^{137}Ce IT decay (34.4 h) 1975He20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)	1-Oct-2006

Parent: ^{137}Ce: E=254.29 *5*; J^π=11/2$^-$; $T_{1/2}$=34.4 h *3*; %IT decay=99.21 *4*

Additional information 1.

Measured: γ, ce (1975He20), ce (1975ArYT), $\gamma(\theta,T)$ (1966Bl17).

^{137}Ce Levels

E(level)	J^π[†]	$T_{1/2}$
0.0	3/2$^+$	9.0 h *3*
254.29 *5*	11/2$^-$	34.4 h *3*

[†] Adopted values.

$\gamma(^{137}Ce)$

Iγ normalization: Σ Ti(254γ) and Σ Iγ for γ's from ^{137}La levels with J≥9/2=100.

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[‡]	Comments
254.29 *5*	24.8×10^3 *9*	254.29	11/2$^-$	0.0	3/2$^+$	M4	7.93	α(K)=5.45 *8*; α(L)=1.92 *3*; α(M)=0.445 *7*; α(N+..)=0.1142 *16* α(N)=0.0985 *14*; α(O)=0.01496 *21*; α(P)=0.000734 *11* %Iγ=11.1 *3*, using the calculated normalization. Mult.: α(K)exp=5.4 (see 1978LeZA), 5.5 *15* (1955Br05), K/L1=5.6 *12*, L1/L2=3.7 *16*, L1/L3=1.92 *63*, L2/L3=0.52 *29* (1976KaYX), K:L:M+=100 *6*:36 *2*:11 *1* (1975He20), K:L:M:N=1000:330 *20*:76 *5*:20 *2* (1975ArYT), L1:L2:L3=100:22.5 *4*:53.8 *6* (see 1978LeZA). δ: <0.1 (1964Fr06).

[†] For absolute intensity per 100 decays, multiply by 4.4843×10^{-4} *18*.

[‡] 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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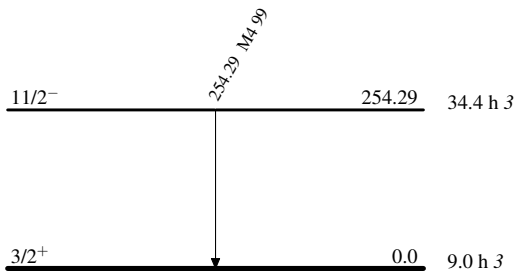
Decay Scheme

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

%IT=99.21 *4*



$^{137}_{58}Ce_{79}$