

²⁰⁹Bi(³He,d γ) 1999KI03

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

Target: ²⁰⁹Bi(J π =9/2⁻). Projectile: ³He, E=20.5 MeV. This beam energy is below the Coulomb barrier. Measured $\gamma\gamma$ coin.
 Detector: EUROBALL, an array of seven Ge(Li) detectors.

²¹⁰Po Levels

E(level)	J π	E(level)	J π	E(level)	J π	E(level)	J π
0.0 ^{†‡}	0 ⁺	2386.8 [†]	3 ⁻	4043.4 3		4621.5 3	(3 ⁺)
1181.4 ^{†‡}	2 ⁺	2393.8 ^{†#}	1 ⁺	4105.1 3		4637.5 3	
1426.7 ^{†‡}	4 ⁺	2403.3 [†]	5 ⁺	4141.1 4	(6 ⁺)	4644.9 5	(6 ⁺)
1473.3 ^{†‡}	6 ⁺	2413.8 ^{†#}	3 ⁺	4329.5 4		4660.4 3	
1557.0 ^{†‡}	8 ⁺	2438.4 ^{†#}	7 ⁺	4386.9 4		4948.1 3	
2188.0 ^{†#}	8 ⁺	3477.3 3		4469.6 3	(6 ⁺)	4974.4 5	
2290.0 ^{†#}	2 ⁺	3637.5 2		4542.1 3	(4 ⁺)	4998.2 5	
2326.0 ^{†#}	6 ⁺	3693.9 2		4553.6 [@] 4	(7 ⁺)		
2382.6 [†]	4 ⁺	4029.1 3		4592.5 4			

† From Adopted Levels.
 ‡ Configuration=(π 1h_{9/2})².
 # Configuration=($(\pi$ ¹H92)(π 2f_{7/2})).
 @ Probable Configuration=($(\pi$ 1h_{9/2})(π 3p_{3/2})).

γ (²¹⁰Po)

All γ rays presented here (except 1181 γ) were detected in coincidence with 1181 γ .

E _i (level)	J π _i	E γ	I γ [†]	E _f	J π _f	E _i (level)	J π _i	E γ	I γ [†]	E _f	J π _f
3477.3		1289.3 2	100	2188.0 8 ⁺		4542.1	(4 ⁺)	3115.6 6	100 30	1426.7 4 ⁺	
3637.5		1250.7 2	100	2386.8 3 ⁻		4553.6	(7 ⁺)	2365.6 4	80 20	2188.0 8 ⁺	
3693.9		1307.1 2	100	2386.8 3 ⁻				2997.9 6	100 20	1557.0 8 ⁺	
4029.1		2602.4 3	100	1426.7 4 ⁺		4592.5		4592.5 4	100	0.0 0 ⁺	
4043.4		1855.4 2	100	2188.0 8 ⁺		4621.5	(3 ⁺)	2207.9 3	100 30	2413.8 3 ⁺	
4105.1		1917.1 2	100	2188.0 8 ⁺				2227.7 3	30 10	2393.8 1 ⁺	
4141.1	(6 ⁺)	1702.5 2	15 10	2438.4 7 ⁺				2238.8 4	45 15	2382.6 4 ⁺	
		1953.6 2	30 10	2188.0 8 ⁺				2331.5 3	50 25	2290.0 2 ⁺	
		2583.8 3	100 20	1557.0 8 ⁺		4637.5		2234.7 4	60 30	2403.3 5 ⁺	
		2665.5 4	30 10	1473.3 6 ⁺				2255.1 3	100 15	2382.6 4 ⁺	
4329.5		2003.5 3	100	2326.0 6 ⁺				2311.5 4	25 10	2326.0 6 ⁺	
4386.9		2059.9 5	40 15	2326.0 6 ⁺		4644.9	(6 ⁺)	2456.9 5	100	2188.0 8 ⁺	
		2199.3 3	100 10	2188.0 8 ⁺		4660.4		2277.8 3	75 25	2382.6 4 ⁺	
4469.6	(6 ⁺)	2143.5 3	10 8	2326.0 6 ⁺				2334.1 4	100 40	2326.0 6 ⁺	
		2281.9 3	20 10	2188.0 8 ⁺		4948.1		2544.8 3	50 25	2403.3 5 ⁺	
		2913.1 3	100 15	1557.0 8 ⁺				3474.9 5	100 50	1473.3 6 ⁺	
4542.1	(4 ⁺)	2139.2 3	60 20	2403.3 5 ⁺		4974.4		2786.4 5	100	2188.0 8 ⁺	
		2159.8 3	40 10	2382.6 4 ⁺		4998.2		2810.2 5	100	2188.0 8 ⁺	
		2215.7 4	50 25	2326.0 6 ⁺							

Continued on next page (footnotes at end of table)

$^{209}\text{Bi}(^3\text{He,d}\gamma)$ **1999K103** (continued)

$\gamma(^{210}\text{Po})$ (continued)

† Relative photon branch from each level.

^x γ ray not placed in level scheme.

$^{209}\text{Bi}(\text{}^3\text{He,d}\gamma)$ 1999K103

Level Scheme

Intensities: Relative photon branching from each level

