131}Ce IT from ^{119}Sn(^{16}O,4nγ), E=70 MeV; measured perturbed $\gamma(\theta,t)$ using electric field gradient of Sn-target and an external magnetic field, deduced $T_{1/2}$, Q and g-factor values for the $9/2^-$ state of ^{131}Ce. Tandem, pulsed beam.

Others: 1983AkZZ, 1977Gi17.

All data from 1998Io01, besides as noted.

^{131}Ce Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	$7/2^+$	10.3 min *3*	
161.98 *5*	$9/2^-$	88 ns *2*	g=−0.189 *7*; Q=0.92 *10* J^π: 9/2 from quadrupole interaction measurements, small value and negative sign of g-factor support $\pi=-$ for the state. $T_{1/2}$: from γ(t). Others: 70 ns *6* (1983AkZZ), 80 ns (1977Gi17).

$\gamma(^{131}Ce)$

I(γ+ce) normalization: From level scheme.

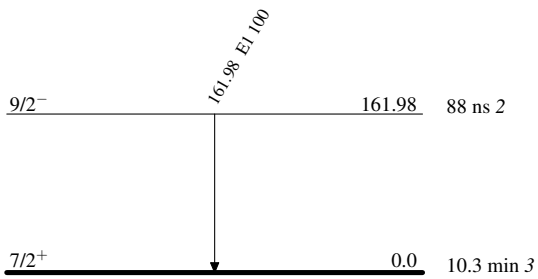
E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	$I_{(\gamma+ce)}$[†]	Comments
161.98 *5*	161.98	$9/2^-$	0.0	$7/2^+$	E1	100	E_γ: from ^{131}Pr ε decay (5.71 s). $I_{(\gamma+ce)}$: from decay scheme. Mult.: $\gamma(\theta)$: A_2=−0.20 *2* value confirms mult.=D for γ, also the transition is between $9/2^-$ and $7/2^+$ states.

[†] Absolute intensity per 100 decays.

^{131}Ce IT decay (88 ns) 1998Io01

Decay Scheme

%IT=100.0



$^{131}_{58}Ce_{73}$