

(HI,xnγ) 1996Sf01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93, 599 (2001)	1-Dec-2000

¹¹²Sn(³⁵Cl,n2pγ), E=159 MeV; ¹¹⁶Sn(³²S,3npγ), E=125-170 MeV; ⁸⁹Y(⁵⁸Ni,2npγ), E=250 MeV; 6 Compton-suppressed Ge detectors, multiplicity filter. Measured: γ, γγ, γ(t), γ(θ), T_{1/2}. Includes earlier publication [1992Sf01](#). Information reported above the 6-, 397-keV isomer.

Other measurement: ⁹⁶Ru(⁵²Cr,3pn) [1987Go35](#), γs were observed, but level scheme was not built.

¹⁴⁴Tb Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0.0	1 ⁺ &		
283.9 3	(3 ⁺)&		
396.9 5	6 ⁻	4.5 ^b s 15	
476.2 5	8 ⁻	2.8 μs 3	
517.1 5	9 ⁺	0.67 μs 6	
544.5 6	10 ⁺	<300 ^a ns	J ^π : from similarity in level scheme with ¹⁴² Eu, ¹⁴⁰ Pm.
978.2 [#] 6	11 ⁺		
1127.2 5			
1209.0 [#] 6	12 ⁺		
1787.3 [#] 6	13 ⁺		
2154.7 6			
2183.1 6			
2260.7 [#] 6	14 ⁺		
2514.5 6	(13)		
2586.2 [@] 6	(13)		
2741.9 [@] 6	(14)		
2780.2 [#] 6	15 ⁺		
2918.0 [@] 6	(15)		
2983.4 [#] 6	16 ⁺		
3129.9 [@] 7	(16)		
3276.3 [@] 7	(17)		
3433.1 [#] 6	17 ⁺		
3705.4 [@] 7	(18)		
3712.7 [#] 7	18 ⁺		
4058.3 [@] 7	(19)		
4631.5 [@] 8	(20)		
4664.6 [#] 7			
5164.2 [@] 8			
5379.9 [#] 8			

[†] Calculated by evaluator using a least-square fit.

[‡] As given by authors, based on R(DCO) values.

[#] Band(A): ΔJ=1 band, based on 11⁺, 978-keV level.

[@] Band(B): ΔJ=1 band, based on 13, 2515 level.

& From adopted values.

^a Based on time-resolution of γγ-coin system.

^b From adopted values.

(HI,xnγ) **1996Sf01** (continued)

γ(¹⁴⁴Tb)

<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>α[‡]</u>	<u>Comments</u>
26.8 6		544.5	10 ⁺	517.1	9 ⁺	M1		Mult.: α(exp)= 14 4 (from intensity balance). Mult.: α(exp)=0.7 2 (from intensity balance). α(K)=2.00 6; α(L)=3.34 10; α(M)=0.792 24; α(N+..)=0.215 7
40.8 2		517.1	9 ⁺	476.2	8 ⁻	E1		
79.3 2		476.2	8 ⁻	396.9	6 ⁻	E2	6.35	
113.0 [†] 3		396.9	6 ⁻	283.9	(3 ⁺)	E3 [†]	22.7	Mult.: α(exp)= 7.2 9 , α(K)exp= 1.8 4 (from intensity balance). α(K)=3.04 10; α(L)=14.9 5; α(M)=3.70 11; α(N+..)=1.03 3
146.4 2	399 26	3276.3	(17)	3129.9	(16)			Additional information 1. R(DCO)= 0.49 3.
155.7 2	58 10	2741.9	(14)	2586.2	(13)			R(DCO)= 0.63 11.
176.1 2	519 40	2918.0	(15)	2741.9	(14)			R(DCO)= 0.40 2.
203.2 2	344 26	2983.4	16 ⁺	2780.2	15 ⁺			R(DCO)= 0.38 2.
211.9 2	430 40	3129.9	(16)	2918.0	(15)			R(DCO)= 0.53 4.
227.5 2	238 40	2741.9	(14)	2514.5	(13)			R(DCO)= 0.58 9.
230.7 2	550 36	1209.0	12 ⁺	978.2	11 ⁺			R(DCO)= 0.41 3.
279.5 2	110 22	3712.7	18 ⁺	3433.1	17 ⁺			R(DCO)= 0.38 3.
283.9 [†] 3		283.9	(3 ⁺)	0.0	1 ⁺	[E2] [†]	0.0744	α(K)=0.0557 17; α(L)=0.0145 5; α(M)=0.00331 10; α(N+..)=0.00090 3
331.4 2	62 18	2514.5	(13)	2183.1				
352.9 2	167 28	4058.3	(19)	3705.4	(18)			R(DCO)= 0.34 4.
359.9 3	32 16	2514.5	(13)	2154.7				
429.1 2	240 30	3705.4	(18)	3276.3	(17)			R(DCO)= 0.39 4.
433.6 2	853 56	978.2	11 ⁺	544.5	10 ⁺			R(DCO)= 0.29 4.
449.7 2	158 24	3433.1	17 ⁺	2983.4	16 ⁺			R(DCO)= 0.23 2.
519.4 2	223 32	2780.2	15 ⁺	2260.7	14 ⁺			R(DCO)= 0.31 2.
532.7 3	20 4	5164.2		4631.5	(20)			
573.2 2	49 8	4631.5	(20)	4058.3	(19)			R(DCO)= 0.37 9.
578.3 2	532 24	1787.3	13 ⁺	1209.0	12 ⁺			R(DCO)= 0.35 2.
651.1 2		1127.2		476.2	8 ⁻			
652.7 2	63 18	3433.1	17 ⁺	2780.2	15 ⁺			R(DCO)= 1.02 13.
664.5 2	1000 68	1209.0	12 ⁺	544.5	10 ⁺			R(DCO)= 0.93 5.
715.3 3	28 12	5379.9		4664.6				R(DCO)= 1.39 30.
722.7 2	87 18	2983.4	16 ⁺	2260.7	14 ⁺			R(DCO)= 1.15 19.
729.4 2	122 21	3712.7	18 ⁺	2983.4	16 ⁺			R(DCO)= 1.01 9.
782.0 2	26 7	4058.3	(19)	3276.3	(17)			
809.2 3	66 6	1787.3	13 ⁺	978.2	11 ⁺			
951.9 3	76 15	4664.6		3712.7	18 ⁺			R(DCO)= 0.60 8.
954.6 2	313 45	2741.9	(14)	1787.3	13 ⁺			R(DCO)= 0.53 6.
992.9 2	250 40	2780.2	15 ⁺	1787.3	13 ⁺			R(DCO)= 1.14 12.
1027.6 3	35 18	2154.7		1127.2				
1051.7 2	583 60	2260.7	14 ⁺	1209.0	12 ⁺			R(DCO)= 1.02 7.
1055.9 3	54 21	2183.1		1127.2				
1204.7 3	32 15	2183.1		978.2	11 ⁺			
1305.5 2	153 34	2514.5	(13)	1209.0	12 ⁺			R(DCO)= 0.67 10.
1377.0 3	76 28	2586.2	(13)	1209.0	12 ⁺			R(DCO)= 0.55 11.

[†] From adopted values.

[‡] 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.

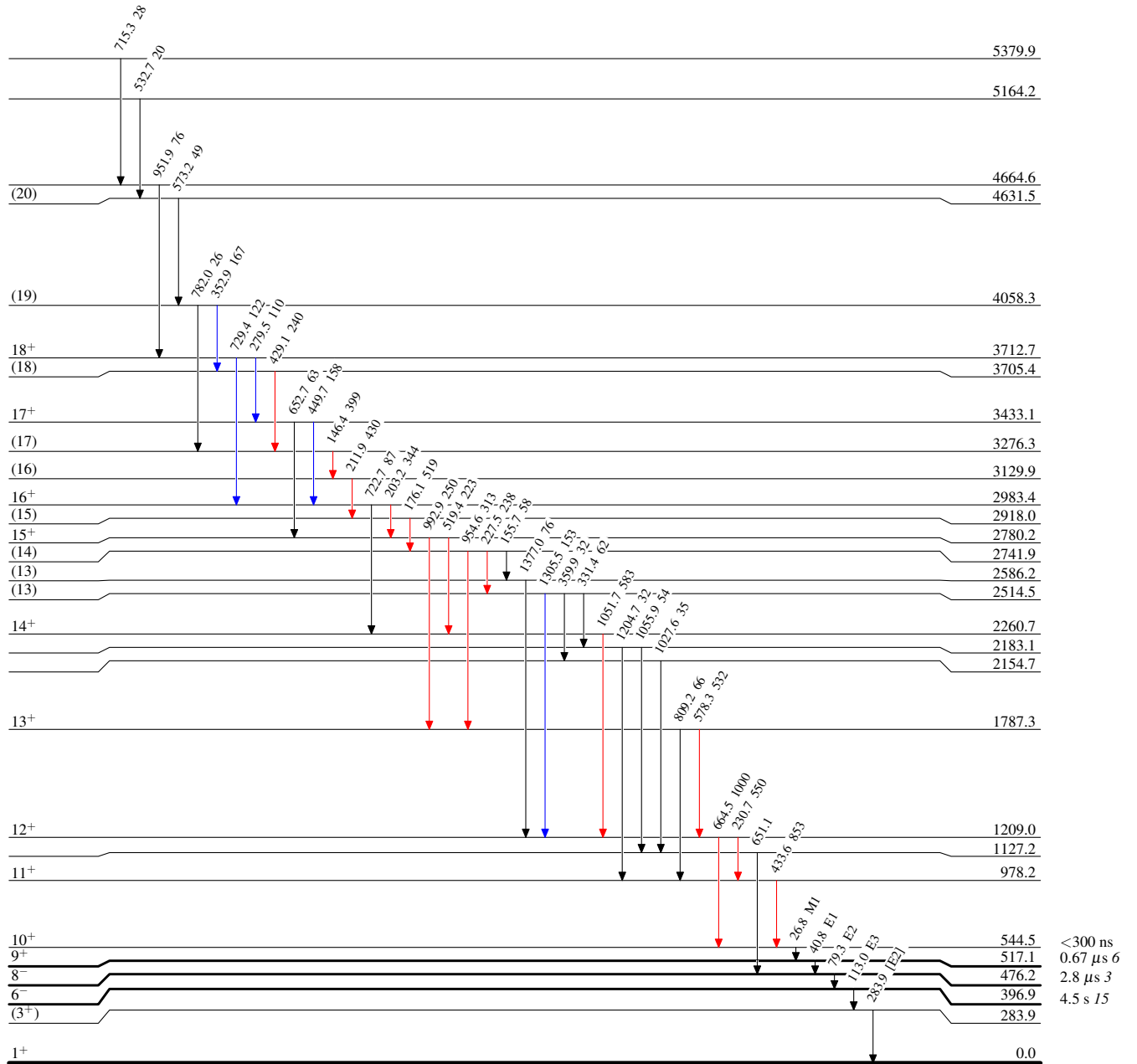
(HI,xn γ) 1996Sf01

Level Scheme

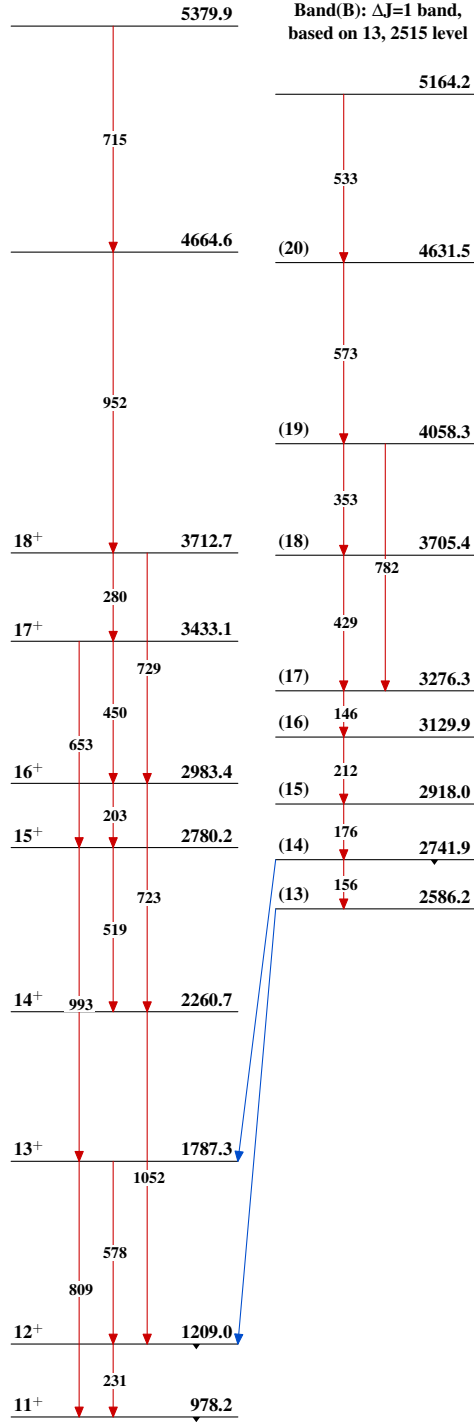
Intensities: Relative I_γ

Legend

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



$^{144}\text{Tb}_{79}$

(HI,xn γ) 1996Sf01**Band(A): $\Delta J=1$ band, based on 11^+ ,
978-keV level****Band(B): $\Delta J=1$ band,
based on $13, 2515$ level** $^{144}_{65}\text{Tb}_{79}$