^{60}Co IT decay 1963Sc14,1962Ha46

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1849 (2013)	31-Dec-2012

Parent: ^{60}Co: E=58.603 *7*; $J^\pi=2^+$; $T_{1/2}$=10.467 min *6*; %IT decay=99.75 *3*

^{60}Co-%IT decay: from 1963Sc14, branching to ^{60}Ni 1332-keV level is 0.24% *3*, and to the 2159-keV level is 8.6×10^{-3}% 12.

Measured Eγ, Iγ, ce, $T_{1/2}$. Scintillation spectrometer (1963Sc14).

Measured Eγ. Crystal diffraction spectrometer (1962Ha46).

Measured $T_{1/2}$ of the 59 keV level (1990Ab02).

Others: 1970Ca19, 1971Pl02, and 1989Mu15.

See 1973Ha69 for compilation of additional measurements.

All decay intensities are from 1963Sc14.

^{60}Co Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	5^+	5.2712 y *4*	
58.603 *7*	2^+	10.467 min *6*	$T_{1/2}$: from 1990Ab02.

γ(^{60}Co)

Iγ normalization: Ti(58.603γ)=99.75 *3*.

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α[†]	$I_{(\gamma+ce)}$[#]	Comments
58.603 *7*	100	58.603	2^+	0.0	5^+	M3+(E4)	<0.02	47.3	99.75 *3*	ce(K)/(γ+ce)=0.817 *7*; ce(L)/(γ+ce)=0.142 *3*; ce(M)/(γ+ce)=0.0200 *5*; ce(N+)/(γ+ce)=0.000641 *13* ce(N)/(γ+ce)=0.000641 *13* %Iγ=2.07 *3*. α(K)=39.3, α(L)=6.80, α(M+..)=1.0. α(K)exp=39.0 *19* (1989Mu15), 43.1 *18* (1970Ca19). α(K)exp/α(L)exp=5.78 *15*, α(L)exp/α(M)exp=7.53 *18*, α(L1)exp/α(L23)exp=2.26 *8* (1971Pl02). E_γ: from 1962Ha46, cryst. Mult.,δ: from α(L1)exp/α(L23)exp=2.26 *8* (1971Pl02). I(γ+ce)=99.75 *3*.

[†] Additional information 1.

[‡] For absolute intensity per 100 decays, multiply by 0.0207 *3*.

[#] Absolute intensity per 100 decays.

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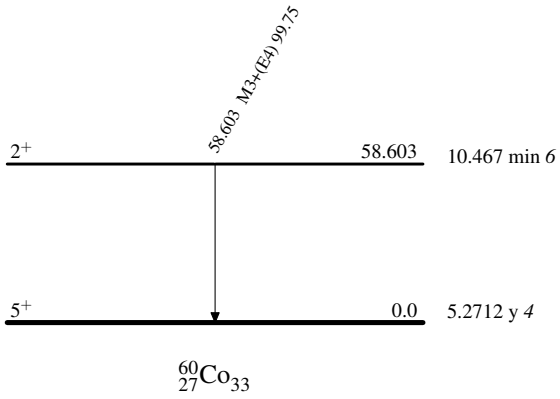
Decay Scheme

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

%IT=99.75 *3*



$^{60}_{27}Co_{33}$