

^{85}Sr IT decay (67.63 min) 1980Me06,1971Vo06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 116, 1 (2014)	31-Dec-2013

Parent: ^{85}Sr : $E=238.78$ 4; $J^\pi=1/2^-$; $T_{1/2}=67.63$ min 4; %IT decay=86.6 4

^{85}Sr - J^π : From ^{85}Sr Adopted Levels.

^{85}Sr -%IT decay: Ti(231.86 γ +238.78 γ)/[I(γ +ce) of 231.86 γ +238.78 γ +151.19 γ +281.0g+ 731.797 γ +919.8 γ]; no β feeding is expected to g.s. of ^{85}Rb due to $\Delta J=2$. Noinvolved for such a β transition.

1980Me06: Ge(Li) detectors, measured γ spectra. 1971Vo06: Si(Li) and Ge(Li) detectors, α spectrometer, measured conversion electron and γ spectra, determined $\alpha(K)$ and $\alpha(K)/(\alpha(L)+\alpha(M))$.

 ^{85}Sr Levels

E(level)	J^π^\dagger	$T_{1/2}$	Comments
0.0	9/2 ⁺	64.849 d 7	$T_{1/2}$: From Adopted Levels.
231.860 20	7/2 ⁺		
238.78 4	1/2 ⁻	67.63 min 4	$T_{1/2}$: weighted average of 67.55 min 7 (1982Gr07), 67.66 min 7 (1970LyZZ), 67.66 min 7 (1972Em01: 4 π ionization chambers), 67.92 min 25 (1972Em01: solid well-type scintillation counters), and 67.3 min 3 (1971Bu08). Others: 69.5 min 5 (1966Ka24,1964Gu08), 70 min (1940Du05).

[†] From Adopted Levels.

γ(⁸⁵Sr)

I_γ normalization: From summed transition intensity to g.s.=100.

α(K)_{exp} values are from internal-conversion spectrometer data, normalized to α(K) of several isotopes with known α(K) ([1971Vo06](#)).

<u>E_γ[†]</u>	<u>I_γ^{†#}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[‡]</u>	<u>δ[‡]</u>	<u>α[@]</u>	<u>I_(γ+ce)[#]</u>	<u>Comments</u>
(6.92 5)		238.78	1/2 ⁻	231.860	7/2 ⁺	[E3]		2.02×10 ⁷ 12	858 17	α(L)=1.66×10 ⁷ 10; α(M)=3.31×10 ⁶ 19; α(N)=3.17×10 ⁵ 18; α(O)=63 4 E _γ : from level-energy difference. I _(γ+ce) : deduced from intensity balance. %I _γ =83.9 4
231.860 20	839 16	231.860	7/2 ⁺	0.0	9/2 ⁺	M1+E2	-0.45 6	0.0224 12		α(K)=0.0196 11; α(L)=0.00228 14; α(M)=0.000383 23; α(N)=4.7×10 ⁻⁵ 3 α(K) _{exp} =0.0198 10 (1971Vo06)
238.78 5	2.75 5	238.78	1/2 ⁻	0.0	9/2 ⁺	M4		1.95 4		α(K)=1.61 3; α(L)=0.288 5; α(M)=0.0500 9; α(N)=0.00599 10; α(O)=0.000302 5 α(K) _{exp} /(α(L) _{exp} +α(M) _{exp})=4.5 5 (1971Vo06). 1968Ha52 give 4.2.

[†] From [1980Me06](#).

[‡] From ce data in [1971Vo06](#).

[#] For absolute intensity per 100 decays, multiply by 0.1000 5.

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ-ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

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