

**<sup>122</sup>Sb IT decay (4.191 min) 1963De05**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. Tamura	NDS 108, 455 (2007)	30-Sep-2006

Parent: <sup>122</sup>Sb: E=163.5591 22; J<sup>π</sup>=(8)<sup>-</sup>; T<sub>1/2</sub>=4.191 min 3; %IT decay=100.0  
 1963De05, 1962De20: <sup>121</sup>Sb(n,γ); scin γ, K x ray, (γ)(K x ray)(t), proportional counter ce.  
 1962En04: <sup>123</sup>Sb(γ,n), Eγ=26 MeV; scin γ, γγ(t).  
 1977Co18: <sup>122</sup>Sn(d,2n); determined g-factor.

<sup>122</sup>Sb Levels

Level scheme is that proposed by 1963De05.

E(level) <sup>†</sup>	J <sup>π</sup>	T <sub>1/2</sub>	Comments
0.0	2 <sup>-</sup>		
61.4130 5	3 <sup>+</sup>	1.7 μs 1	T <sub>1/2</sub> : from (76γ)(ce 61g)(t) (1962En04). Other: 1.8 μs 2 from (76γ)(61γ)(t) (1962De20).
137.4724 9	(5) <sup>+</sup>	0.53 ms 3	T <sub>1/2</sub> : from (ce(L) 26γ)(ce(K) 76γ+ce(K) 61γ)(t) (1963De05). Other: 0.53 ms 5 (1962En04). g-factor(5 <sup>+</sup> )=+0.61 2 (1977Co18).
163.5591 22	(8) <sup>-</sup>	4.191 min 3	T <sub>1/2</sub> : from 1990Ab06. See Adopted Levels for other values.

<sup>†</sup> From <sup>121</sup>Sb(n,γ).

γ(<sup>122</sup>Sb)

E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>‡#</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.	α <sup>@</sup>	Comments
26.0867 24	0.0172	163.5591	(8) <sup>-</sup>	137.4724	(5) <sup>+</sup>	(E3)	3.07×10 <sup>4</sup>	α(L)=2.357×10 <sup>4</sup> ; α(M)= 5407 Eγ from level scheme, I <sub>γ</sub> from α and intensity balance. α 's multiplied by 0.975.
61.4130 5	290	61.4130	3 <sup>+</sup>	0.0	2 <sup>-</sup>	E1	0.743	α(K)= 0.638; α(L)= 0.0856; α(M)=0.01668; α(N+..)=0.00361 α(K)exp=0.88 10 (1962De20), 0.65 3 (1963Ci02), 0.64 2 ; (1988i08) α(exp)=0.71 2 (1976ReZI), 0.75 3 (1988Vi08).
76.0595 7	122 6	137.4724	(5) <sup>+</sup>	61.4130	3 <sup>+</sup>	E2	4.41	α(K)=2.191; α(L)=0.870; α(M)=0.1787; α(N+..)=0.0384 α(K)exp=3.1 5 (1962De20), 2.88 16 (1963Ci02), 3.02 13 (1988Vi08), α(exp)=4.72 9 (1988Vi08).

<sup>†</sup> From <sup>121</sup>Sb(n,γ), except for 26.0867γ.

<sup>‡</sup> From cascade relation; I<sub>γ</sub> imbalances at 61.4- and 137.4-keV levels indicate incompleteness of experimental information.

# For absolute intensity per 100 decays, multiply by ≈0.191.

@ 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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## Decay Scheme

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays  
%IT=100.0

## Legend

- $I_{\gamma} < 2\% \times I_{\gamma}^{max}$
- $I_{\gamma} < 10\% \times I_{\gamma}^{max}$
- $I_{\gamma} > 10\% \times I_{\gamma}^{max}$
- Coincidence

