^{135}Te IT decay (0.511 μs) 1980Ka30

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Alexander A. Rodionov And Yuri L. Khazov	NDS 109, 517 (2008)	22-Jan-2008

Parent: ^{135}Te: E=1555.3 *4*; J^π=(19/2$^-$); $T_{1/2}$=0.511 μs *20*; %IT decay=100.0
^{135}Te-E: 1554.89 *16* in 'Adopted Levels'.
Other: 1974ClZX: measured yield of ^{135}Te isomer from ^{252}Cf SF decay.
Additional information 1.
Total decay energy of 1504 keV *95* calculated (by RADLIST code) from level scheme agrees with the expected value of 1555 keV.

^{135}Te Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0	(7/2$^-$)		Configuration=$\pi g^2_{7/2\ 0+}\otimes\nu f_{7/2}$ (1980Ka30); 0^+ refers to g.s. in ^{134}Te.
1180.3 *3*	(11/2$^-$)	≤0.3 ns	Configuration=$\pi g^2_{7/2\ 2+}\otimes\nu f_{7/2}$ (1980Ka30); 2^+ refers to first 2^+ state in ^{134}Te. $T_{1/2}$: $\gamma\gamma$(t) (1980Ka30).
1505.3 *4*	(15/2$^-$)	≤0.6 ns	Configuration=$\pi g^2_{7/2\ 4+}\otimes\nu f_{7/2}$ (1980Ka30); 4^+ refers to first 4^+ state in ^{134}Te. $T_{1/2}$: $\gamma\gamma$(t) (1980Ka30).
1555.3 *4*	(19/2$^-$)	0.511 μs *20*	E(level): 1554.89 *16* in 'Adopted Levels'. Configuration=$\pi g^2_{7/2\ 6+}\otimes\nu f_{7/2}$ (1980Ka30); 6^+ refers to first 6^+ state in ^{134}Te. $T_{1/2}$: from delayed γ timing, weighted average of 0.512 μs *22* (2001Mi22) and 0.510 μs *20* (1980Ka30). Others: 1970Gr38, 1970Jo20, 1974ClZX, 1977SeZJ, 1978Ba47.

[†] From Eγ's.
[‡] From 'Adopted Levels', based mainly on shell-model predictions.

γ(^{135}Te)

Iγ normalization: Ti(325γ)=100.
I(Kα x ray)=28.2 *30* (1980Ka30).

E_γ	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	α[#]	$I_{(\gamma+ce)}$[‡]	Comments
50.0 *1*	4.7 *5*	1555.3	(19/2$^-$)	1505.3	(15/2$^-$)	E2	20.7	100	α(K)exp=8.8 *11*, α(exp)=21 *3*. Mult.: from α(K)exp=8.8 *11* (absolute K x ray and γ-ray counting) and α(exp)=21 *3* (intensity balance).
325.0 *1*	100 *5*	1505.3	(15/2$^-$)	1180.3	(11/2$^-$)	[E2]	0.0298	100	
1180.3 *3*	105 *6*	1180.3	(11/2$^-$)	0.0	(7/2$^-$)			100	

[†] For absolute intensity per 100 decays, multiply by 0.96 *5*.
[‡] Absolute intensity per 100 decays.
[#] 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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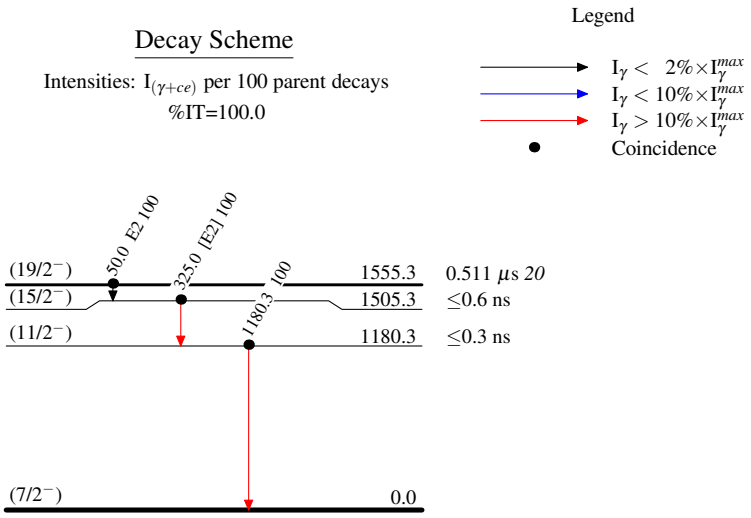
Decay Scheme

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

%IT=100.0



$^{135}_{52}Te_{83}$