

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 147, 382 (2018)	1-Dec-2017

$Q(\beta^-)=2846$ 19; $S(n)=5215$ 21; $S(p)=6040$ 5Y; $Q(\alpha)=4520$ 30 [2017Wa10](#)
 Estimated uncertainty=200 for S(p) ([2017Wa10](#)).
 $S(2n)=9042$ 19, $S(2p)=15760$ 300 (syst) ([2017Wa10](#)).

^{217}Bi evaluated by B. Singh.

[1998RyZY](#), [2003Ku25](#): ^{217}Bi produced in $^{232}\text{Th}(p,X),E=\text{pulsed 1 GeV}$; 254- and 264-keV gammas in ^{217}Po and K-x rays of Polonium observed from β decay of ^{217}Bi . Later studies of decay of ^{217}Bi : [2014Mo02](#), [2014Mo15](#).
 Mass measurement: [2012Ch19](#).

 ^{217}Bi LevelsCross Reference (XREF) Flags

A $^9\text{Be}(^{238}\text{U},X\gamma)$

E(level) [†]	J ^π #	T _{1/2}	XREF	Comments
0.0	(9/2 ⁻)	98.5 s 13	A	$\% \beta^- = 100$ E(level): the observed 98.5-s activity is assumed to correspond to the ground state of ^{217}Bi . T _{1/2} : from measurement by 2003Ku25 based on γ decay curves and through α decay of ^{217}Po ; weighted average of 93 s 3 for 254.1 γ , 100.5 s 13 for 264.4 γ and 98 s 1 through α decay of ^{217}Po . 2003Ku25 quote an uncertainty of 0.8 s, but the evaluator obtains 1.3 s, which is adopted here. Others: 93 s 11 (2014Mo15 along with 2014Mo02 , from $\beta(\text{ion})$ correlations), 93 s 3 (1998RyZY , previous value from the same group as 2003Ku25). Configuration= $\pi h_{9/2}$. Only beta decay has been observed. The alpha-decay branch is expected to be negligible, if any. Calculations by 1997Mo25 give 1×10^9 s for its partial half-life for alpha decay, and >100 s for beta decay. 2003Bo06 calculated T _{1/2} (total β) by using different models.
744 [‡] 1	(13/2 ⁻)		A	
1236 [‡] 1	(17/2 ⁻)		A	
1429 2	(15/2 ⁻ , 17/2 ⁻)		A	
1436 [‡] 2	(21/2 ⁻)		A	
1436+x [‡]	(25/2 ⁻)	3.0 μs 2	A	$\% \text{IT} = 100$ Configuration= $\pi h_{9/2} \otimes \nu(g_{9/2}^2)_{8^+}$. E(level): x=20-90 keV (2014Go20) based on no K-x rays which can be assigned to a transition from this level, and systematics of neighboring nuclides. T _{1/2} : average of time distributions and exponential fits for 200- and 492-keV γ rays (2014Go20). Other: 2.9 μs 2 and 2.8 μs 1 from decay curves for 492 γ and 744 γ , respectively (2014Go20); 2014Mo02 list 2.70 μs 6 from A. Gottardo, Thesis, University of Padova, 2012.

[†] From Ey data, assuming 1 keV energy uncertainty for each γ ray.

[‡] Member of multiplet with configuration= $\pi h_{9/2} \otimes (^{216}\text{Pb core})$.

From [2014Go20](#) for excited states based on systematics of neighboring nuclides.

Adopted Levels, Gammas (continued) $\gamma(^{217}\text{Bi})$

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α^\dagger	Comments
744	(13/2 ⁻)	744	100	0.0	(9/2 ⁻)	[E2]	0.0127	
1236	(17/2 ⁻)	492	100	744	(13/2 ⁻)	[E2]	0.0319	
1429	(15/2 ⁻ ,17/2 ⁻)	685	100	744	(13/2 ⁻)	[M1,E2]	0.033 18	α : value overlaps M1 and E2.
1436	(21/2 ⁻)	200	100	1236	(17/2 ⁻)	[E2]	0.449	
1436+x	(25/2 ⁻)	x		1436	(21/2 ⁻)			E_γ : x=20-90 keV (2014Go20) based on no K-x rays which can be assigned to a transition from this level, and systematics of lighter odd-even Bi isotopes.

[†] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

Adopted Levels, Gammas**Level Scheme**

Intensities: Relative photon branching from each level

