(HI,xnγ) 1986Lo05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 121, 395 (2014)	1-Mar-2014

1986Lo05: ^{182}W(^{19}F,6nγ) E=85-130 MeV, in steps of 10 MeV, and ^{169}Tm(^{30}S,4nγ) E=142 MeV; subsequent γ-ray emission was studied using in-beam γ timing spectroscopic methods including excitation functions, $\gamma(\theta)$ θ=45° − 160°, $\gamma\gamma$(t), ce, and pulsed-beam γ timing with Ge(Li) and Si(Li); interpreted within shell-model framework; compared with intruder states.

^{195}Bi Levels

E(level)†	J$^\pi$#	T$_{1/2}$@	Comments
0.0‡	(9/2$^-$)‡		configuration=π h9/2 + 2ν 0$^+$.
887.9 *10*	(13/2$^+$)	32 ns *2*	configuration=π i13/2 + 2ν 0$^+$.
1232.2 *15*	(15/2$^-$)		configuration=π h9/2 + 2ν 4$^+$.
1623.9 *18*	(17/2$^+$)		configuration=π h9/2 + 2ν 5$^-$.
2044.9 *20*	(21/2$^+$)		configuration=π h9/2 + 2ν 7$^-$.
2196.2 *23*	(25/2$^+$)	80 ns *10*	configuration=π h9/2 + 2ν 9$^-$.
2311.4 *25*	(27/2$^+$)		configuration=π h9/2 + 2ν 9$^-$.
2311.4+x? *25*	(29/2$^-$)	750 ns *50*	E(level): seen in all of the time curve measurements. The existence is inferred, although no low-energy γ-ray seen.

† From Eγ's by using least-squares fit to data.
‡ From Adopted Levels.
# Based on the $\gamma(\theta)$, T$_{1/2}$, ce, and systematic properties of the odd-A Bi isotopes; assignments are tentative because presumed 9/2$^-$ ground state (π h9/2).
@ From pulsed-beam timing measurements.

γ(^{195}Bi)

E$_\gamma$†	I$_\gamma$‡	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.	α#	Comments
115.2	5 *3*	2311.4	(27/2$^+$)	2196.2	(25/2$^+$)	(M1)	6.80	α(K)=5.53 *8*; α(L)=0.972 *14*; α(M)=0.229 *4*; α(N+..)=0.0719 *10*
151.3	20 *4*	2196.2	(25/2$^+$)	2044.9	(21/2$^+$)	(E2)	1.250	α(K)=0.302 *5*; α(L)=0.705 *10*; α(M)=0.186 *3*; α(N+..)=0.0569 *8* $\gamma(\theta)$: A$_2$≈0.
344.3	84 *6*	1232.2	(15/2$^-$)	887.9	(13/2$^+$)	(E1)	0.0222	α(K)=0.0182 *3*; α(L)=0.00307 *5*; α(M)=0.000719 *10*; α(N+..)=0.000223 *4* Mult.: dipole from $\gamma(\theta)$ measurements. The 344- and 392-keV stretched dipoles have to be either both E1 or both M1 transitions. The proposed E1 is based on systematics of J^π for 888-, 1323- and 1624-keV levels, and a slight preference for 344-keV E1 by the conversion measurements. $\gamma(\theta)$: A$_2$=−0.20 *7*; A$_4$=+0.2 *2*.
391.7	67 *6*	1623.9	(17/2$^+$)	1232.2	(15/2$^-$)	(E1)	0.01669	α(K)=0.01371 *20*; α(L)=0.00228 *4*; α(M)=0.000533 *8*; α(N+..)=0.0001655 *24* Mult.: see notes of 344.3-keV γ transition. $\gamma(\theta)$: A$_2$=−0.25 *7*; A$_4$=+0.03 *9*.
421.0	62 *6*	2044.9	(21/2$^+$)	1623.9	(17/2$^+$)	(E2)	0.0471	α(K)=0.0309 *5*; α(L)=0.01213 *17*; α(M)=0.00307 *5*; α(N+..)=0.000947 *14* $\gamma(\theta)$: A$_2$=+0.42 *6*; A$_4$=−0.46 *9*.
887.9	100	887.9	(13/2$^+$)	0.0	(9/2$^-$)	M2(+E3)	0.043 *22*	α(K)=0.0534, α(L)=0.01024, α=0.0670 if mult=M2; α(K)=0.01548, α(L)=0.00482,

Continued on next page (footnotes at end of table)

(HI,xnγ) 1986Lo05 (continued)

γ(^{195}Bi) (continued)

E_γ[†]	E_i(level)	Comments
		α=0.02189 if mult=E3; α from α(M2). α(K)exp=0.082 *15*. γ(θ): A_2=+0.09 *7*; A_4=+0.02 *10*.

[†] ΔE not given by authors.

[‡] Relative intensities normalized to Iγ(887.9 keV)=100. Iγ of the 115.2 and 151.3 keV transitions estimated from the coin spectra.

[#] 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.