^{112}Pd β^- decay 1955Nu11,1953Nu04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev	NDS 124, 157 (2015)	1-Aug-2014

Parent: ^{112}Pd: E=0.0; $J^\pi=0^+$; $T_{1/2}$=21.04 h *17*; Q(β^-)=262 *7*; %β^- decay=100.0

1955Nu11,1953Nu04: Facility: Synchrocyclotron at IKO, Amsterdam; Source: ^{112}Pd from D induced U fission, E(D)=28 MeV; Detectors: one alcohol-argon end-window counter, three argon-hydrogen counters, one NaI(Tl); Measured: $\beta\gamma$, Eγ, Iγ, Eβ. Deduced: ^{112}Ag levels, log *ft*. β-feeding is determined by the assumption of no ground-state branch. Iβ^- to g.s. <0.006% for log *ft*>8.5.

Others: 1977Gi11, 1974Ro18, 1971Ba28.

^{112}Ag Levels

E(level)†	J^π‡	$T_{1/2}$‡
0.0	$(2)^-$	3.130 h *8*
18.5 *5*	(1^+)	

† From Eγ.
‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
(244 *7*)	18.5	100	4.32 *9*	av Eβ=77 *5* E(decay): 280 *20* (1955Nu11).

† Absolute intensity per 100 decays.

$\gamma(^{112}Ag)$

Iγ normalization: Based on the assumption that there is no direct ground state feeding. The decay scheme is incomplete.

Eγ†	Iγ‡	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α#	I$_{(\gamma+ce)}$‡	Comments
18.5 *5*	27.0 *17*	18.5	(1^+)	0.0	$(2)^-$	[E1]	2.71 *23*	100	Iγ: from I(γ+ce) and α=2.71. Iγ: ≈0.08 photons per 617γ in ^{112}Ag reported by 1955Nu11 corresponds to Iγ(18.5γ)=3.4 which is much smaller than the value of 27 obtained with the assumption of a pure E1. I$_{(\gamma+ce)}$: from the assumption that 100% of the decay of ^{112}Pd passes through the 18.5-keV level.

† From 1955Nu11.
‡ Absolute intensity per 100 decays.
# 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 parent decays