^{80}Br β^- decay (17.68 min) 1969Ka06,1967Ra12,1970Do02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

Parent: ^{80}Br: E=0; $J^\pi=1^+$; $T_{1/2}$=17.68 min *2*; Q(β^-)=2003.0 *24*; %β^- decay=91.7 *2*

1969Ka06: γ, $\gamma\gamma$, β, $\beta\gamma$, $T_{1/2}$ data.

1967Ra12: γ, $\gamma\gamma$, $\gamma\gamma(\theta)$ data.

1970Do02: γ data.

Other measurements:

γ: 1968Da24, 1962Tr03, 1956La24, 1953Sc71.

β^-: 1956La24, 1954La34, 1954La39, 1953La36, 1952La20, 1951La08.

$T_{1/2}$: 1984Ke14 (methodology), 1972Co26, 1968Re04, 1957Ki21, 1939Se03, 1937Sn02, 1935Am01.

Additional information 1.

Others (dealing with production of ^{80}Br): 1947Se33, 1936Al01.

^{80}Kr Levels

E(level)	J^π†	Comments
0.0	0^+	
616.6 *4*	2^+	
1256.0 *4*	2^+	
1320.4 *4*	0^+	J^π: measurement: (704γ)(617γ)(θ) (1967Ra12).

† From 'Adopted Levels'.

β^- radiations

E(decay)	E(level)	Iβ^-†‡	Log *ft*	Comments
(682.6 *24*)	1320.4	0.19 *2*	6.34 *5*	av Eβ=227.63 *96*
(747.0 *24*)	1256.0	0.31 *3*	6.27 *5*	av Eβ=253.14 *98*
1380 *20*	616.6	6.2 *6*	5.98 *5*	av Eβ=524.4 *11* E(decay): from β-γ (1969Ka06). Other: 1380 *80* (1956La24). Iβ^-: from β^- data, values are: 7.6 (1969Ka06), 15 (1956La24).
1997 *10*	0.0	85.0 *7*	5.485 *5*	av Eβ=804.0 *11* E(decay): from 1969Ka06. Other 1990 *10* (1956La24). Iβ^-: from β^- data, values are: 82.2 (1969Ka06), 85 (1956La24).

† From decay scheme. Feeding to ^{80}Kr g.s. calculated from Iβ^-/Iβ^+ and Iγ(616γ)/Iβ^+ ratios.

‡ For absolute intensity per 100 decays, multiply by 1.0004 *22*.

$\gamma(^{80}Kr)$

Iγ normalization: ^{80}Br decays by β^- and ε,β^+. Normalization factors have been deduced from the following observations: I(ε+β^+)/Iβ^-=0.090 *2* (1950Re51,mag. Spectrometer measurement) Iβ^+/Iβ^-=0.028 *2* (1951La08); Iγ(616γ)/Iβ^+=2.58 *10* (1962Tr03). In ε decay, β^+ feeding to excited levels in ^{80}Se is ≈1%.

E$_\gamma$†	I$_\gamma$‡&	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	δ	Comments
616.3 *5*	100	616.6	2^+	0.0	0^+			
639.4 *2*	3.9 *3*	1256.0	2^+	616.6	2^+	E2+M1	+6 *1*	δ: from 'adopted gammas'. From A_2=−0.12 *4*, A_4=0.38 *10* (1967Ra12) for (639γ)(617γ)(θ), deduced $\delta\geq$+8.

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$\gamma(^{80}Kr)$ (continued)

E_γ [†]	I_γ [‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
[x]677.0[#a] *10*	0.12 *4*						
[x]687.4[#a] *10*	0.18 *5*						
703.8 *2*	2.9 *4*	1320.4	0^+	616.6	2^+	E2	$(704\gamma)(617\gamma)(\theta)$: A_2=0.38 *6*, A_4=1.28 *18* (1967Ra12).
1256.2 *4*	1.1 *1*	1256.0	2^+	0.0	0^+		
[x]1338.5[@a] *8*							

† Weighted average of 1970Do02, 1969Ka06, 1967Ra12.
‡ Average of 1969Ka06 and 1967Ra12.
# Reported by 1967Ra12 only. Assignment to ^{80}Kr uncertain.
@ Reported by 1970Do02 only. Assignment to ^{80}Kr uncertain.
& For absolute intensity per 100 decays, multiply by 0.067 *7*.
a Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

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Decay Scheme

Intensities: I_γ per 100 parent decays