^{115}Sn IT decay (159 μs) 1964Br27,1964Iv01,1966Mc06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 2391 (2012)	1-Sep-2012

Parent: ^{115}Sn: E=713.64 *12*; $J^\pi=11/2^-$; $T_{1/2}$=159 μs *1*; %IT decay=100.0
Others: 1958Du80, 1965Iv02, 1965Mc03, 1967Iv03, 1969Ya05.
Delayed photon spectrum studied via pulsed beams of p,d,α on appropriate targets.

^{115}Sn Levels

E(level)	J^π[†]	$T_{1/2}$	Comments
0.0	$1/2^+$	stable	
497.6	$3/2^+$		
613.5	$7/2^+$	3.26 μs *8*	$T_{1/2}$: 3.26 μs *8* (1967Iv05) γγ(t) scin. Others: 3.45 μs (1968Iv02) γ(t) pulsed beam, 3.8 μs *4* (1978Ho06) γ(t) pulsed beam. g factor: +0.195 *3* (1975Iv02) γ(θ,H,t).
713.64 *12*	$11/2^-$	159 μs *1*	$T_{1/2}$: from 1964Iv01 γ(t) pulsed beam. Others: 165 μs *15* (1958Du80), 155 μs *10* (1964Br27), 166 μs *10* (1966Mc06). g factor: −0.250 *2* (1975Iv02), 0.255 *15* (1972Me15), 0.247 *1* (1971Br03). %IT decay=100.

[†] From Adopted Levels.

γ(^{115}Sn)

Iγ normalization: from Ti(100.7γ)=100.

E_γ	I_γ[†#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ	α[@]	Comments
100.7 *20*	2.8 *3*	713.64	$11/2^-$	613.5	$7/2^+$	M2		5.6 *5*	α(K)=4.5 *4*; α(L)=0.85 *8*; α(M)=0.173 *15*; α(N+..)=0.035 *3* α(N)=0.032 *3*; α(O)=0.00249 *21* E_γ: from 1966Mc06, semi. I_γ: Iγ(101γ)/Iγ(116γ)=0.28 *3* (1964Iv01). Other:≈0.3 (1964Br27). α(K)exp=3.8 *8* (1964Iv01) K x ray/Iγ via γ singles, γγ-coin. Hf(M2,100.7γ)=8.4 W.u.; analogs: Hf(M2,661γ,^{113}Sn)=7.9 W.u., Hf(M2,979γ,^{111}Sn)=6.2 W.u.
115.9 *10*	10	613.5	$7/2^+$	497.6	$3/2^+$	E2		0.95 *4*	α(K)=0.712 *23*; α(L)=0.188 *8*; α(M)=0.0381 *16*; α(N+..)=0.0071 *3* α(N)=0.0068 *3*; α(O)=0.000322 *12* E_γ: from 1966Mc06. Other: 114.8 (1969Ya05). α(K)exp=0.69 *7* (1964Iv01) K x ray/Iγ via γ singles, γγ-coin. Hf(E2,115γ)=7.8 W.u. For empirical syst of hindered E2 transitions in odd-mass N=59-67 nuclei: 1978Ho06.
497.6	≈16	497.6	$3/2^+$	0.0	$1/2^+$	M1+E2	+0.21 *2*	0.00805 *1*	α(K)=0.00698; α(L)=0.00085; α(M)=0.00017

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γ(^{115}Sn) (continued)

E_γ	E_i(level)	Comments
		E_γ: from 1969Ya05, semi. Other: 498.0 *10* (1966Mc06). I_γ: Iγ(498γ)/Iγ(116γ)≈1.6 (1964Br27). δ: +0.21 *2* (1977Da12) Coul. ex. α(K)exp=0.0070 *4* (1975Ma38) from (α,nγ).

† I(K x ray)≈8.5 (1964Br27).
‡ Deduced from α(K)exp.
# For absolute intensity per 100 decays, multiply by 5.3 *6*.
@ 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.

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