^{209}Po ε decay 1996Sc24,1989Ma05,1966Ha29

History

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

Parent: ^{209}Po: E=0.0; $J^\pi=1/2^-$; $T_{1/2}$=124 y *3*; Q(ε)=1892.6 *16*; %ε+%$β^+$ decay=0.454 *7*

^{209}Po-Q(ε): From 2012Wa38.

1996Sc24: x-rays and γ-rays were detected by germanium detectors. Measured Eγ, Eα, E(x-ray), Iγ, Iα, I(x-ray). Deduced levels, K-shell to total electron capture ratio.

1989Ma05: ^{209}Po was produced by ^{nat}Pb(α,3n) with Eα=45 MeV from VECC, BARC, India. γ-rays were measured by two hyperpure Ge detectors. Measured Eγ, Iγ, E(x-ray), I(x-ray), E(α), I(α). Deduced K-capture probability, levels, conversion coefficients, subshell branching ratio.

1966Ha29: ^{209}Po was produced by ^{209}Bi(p,xn). Measured Eγ, Eγ, Iα, Iγ, I(ce), αγ-, γγ- and γ(ce)-coin. Deduced levels, J^π, log *ft*.

Other: 1984Sh32.

^{209}Bi Levels

E(level)†	J^π‡
0.0	$9/2^-$
896.28 *7*	$7/2^-$

† From a least-squares fit to Eγ.
‡ From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	Iε†	Log *ft*	I(ε+$β^+$)†	Comments
(996.3 *16*)	896.28	0.454 *7*	14.493^{2u} *14*	0.454 *7*	εK=0.7079 *3*; εL=0.2152 *2*; εM+=0.07687 *7* Iε: from 1996Sc24. 0.48 *4* from 1989Ma05.

† Absolute intensity per 100 decays.

γ(^{209}Bi)

E_γ	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α†	Comments
896.28 *7*	100	896.28	$7/2^-$	0.0	$9/2^-$	M1+E2	−0.62 *6*	0.0208 *8*	α(K)=0.0170 *6*; α(L)=0.00292 *9*; α(M)=0.000687 *21*; α(N+..)=0.000215 *7* α(N)=0.000175 *6*; α(O)=3.58×10^{-5} *11*; α(P)=4.23×10^{-6} *14* E_γ,Mult.,δ: from Adopted Gammas. Other: Eγ=896.6 keV *1* in 1989Ma05.

† Additional information 1.
‡ For absolute intensity per 100 decays, multiply by 4.45×10^{-3} *7*.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays