^{209}Bi(t,p) 1976Fl12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan, C. M. Baglin, O. Gorbachenko, N. Todorovic	NDS 114, 661 (2013)	28-Feb-2013

$J^{\pi}(^{209}\text{Bi g.s.})=9/2^{-}$.

E(t)=17 MeV; FWHM=11 keV; θ(lab)=10°−55° (10 angles); Q3D magnetic spectrometer with a 50 cm long helix detector at the focal plane followed by scin; particle identification; DWBA analysis.

^{211}Bi Levels

E(level)	L[†]	S[‡]	Comments
0.0	0	0.96	L: contribution from other L transfers is ≤5%. S: large relative strength indicates configuration=((π $h_{9/2}$)(^{210}Pb 0^+))$9/2^-$. dσ/dΩ(30°)=61.0 μb/sr.
410 *10*	2	0.026	dσ/dΩ(30°)=1.9 μb/sr.
765 *10*	2	0.146	dσ/dΩ(30°)=11.8 μb/sr.
793 *10*	2	0.149	dσ/dΩ(30°)=12.6 μb/sr.
827 *10*	2	0.482	E(level): probably a doublet (because of its large strength) containing two of the 2^+ multiplet members. dσ/dΩ(30°)=45.0 μb/sr.
952 *10*	(4)	0.0306	dσ/dΩ(30°)=4.1 μb/sr.
987 *10*	(4)	(0.0365	dσ/dΩ(30°)=4.4 μb/sr.
1012 *10*	(4)	0.0365	dσ/dΩ(30°)=4.3 μb/sr.
1050 *10*	(4+?)	(0.0306)	L: (4+(2?)). dσ/dΩ(30°)=4.0 μb/sr.
1074 *10*	2	0.131	dσ/dΩ(30°)=11.0 μb/sr.
1099 *10*	(4)	0.190	dσ/dΩ(30°)=24.0 μb/sr.
1118 *10*	(4)	0.128	dσ/dΩ(30°)=14.9 μb/sr.
1149? *10*			
1195 *10*	(6)	0.263	dσ/dΩ(30°)=15.5 μb/sr.
1242 *10*	(4)	0.277	dσ/dΩ(30°)=34.0 μb/sr.
1307 *10*	(4)	(0.0452)	dσ/dΩ(30°)=6.0 μb/sr.
1354 *10*	(4)	0.0657	dσ/dΩ(30°)=7.9 μb/sr.
1369 *10*	(6)	0.139	dσ/dΩ(30°)=8.5 μb/sr.
1398 *10*	(4)	0.0511	dσ/dΩ(30°)=6.7 μb/sr.
1420 *10*	(6)	0.102	dσ/dΩ(30°)=7.3 μb/sr.
1442 *10*	(6)	0.0949	dσ/dΩ(30°)=7.8 μb/sr.
1472 *10*			
1489 *10*	(6)	0.0651	dσ/dΩ(30°)=4.7 μb/sr.
1553 *10*	(8)	0.073	dσ/dΩ(30°)=1.6 μb/sr.
1579 *10*	(6)	0.091	dσ/dΩ(30°)=5.7 μb/sr.
1589 *10*			dσ/dΩ(30°)=6.0 μb/sr.
1614 *10*			dσ/dΩ(30°)=12.0 μb/sr.
1630 *10*	(3)[#]	(0.190)	dσ/dΩ(30°)=7.5 μb/sr.
1666 *10*			dσ/dΩ(30°)=1.1 μb/sr.
1686 *10*			
1713? *10*			
1825 *10*			dσ/dΩ(30°)=1.1 μb/sr.
1872 *10*			dσ/dΩ(30°)=1.2 μb/sr.
1978 *10*			
1992 *10*			
2015 *10*			dσ/dΩ(30°)=4.5 μb/sr.
2050 *10*	(3)[#]	0.146	dσ/dΩ(30°)=3.3 μb/sr.
2069 *10*			dσ/dΩ(30°)=3.5 μb/sr.
2102 *10*			dσ/dΩ(30°)=2.9 μb/sr.

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^{209}Bi(t,p) 1976Fl12 (continued)

^{211}Bi Levels (continued)

† From fits to $\sigma(\theta)$ data with empirical shapes based on DWBA fits to ^{208}Pb(t,p)^{210}Pb levels. Only L=0, 2, 4, 6, 8 and 3 were analyzed. Values of $d\sigma/d\Omega(30^\circ)$ are given in comments.

‡ For states within each L group, values given are strengths relative to those of ^{208}Pb(t,p)^{210}Pb levels with the same L. The summed relative strengths obtained for the L values considered are: 0.96 (L=0), 0.93 (L=2), 0.891 (L=(4)), 0.756 (L=(6)), 0.073 (L=(8)), and 0.336 (L=(3)).

Possible configuration=((^{210}Pb 3^-)(π $1h_{9/2}$)).