^{209}Bi(α,^{3}He) E=58 MeV 1972Cl05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 121, 561 (2014)	31-Mar-2014

Others: 1983Sh09, 1979Wu09.
Magnetic spectrograph resolution=26 or 47 keV (FWHM).
(α,^{3}He) reaction strongly favors high-L transfers. σ(d,p)/σ(α,^{3}He) ratios data are used to discern between L=6 and L=7 transfers.

^{210}Bi Levels

E(level)	J^{π}[@]	L	C^2S'[#]	Comments
665[†] *2*	10^-	6	2.1 *CA*	
991[‡] *3*	3^+	7	0.7 *CA*	
1178[†] *2*	(9^-,2^-)	6	2.8	C^2S'=2.4 theory.
1334[†] *3*	5^-,7^-	6	3.25	C^2S'=2.6 theory.
1384[†] *2*	(8^-,3^-)	(6)	2.9	E(level): doublet of 1373,1384 states. C^2S'=2.4 theory.
1458[†] *5*	(4^-,6^-)	6	2.5	C^2S'=2.2 theory.
1470[‡] *3*	12^+	7	2.6	C^2S'=2.5 theory.
1522[‡] *3*	(4^+)	7	1.2	C^2S'=0.9 theory.
1701[‡] *2*	5^+	7	1.15	C^2S'=1.1 theory.
1746[‡] *1*	10^+	7	2.36	C^2S'=2.1 theory.
1771[‡] *4*	(6^+)	(7)	1.37	C^2S'=1.3 theory.
1799[‡] *3*	8^+,11^+	7	3.0	E(level): 8^+,11^+ at 1812,1801 keV, respectively, via (d,p). C^2S'=1.7 theory for 8^+.
1831[‡] *4*	7^+	(7)	1.6	C^2S'=1.5 theory.
2072[‡] *10*	9^+	7	2.3	C^2S'=1.9 theory.
2110[‡] *10*	(11^+)	7	1.37	C^2S'=2.3 theory; L=7, 11^+ strength is split between 1799,2110 levels.

[†] Configuration=((π $1h_{9/2}$) (ν $1i_{11/2}$)); L=6 transfer with summed C^2S'=13.9 if 1^- strength=0.3.
[‡] Configuration=((π $1h_{9/2}$) (ν $1j_{15/2}$)); L=7 transfer with summed C^2S'=17.7.
[#] Normalized to predicted strength of 10^-,3^+ states from stripping sum rules and summed C^2S'=12,16, respectively.
[@] Based on C^2S' (exp vs calc) proportional to 2J+1 for multiplet members, and theoretical calc of level energies.