(HI,xnγ)   1994Sf01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 110, 507 (2009)	1-Oct-2008

^{112}Sn(^{35}Cl,pnγ) E=159 MeV. Measured Eγ, Iγ and γγ using array of 6 Compton-suppressed Ge detectors and a multiplicity filter of 14 BaF$_2$ detectors. Multipolarity from DCO ratios.

1987Go35: ^{92}Mo(^{56}Fe,2pnγ) E(^{56}Fe)=250 MeV, ^{96}Ru(^{52}Cr,pnγ) E(^{52}Cr)=240 MeV. Measured: γ, γγ, Xγ, nγ, pγ. 1987Go35 reported 24 γ's but placed only three in ^{145}Dy level scheme. Of the remaining only 5 are unplaced, the rest have been placed in the level scheme by 1994Sf01.

^{145}Dy Levels

E(level)[†]	J^{π}[‡]	T$_{1/2}$	Comments
0	1/2$^+$	9.5 s *10*	J^{π},T$_{1/2}$: from Adopted Levels, Gammas.
66.3 *3*	3/2$^+$		Additional information 1.
118.2 *2*	11/2$^-$	14.1 s *7*	Additional information 2.
			E(level),T$_{1/2}$: from Adopted Levels, Gammas.
681.71[#] *20*	15/2$^-$		
1028.7 *9*	13/2$^-$		
1636.4[#] *5*	19/2$^-$		
1826.6 *6*	17/2$^-$		
1874.7[@] *9*	15/2$^{(+)}$		
2027.6 *8*	17/2$^{(+)}$		
2347.2[@] *6*	19/2$^{(+)}$		
2661.8[@] *6*	23/2$^{(+)}$		
2744.4[#] *12*	23/2$^-$		
2815.8[@] *7*	25/2		
2883.0[&] *12*	25/2		
3027.6[@] *8*	27/2		
3242.0[a] *12*	27/2		
3354.3[&] *12*	29/2	E(level): 3238.6 as given by 1994Sf01 seems to be a misprint.
3442.9[@] *8*	29/2		
3593.0[a] *16*	19/2		
3651.0[@] *8*	31/2		
3935.3[&] *16*	33/2		
4085.0[a] *19*	31/2		
4693.8[&] *16*	37/2		

[†] From least squares fit to Eγ.
[‡] For levels above 118 keV Configurations given in terms of coupling of h11/2 n hole with the N=80 core excitations.
[#] Band(A): γ sequence based on 11/2$^-$.
[@] Band(B): γ sequence based on 15/2$^{(+)}$.
[&] Band(C): ΔJ=2 γ sequence based on (25/2).
[a] Band(D): ΔJ=1 γ sequence based on (25/2).

(HI,xnγ)　1994Sf01 (continued)

$\gamma(^{145}\text{Dy})$

$E_\gamma^{\dagger\&}$	$I_\gamma^{\ddagger}$	E_i(level)	J_i^π	E_f	J_f^π	$E_\gamma^{\dagger\&}$	$I_\gamma^{\ddagger}$	E_i(level)	J_i^π	E_f	J_f^π
^{x}115.1 3	5 1					472.7		2347.2	19/2$^{(+)}$	1874.7	15/2$^{(+)}$
138.6$^@$ 3	21 2	2883.0	25/2	2744.4	23/2$^-$	492 1		4085.0	31/2	3593.0	19/2
154.0$^@$ 3	18 2	2815.8	25/2	2661.8	23/2$^{(+)}$	520.6$^@$ 2	27 2	2347.2	19/2$^{(+)}$	1826.6	17/2$^-$
^{x}158.3 3	3 1					563.5$^\#$ 2	100	681.71	15/2$^-$	118.2	11/2$^-$
^{x}166.1 3	5 1					581 1	8 1	3935.3	33/2	3354.3	29/2
^{x}181.2 3	7 1					623.7 2	19 2	3651.0	31/2	3027.6	27/2
^{x}199 1						710.8$^@$ 2	25 2	2347.2	19/2$^{(+)}$	1636.4	19/2$^-$
207.8 2	13 1	3651.0	31/2	3442.9	29/2	758.5 3	10 2	4693.8	37/2	3935.3	33/2
211.8$^@$ 3		3027.6	27/2	2815.8	25/2	846.2		1874.7	15/2$^{(+)}$	1028.7	13/2$^-$
314.6$^\#$ 3		2661.8	23/2$^{(+)}$	2347.2	19/2$^{(+)}$	910.7		1028.7	13/2$^-$	118.2	11/2$^-$
320.3		2347.2	19/2$^{(+)}$	2027.6	17/2$^{(+)}$	954.7$^\#$ 6		1636.4	19/2$^-$	681.71	15/2$^-$
351$^@$ 1		3593.0	19/2	3242.0	27/2	1108$^\#$ 1	53 3	2744.4	23/2$^-$	1636.4	19/2$^-$
359.0$^@$ 2	29 2	3242.0	27/2	2883.0	25/2	1144$^@$ 1	11 2	1826.6	17/2$^-$	681.71	15/2$^-$
414.9 2	14 2	3442.9	29/2	3027.6	27/2	1346.6		2027.6	17/2$^{(+)}$	681.71	15/2$^-$
471.3 3	14 2	3354.3	29/2	2883.0	25/2						

† Eγ with uncertainties are from 1987Go35.
‡ From 1987Go35.
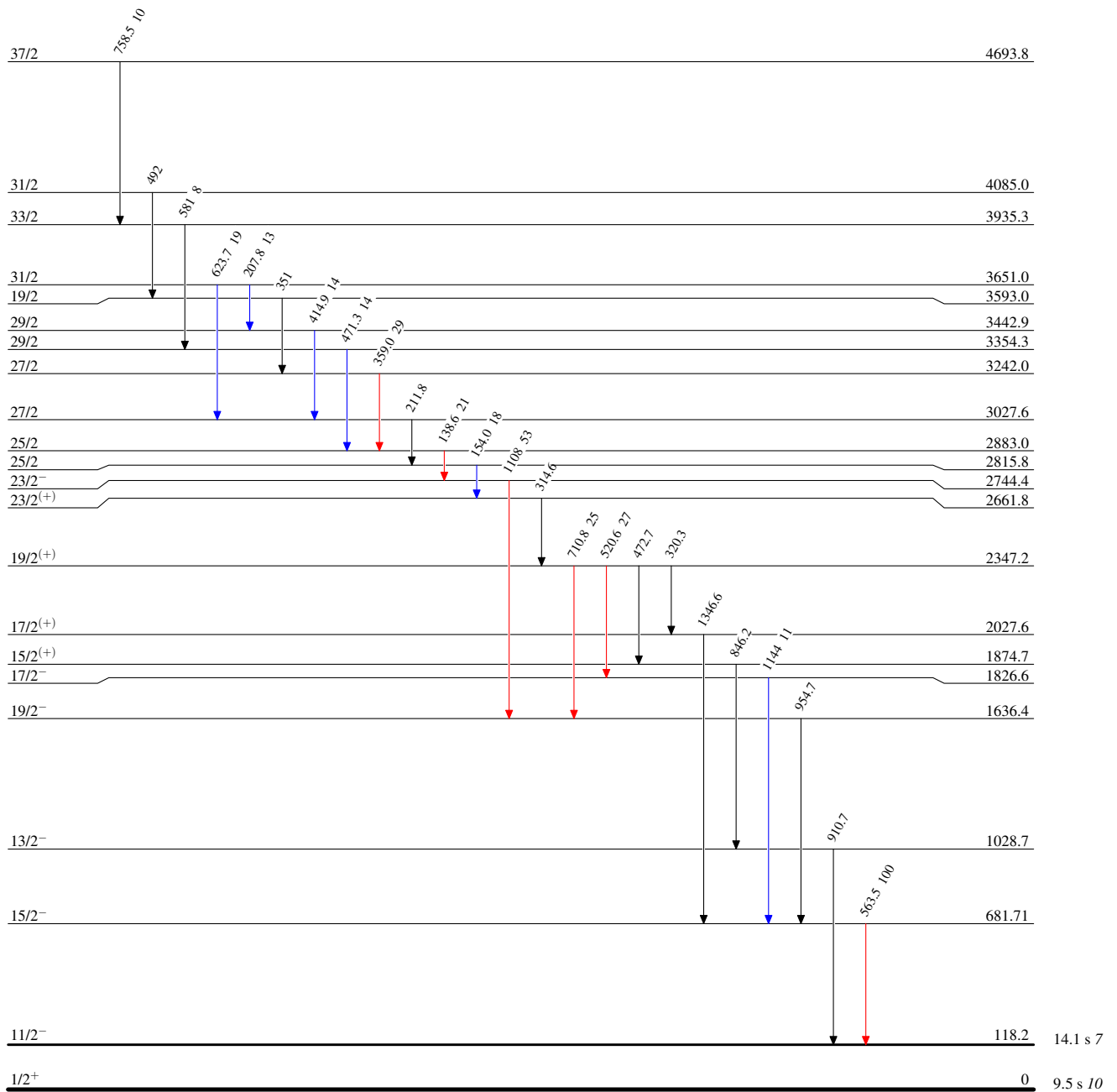$^\#$ Strong γ-ray.
$^@$ Medium intensity γ ray.
$^\&$ Unplaced transitions are from 1987Go35 and are not reported by 1994SF.
^{x} γ ray not placed in level scheme.

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Legend

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

Level Scheme

Intensities: Relative I$_\gamma$

37/2   4693.8

758.5 10

31/2   4085.0
33/2   3935.3

492
581 8

31/2   3651.0
19/2   3593.0
29/2   3442.9
29/2   3354.3
27/2   3242.0

623.7 19
207.8 13
351
414.9 14
471.3 14
359.0 29

27/2   3027.6
25/2   2883.0
25/2   2815.8
23/2$^-$ 2744.4
23/2$^{(+)}$ 2661.8

211.8
138.6 21
154.0 18
1108 53
314.6

19/2$^{(+)}$ 2347.2

710.8 25
520.6 27
472.7
320.3

17/2$^{(+)}$ 2027.6
15/2$^{(+)}$ 1874.7
17/2$^-$ 1826.6
19/2$^-$ 1636.4

1346.6
846.2
1144 11
954.7

13/2$^-$ 1028.7

910.7

15/2$^-$ 681.71

563.5 100

11/2$^-$ 118.2   14.1 s 7
1/2$^+$ 0   9.5 s 10

$^{145}_{66}$Dy$_{79}$

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Band(C): ΔJ=2 γ
sequence based on (25/2)

37/2   4693.8

758

Band(D): ΔJ=1 γ
sequence based on (25/2)

33/2   3935.3

31/2   4085.0

Band(B): γ sequence
based on 15/2$^{(+)}$

581

492

31/2   3651.0

19/2   3593.0

208

29/2   3442.9

29/2   3354.3

351

624

27/2   3242.0

415

471

Band(A): γ sequence
based on 11/2$^-$

27/2   3027.6

212

23/2$^-$ 2744.4

25/2   2815.8

25/2   2883.0

154

23/2$^{(+)}$ 2661.8

315

19/2$^{(+)}$ 2347.2

1108

473

15/2$^{(+)}$ 1874.7

19/2$^-$ 1636.4

955

15/2$^-$ 681.71

$^{145}_{66}\text{Dy}_{79}$