

$^{209}\text{Bi}(\mu^{-},\nu\text{n}\gamma)$ 2007Me09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 108,1583 (2007)	1-Jun-2007

E=90 MeV/cpi- beam.

Other: 1971Ba10.

 ^{208}Pb Levels

E(level) [†]	J ^π [‡]	S [#]	Comments
0	0 ⁺		
2614.5	2 ⁻	16.3 45	
3197.7	5 ⁻	7.2 30	
3475.1	4 ⁻	1.4 11	
3708.4	5 ⁻		S: obscured by annihilation radiation.
3920.0	6 ⁻	1.8 8	
3946.6	4 ⁻	2.0 7	
3961.2	5 ⁻	2.1 7	
3995.4	4 ⁻	1.3 5	
4051.1	3 ⁻	<1.1	
4085.5	2 ⁺	0.4 5	
4125.3	5 ⁻	1.7 6	
4180.4	5 ⁻	0.8 5	
4206.3	6 ⁻	0.9 5	
4261.9	4 ⁻	2.5 6	
4296.6	5 ⁻	1.0 5	
4323.9	4 ⁺	1.5 3	
4358.7	4 ⁻	0.8 8	
4383.3	6 ⁻	1.4 4	
4423.6	6 ⁺	1.4 6	
4480.7	6 ⁻	1.0 4	S: the evaluator has combined the values for the 1283 and 771γ's. Both transitions deexcite the 4480.7 level.

[†] Rounded-off values from Adopted Levels. The authors take values from the 1986 version of the nuclear data sheets.[‡] From Adopted Levels. The authors give values from the 1986 version of the nuclear data sheets.[#] Direct yield per muon capture (%). $\gamma(^{208}\text{Pb})$

E _γ	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
211.5	2.7 8	3920.0	6 ⁻	3708.4	5 ⁻	
252.8	1.2 8	3961.2	5 ⁻	3708.4	5 ⁻	
277.4	1.2 6	3475.1	4 ⁻	3197.7	5 ⁻	I _γ : other: 2.7 8 (1971Ba10).
510.7		3708.4	5 ⁻	3197.7	5 ⁻	I _γ : obscured by annihilation radiation.
553.4	0.5 5	4261.9	4 ⁻	3708.4	5 ⁻	
583.2	24 2	3197.7	5 ⁻	2614.5	2 ⁻	I _γ : other: 22.2 15 (1971Ba10).
588.1	0.8 5	4296.6	5 ⁻	3708.4	5 ⁻	
650.2	0.6 4	4125.3	5 ⁻	3475.1	4 ⁻	
705.3	<0.3	4180.4	5 ⁻	3475.1	4 ⁻	
722.2	0.6 3	3920.0	6 ⁻	3197.7	5 ⁻	
748.8	2.0 7	3946.6	4 ⁻	3197.7	5 ⁻	
763.4	1.0 4	3961.2	5 ⁻	3197.7	5 ⁻	
771.6	0.3 2	4480.7	6 ⁻	3708.4	5 ⁻	the authors place this transition from a 4854.7 level. That level No longer exists. The 771.6γ belongs with the 4480.7 level.

Continued on next page (footnotes at end of table)

$^{209}\text{Bi}(\mu^{-},\nu n\gamma)$ 2007Me09 (continued) $\gamma(^{208}\text{Pb})$ (continued)

E_{γ}	I_{γ}^{\dagger}	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Comments
786.8	0.6 4	4261.9	4 ⁻	3475.1	4 ⁻	
797.7	0.2 2	3995.4	4 ⁻	3197.7	5 ⁻	
821.5	<0.3	4296.6	5 ⁻	3475.1	4 ⁻	
860.6	2.5 6	3475.1	4 ⁻	2614.5	2 ⁻	
883.6	0.3 3	4358.7	4 ⁻	3475.1	4 ⁻	
927.6	1.0 4	4125.3	5 ⁻	3197.7	5 ⁻	
982.7	0.7 4	4180.4	5 ⁻	3197.7	5 ⁻	
1008.6	0.9 5	4206.3	6 ⁻	3197.7	5 ⁻	
1126.2	1.5 3	4323.9	4 ⁺	3197.7	5 ⁻	
1160.9	0.5 5	4358.7	4 ⁻	3197.7	5 ⁻	
1185.6	1.4 4	4383.3	6 ⁻	3197.7	5 ⁻	
1225.9	1.4 6	4423.6	6 ⁺	3197.7	5 ⁻	
1283.0	0.7 3	4480.7	6 ⁻	3197.7	5 ⁻	
1380.9	1.1 5	3995.4	4 ⁻	2614.5	2 ⁻	
1436.6	<1.1	4051.1	3 ⁻	2614.5	2 ⁻	
1647.4	1.3 4	4261.9	4 ⁻	2614.5	2 ⁻	
2614.5	45 4	2614.5	2 ⁻	0	0 ⁺	I_{γ} : other: 43 7 (1971Ba10).
4085.5	0.7 5	4085.5	2 ⁺	0	0 ⁺	




[†] Observed γ -ray yield (%).

$^{209}\text{Bi}(\mu^-, \nu n \gamma)$ 2007Me09

Level Scheme

Intensities: Type not specified

Legend

-  $I_\gamma < 2\% \times I_\gamma^{\max}$
 $I_\gamma < 10\% \times I_\gamma^{\max}$
 $I_\gamma > 10\% \times I_\gamma^{\max}$

