^{119}Sn IT decay 1968Bo09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. M. Symochko, E. Browne, J. K. Tuli	NDS 110,2945 (2009)	1-Dec-2008

Parent: ^{119}Sn: E=89.535 *15*; $J^{\pi}=11/2^{-}$; $T_{1/2}$=293 d *1*; %IT decay=100.0

Additional information 1.

α: Additional information 2.

1968Bo09: 15 MeV α on Cd, chemi; mag spect ce.

1971Be04: scin, mag spect ce, Xγ(t).

1975Ab03: semi γ, K x ray.

1988GeZS: semi γ, K x ray.

Xγ(t), ceγ(t): 1980La03 scin-scin semi-scin; 1976Ab01 scin-semi; 1971Dr04, 1957Ol05 scin-scin.

Others: 1966Bo13, 1968Ko12, 1971Dr04, 1973So09, 1973Ra17.

For simultaneous emission of two conversion electrons see 1999Vi15 and 1998BoZY.

^{119}Sn Levels

E(level)	J^{π}†	$T_{1/2}$†	Comments
0	$1/2^{+}$	stable	
23.875 *10*	$3/2^{+}$	18.03 ns *7*	
89.535 *15*	$11/2^{-}$	293 d *1*	$T_{1/2}$: Weighted average of 285 d *8* (2003Po21), 293.1 d *7* (1988GeZS), 293.0 d *13* (1976Ma63), 245 d *20* (1950Ne52). $T_{1/2}$: For variation of the half-life of 119mSn(293 d) possibly caused by radiation from Mossbauer excitation of the intermediate 23.87-keV level see: 1998Go25, 1999Go25, 1998ViZY, 2002Go20, 2007LoZZ, and 2008Al24.

† From Adopted Levels, unless otherwise specified.

$\gamma(^{119}Sn)$

Iγ normalization: From %IT=100.
Kα x ray/Iγ(23.9γ)=1.40 *3* (2003Po21); Kα x ray/Iγ(23.9γ)=1.66 *3* (1968Ko12). Other: 1988GeZS.

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α	$I_{(\gamma+ce)}$ [‡]	Comments
23.875 *10*	16.5 *2*	23.875	3/2$^+$	0	1/2$^+$	M1+E2	<0.003	5.06 *8*	100	α(L)=4.09 *6*; α(M)=0.803 *12*; α(N+..)=0.1636 *23* α(N)=0.1506 *22*; α(O)=0.01291 *19* Mult.: From α(exp)=5.5 *7* (1971Be04), α(exp)=5.12 *7* (if α(L1)(theor.)=3.75 *7*) (1968Bo09), α(exp)=5.2 *3* (1964Be16), α(exp)=5.13 *15* (from Kα x ray/Iγ(23.8) =1.66 *3*, 1968Ko12). Notice that all Kα x ray reported are from internal conversion emission of the 65.7-keV γ-ray transition. I_γ: From I(γ+ce)=100 and α=5.06 *8*. Other: 15.9 *3* (1988GeZS). δ: Deduced by evaluators from L1/L3=45.7 *15* (1968Bo09) and theoretical conversion coefficients calculated with code bricc.
65.66 *1*	0.0200 *3*	89.535	11/2$^-$	23.875	3/2$^+$	M4		5.00×10^3	100	ce(K)/(γ+ce)=0.323 *6*; ce(L)/(γ+ce)=0.527 *8*; ce(M)/(γ+ce)=0.1258 *24*; ce(N+)/(γ+ce)=0.0234 *5* ce(N)/(γ+ce)=0.0227 *5*; ce(O)/(γ+ce)=0.000693 *14* Mult.: From α(K)exp=1610 *82* if ω(K)=0.868 *28* (1975Ab03), K/L=0.613 *15* (1971Be04). I_γ: From I(γ+ce)=100 and α=5000 *70*.

[†] From E(ce) (1968Bo09).
[‡] Absolute intensity per 100 decays.

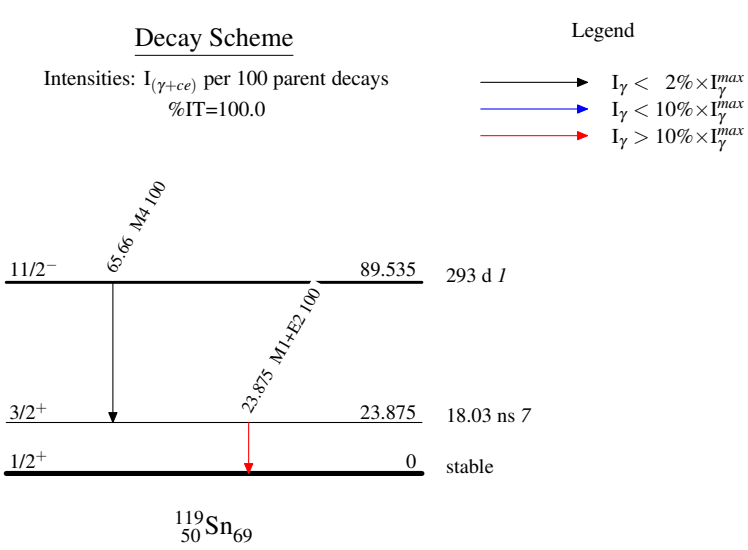
$^{119}_{50}Sn_{69}$-2

^{119}Sn IT decay 1968Bo09

Decay Scheme

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

%IT=100.0



$^{119}_{50}Sn_{69}$