^{128}Pd IT decay (5.8 μs) 2013Wa24

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	20-Mar-2016

Parent: ^{128}Pd: E=2151.0 *10*; $J^\pi=(8^+)$; $T_{1/2}$=5.8 μs *8*; %IT decay=100.0

2013Wa24: E=345 MeV/nucleon $^{238}U^{86+}$ beam incident on ^{9}Be target of 3 mm thickness. Identification of fission fragments was done by ΔE-tof-Bρ method using BigRIPS and ZeroDegree spectrometers at at RIKEN. Separated fragments were deposited in highly segmented stopper WAS3ABi consisting of an array of eight DSSSDs, each segmented into 60 and 40 strips on horizontal and vertical dimensions. Besides, particle detection, this array also detected β rays and conversion electrons. Gamma rays were detected by EURICA spectrometer consisting of 12 Cluster HPGe detectors. Measured Eγ, Iγ, (^{128}Pd)γ(t), $\gamma\gamma$-coincidence, $\beta\gamma$-coincidence, isomer half-lives by delayed coincidence method. Deduced levels, J, π, isomer half-lives. Discussed shell structure near N=82.

^{128}Pd Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0.0	0^+		
1311.4 *5*	(2^+)		
1815.8 *7*	(4^+)		
2075.9 *9*	(6^+)		
2151.0 *10*	(8^+)	5.8 μs *8*	%IT=100 $T_{1/2}$: from 75γ(t) relative to the beam implantation (2013Wa24).

† From Eγ data, assuming 0.5 keV uncertainty for each γ ray.

‡ As proposed by 2013Wa24, based on systematics of even-even and neighboring nuclides.

γ(^{128}Pd)

Eγ	Iγ†	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α‡	Comments
75.1	28 *10*	2151.0	(8^+)	2075.9	(6^+)	[E2]	3.88 *11*	B(E2)(W.u.)=0.22 *4*
260.1	74 *20*	2075.9	(6^+)	1815.8	(4^+)	[E2]	0.0478	
504.4	88 *24*	1815.8	(4^+)	1311.4	(2^+)			
1311.4	100 *29*	1311.4	(2^+)	0.0	0^+			

† 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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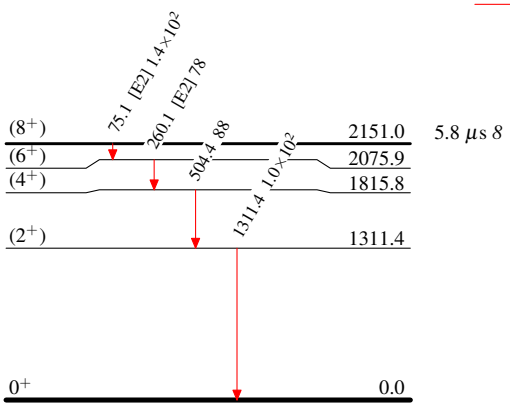
Decay Scheme

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

%IT=100.0



$^{128}_{46}Pd_{82}$