

⁸¹Se IT decay (57.28 min) 1971Na18,2015Kr02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 199,271 (2025)	1-Sep-2024

Parent: ⁸¹Se: E=102.968 10; J^π=7/2⁺; T_{1/2}=57.28 min 2; %IT decay=99.913 15

⁸¹Se-%IT decay: I_γ normalization is from I(γ+ce)(102.968)=100 × (99.913 15). Branching is from (I(γ+ce)(IT) + ΣI(γ+ce) to ⁸¹Br g.s.)=100%.

Others: 1949Be59, 1952Ru10, 1955Dr43, 1967Ra08, 1968Ra35, 1969Ba34, 1969Zo06, 1971Do09, 1972De43, 1974Ch11, 1975Kr08, 1977Kr18, 2015Kr02.

⁸¹Se Levels

E(level) [†]	J ^π [‡]	T _{1/2} [‡]
0	1/2 ⁻	18.5 min 1
102.968 10	7/2 ⁺	57.28 min 2

[†] From E_γ.

[‡] From Adopted Levels.

γ(⁸¹Se)

I_γ normalization: I_γ normalization is from I(γ+ce)(102.968)=100 × (99.913 15). Branching is from (I(γ+ce)(IT) + ΣI(γ+ce) to ⁸¹Br g.s.)=100%.

E _γ [†]	I _γ [@]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	δ	α ^{&}	Comments
102.968 10	100	102.968	7/2 ⁺	0	1/2 ⁻	E3(+M4)	<0.0056 [#]	6.80 10	α(K)exp=7.1 3; α(L)exp=1.6 3 α(K)=5.30 7; α(L)=1.286 18; α(M)=0.2006 28 α(N)=0.01349 19 I _γ : 100 2 in 2015Kr02. α(K)exp, α(L)exp: from simultaneous measurement of γ and electron spectra, respectively, with Ge(Li) detector and Si(Li) spectrometer; system calibrated against ¹⁴¹ Ce(145 keV), ²⁰³ Hg(279 keV), ¹⁹⁸ Au(442 keV), ¹³⁷ Cs(662 keV) lines (1971Na18). Other: α(K)exp=8.6 24 (1955Dr43); α(K)exp=8.3 3 from I(K x ray)/I(103γ)=4.9 2 and ω _K =0.589 (1968Ra35); α(K)exp/α(L+...)exp=3.9 (1949Be59), 4.0 (1955Dr43); α(K)exp/α(L)exp=3.0 (1952Ru10).

[†] Weighted average of 103.1 1 (1969Zo06), 103.0 2 (1971Do09), 102.89 10 (1971Ra07), 103.0 2 (1974Ch11), 102.9 2 (1975Kr08), 103.3 2 (1967Pr06), 103.7 5 (1969Ba34), 102.7 5 (1967Ra08), 102.966 10 (2015Kr02). Other: 102.02 7 (1977Kr18).

[‡] From α(K)exp, α(L)exp (1971Na18).

[#] From Adopted Gammas. From α(K)exp=7.1 3 and α(L)exp=1.6 3 (1971Na18) using BriccMixing code abs(δ)=0.171 1 was deduced; however, this exceeds RUL. Evaluator assumes α(exp) data are too large and adopts δ<0.0056 based on RUL for B(M4)(W.u.)<30.

[@] For absolute intensity per 100 decays, multiply by 0.1281 16.

[&] 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.

 ^{81}Se IT decay (57.28 min) 1971Na18,2015Kr02Decay SchemeIntensities: $I_{(\gamma+ce)}$ per 100 parent decays

%IT=99.913 15

