Sn(^{60}Ni,xnγ) 2006Jo04,2005Jo18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Tibor Kibedi and Coral M. Baglin	ENSDF	15-Mar-2010

2006Jo04, 2005Jo18: ^{172}Pt populated in reactions with heavier Sn isotopes in a 93% ^{112}Sn target; E(^{60}Ni)=266 MeV; JUROGAM spectrometer (43 EUROGAM escape-suppressed Ge detectors at 158°, 134°, 108°, 94°, 86°, 72°); RITU gas-filled recoil separator with GREAT tagging spectrometer At focal plane; measured Eγ, Iγ, $\gamma\gamma$ coin, recoil-α-γ coin, angular intensity ratios R=Iγ(158°)/(Iγ(86°)+Iγ(94°)).

^{172}Pt Levels

E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡
0#	0^+	1839.27@ *24*	(5^-)	2406.42# *20*	(8^+)	3581.1# *15*	(12^+)
457.60# *10*	2^+	1932.2 *10*		2710.6 *5*		4218.6# *15*	(14^+)
1070.10# *15*	4^+	2081.5@ *3*	(7^-)	2728.7? *4*			
1464.8@ *8*	(3^-)	2164.6? *3*		2743.0? *3*			
1753.80# *18*	6^+	2406.4 *3*		2994.4# *11*	(10^+)		

† From least-squares fit to Eγ data.
‡ Values suggested by 2006Jo04 based primarily on deduced band structure and comparison with structure of neighboring isotopes.
# Band(A): g.s. Band.
@ Band(B): sequence based on 1465 level. Probably odd-J, π=− sideband by analogy with first-excited sidebands In neighboring nuclides.

γ(^{172}Pt)

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.‡	Comments
x183.5 *4*	4 *1*						
x212.4 *2*	9 *2*						Mult.: R=2.1 *4*.
242.2 *2*	12 *3*	2081.5	(7^-)	1839.27	(5^-)	Q	Mult.: R=1.50 *16*.
x293.0 *1*	6 *1*						
x324.0 *2*	10 *1*						
336.6 *3*	34 *3*	2743.0?		2406.42	(8^+)		E$_\gamma$,I$_\gamma$: for doublet; the second component is probably from an impurity. Mult.: R=1.64 *13* for doublet.
x366.0 *3*	5 *1*						
374.0 *10*	4 *1*	1839.27	(5^-)	1464.8	(3^-)		
410.8# *2*	24 *3*	2164.6?		1753.80	6^+	Q	Mult.: R=1.41 *15*.
457.6 *1*	100 *6*	457.60	2^+	0	0^+	Q	Mult.: R=1.30 *11*.
x496.2 *2*	11 *1*						
x522.3 *2*	13 *1*						
x529.4 *2*	7 *1*						
564.1# *2*	21 *2*	2728.7?		2164.6?			
567.1 *2*	15 *3*	2406.4		1839.27	(5^-)		
586.7 *10*	16 *10*	3581.1	(12^+)	2994.4	(10^+)		Mult.: R=1.60 *24* for 586.7γ+588.G doublet.
588.0 *10*	17 *9*	2994.4	(10^+)	2406.42	(8^+)		E$_\gamma$: 588.0γ and 586.7γ form an unresolved doublet. Mult.: R=1.60 *24* for 586.7γ+588.0γ doublet.
612.5 *1*	107 *10*	1070.10	4^+	457.60	2^+		E$_\gamma$,I$_\gamma$: doublet; other component probably due to impurity. Mult.: R=1.11 *10* for doublet.
637.5 *3*	11 *1*	4218.6	(14^+)	3581.1	(12^+)		
652.6 *1*	44 *4*	2406.42	(8^+)	1753.80	6^+		Mult.: R=1.00 *15*.
661.6 *4*	12 *3*	2743.0?		2081.5	(7^-)		

Continued on next page (footnotes at end of table)

Sn(^{60}Ni,xnγ) 2006Jo04,2005Jo18 (continued)

$\gamma(^{172}Pt)$ (continued)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
683.7 *1*	70 *5*	1753.80	6^+	1070.10	4^+	Q	the 4^+ to 4^+ placement shown in table ii of 2006Jo04 is a misprint; it should be 6^+ to 4^+. Mult.: R=1.40 *16*.
769.2 *2*	34 *3*	1839.27	(5^-)	1070.10	4^+		the (4^+) to (5^-) placement shown in table II of 2006Jo04 is a misprint; it should be (5^-) to 4^+.
862.1 *10*	7 *2*	1932.2		1070.10	4^+		
[x]924.0 *10*	12 *2*						
956.8 *4*	6 *1*	2710.6		1753.80	6^+		
1006.7 *10*	6 *2*	1464.8	(3^-)	457.60	2^+		

[†] From 2006Jo04. Iγ is relative intensity from coincidence spectra generated from the $\alpha(^{172}Pt)$-tagged $\gamma\gamma$ matrix.

[‡] From ratio R=Iγ(158°)/(Iγ(86°)+Iγ(94°)) (2006Jo04). Expected values are 1.32 and 0.86 for stretched Q and pure stretched D transitions, respectively, based on measurements for transitions of known multipolarity from other nuclides.

[#] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

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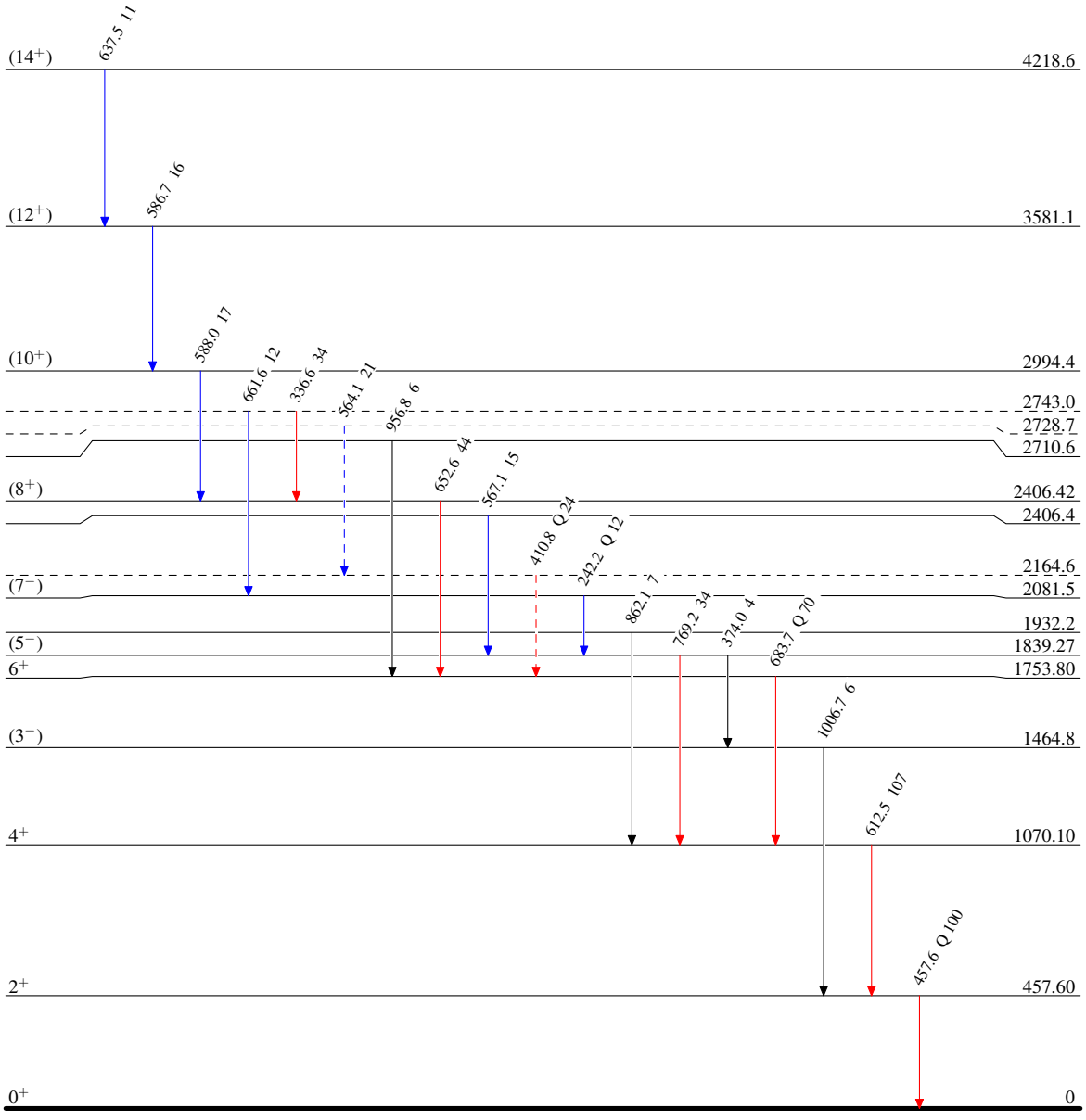
Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{172}_{78}Pt_{94}$

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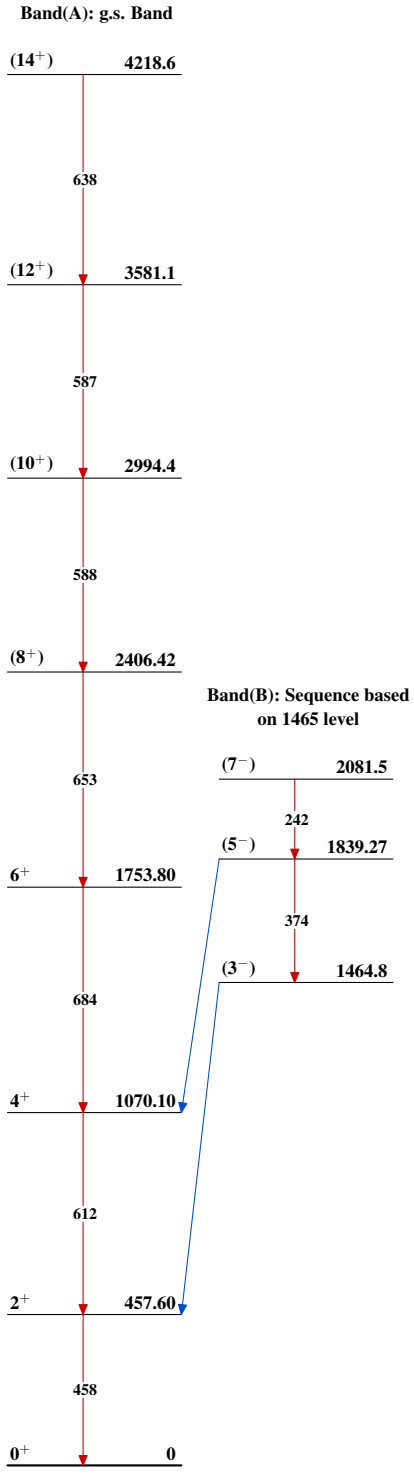

$^{172}_{78}Pt_{94}$