^{114}Pd β^- decay 1989Ko22,1986RoZN

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

Parent: ^{114}Pd: E=0; $J^\pi=0^+$; $T_{1/2}$=2.42 min *6*; Q(β^-)=1440 *9*; %β^- decay=100.0
Measured: γ(semi), $\gamma\gamma$(semi), $\beta\gamma$(scin).
Activity: ^{249}Cf(n,F), chem (1986RoZN), on-line mass separation (1989Ko22).
The level scheme is mainly as given by 1989Ko22.
The level scheme differs from that proposed by 1975BrYN but agrees with that given by 1986RoZN.

^{114}Ag Levels

E(level)	J^π[†]	$T_{1/2}$[†]
0	1^+	4.6 s *1*
126.7 *2*	$0^+,1^+,2^+$	
136.7 *21*	$(^-)$	
358.5 *3*	1^+	

[†] From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(1082 *9*)	358.5	7.5 *6*	4.81 *4*	av Eβ=383.3 *38*
(1303 *9*)	136.7	0.25 *17*	6.6 *3*	av Eβ=477.7 *40*
(1313 *9*)	126.7	≤0.8	≥6.1	av Eβ=482.0 *39*
(1440 *9*)	0	92.0 *5*	4.199 *16*	av Eβ=537.2 *40*

[†] Absolute intensity per 100 decays.

$\gamma(^{114}Ag)$

Iγ normalization: From Iγ relative to 558γ in ^{114}Ag β^- decay in a ^{114}Pd-^{114}Ag equilibrium source, and I(558γ)=20.4 *13* (1984Lu02). A more recent measurement from the same authors (1990Fo07) gives normalization as 2.09 *18*.

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[‡]	Comments
126.7 *2*	2.2 *1*	126.7	$0^+,1^+,2^+$	0	1^+	M1	0.218	α(K)= 0.1891; α(L)=0.02330; α(M)=0.00443; α(N+..)=0.00089 α(K)exp=0.20
136.7 *2*	0.44 *7*	136.7	$(^-)$	0	1^+	(E1)	0.066	α(K)= 0.0571; α(L)=0.00686; α(M)=0.00129; α(N+..)=0.00025
222.0 *2*	0.34	358.5	1^+	136.7	$(^-)$	[E1]	0.017	α(K)=0.01451; α(L)=0.00172; α(M)=0.00032
232.0 *2*	2.4 *1*	358.5	1^+	126.7	$0^+,1^+,2^+$	[M1+E2]	0.058	α(K)=0.0619; α(L)=0.00954; α(M)=0.00182; α(N+..)=0.00035
358.5 *3*	0.8 *1*	358.5	1^+	0	1^+	[M1+E2]	0.016	α(K)=0.01490; α(L)=0.00204; α(M)=0.00039

[†] For absolute intensity per 100 decays, multiply by 2.04 *13*.
[‡] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 decays through this branch