

$^{209}\text{Bi}(d,2n\gamma)$ 2009Ni05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. Chen # and F. G. Kondev		NDS 126, 373 (2015)	30-Sep-2013

2009Ni05: E=13 MeV pulsed deuteron beam was produced from the U-120 cyclotron in Bucharest. γ -rays were detected by a 3 inch by 3 inch NaI(Tl) detector with a resolution <8% at 663 keV. Measured E_γ , time-differential perturbed angular distributions (TDPAD). Deduced spectroscopic electric quadrupole moments and half-lives.

 ^{209}Po Levels

E(level) [†]	J ^π [‡]	T _{1/2} [#]	Comments
0	1/2 ⁻		
545.00 10	5/2 ⁻		
1326.90 15	9/2 ⁻		
1417.70 18	13/2 ⁻	24.1 ns 4	Q=0.126 5 (2009Ni05) T _{1/2} : weighted average of 24.5 ns 4 from data at 45° and 23.6 ns 5 at 90° (2009Ni05). Q: obtained using TDPAD method.
1472.6 3	17/2 ⁻	89.4 ns 5	Q=0.659 7 (2009Ni05) T _{1/2} : weighted average of 89.8 ns 5 from data at 45° and 88.7 ns 7 at 90° (2009Ni05). Q: obtained using TDPAD method.

[†] From a least-squares fit to E_γ .

[‡] From Adopted Levels.

[#] From 2009Ni05 from fitted results of half-lives and quadrupole frequencies for data at 45° and 90° relative to the beam.

 $\gamma(^{209}\text{Po})$

E_γ [‡]	E_i (level)	J _i ^π	E_f	J _f ^π	Mult. [†]
54.9 2	1472.6	17/2 ⁻	1417.70	13/2 ⁻	E2
90.8 1	1417.70	13/2 ⁻	1326.90	9/2 ⁻	E2
545.0 1	545.00	5/2 ⁻	0	1/2 ⁻	E2
781.9 1	1326.90	9/2 ⁻	545.00	5/2 ⁻	E2

[†] From Adopted Gammas.

[‡] Rounded-off values from Adopted Gammas.

$^{209}\text{Bi}(d,2n\gamma)$ 2009Ni05Level Scheme