^{76}Cu β^- decay (0.641 s+1.27 s) 1990Wi12

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 74,63 (1995)	22-Dec-1994

Parent: ^{76}Cu: E=0+x; $T_{1/2}$=0.641 s *14*; Q(β^-)=11300 *SY*; %β^- decay=100.0
Parent: ^{76}Cu: E=0+y; $T_{1/2}$=1.27 s *30*; Q(β^-)=11300 *SY*; %β^- decay=100.0
Measured γ, $\gamma\gamma$, (integral β)(γ) coin for $T_{1/2}$(^{76}Cu).
Others (mainly $T_{1/2}$ and production of ^{76}Cu):
1991Kr15: $T_{1/2}$.
1987LuZX: $T_{1/2}$, γ (598,697,947 γ's reported).
1987Ar21: production of ^{76}Cu.
1993Ru01: quote $T_{1/2}$ and %β^-n measurement by Reeder et al. in Proceedings of the Specialists Meeting on Delayed Neutron Properties, p37 (1986).
^{76}Cu production: mass separation of fission products from ^{235}U(n,F).
The level scheme cannot be normalized for absolute γ-ray intensities from available data.

^{76}Zn Levels

E(level)	J^π
0.0	0^+
598.68 *10*	$(2^+)^\dagger$
1030.51 *10*	$(0^+)^\dagger$
1296.46 *10*	$(4^+)^\dagger$
1715.96 *10*	
1760.88?‡ *10*	
2633.54 *10*	
2813.94 *10*	
2974.43 *10*	

† Syst of even-even nuclides.
‡ The level is at 1761 or 2349 since the ordering of the 1053-464 cascade is not established.

γ(^{76}Zn)

A 947γ reported by 1987LuZX is assigned as a sum line (199+748) (γ rays from ^{76}Zn β^-) by 1990Wi12.

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
180.2 *3*	3.2 *11*	2813.94		2633.54		
340.89 *7*	16.4 *12*	2974.43		2633.54		
419.50 *7*	9.7 *7*	1715.96		1296.46	(4^+)	
431.83 *8*	9.5 *9*	1030.51	(0^+)	598.68	(2^+)	I_γ: from $\gamma\gamma$. The singles γ-spectrum included 431γ from ^{76}Ga decay.
464.42† *21*	2.9 *7*	1760.88?		1296.46	(4^+)	
598.68 *5*	100 *3*	598.68	(2^+)	0.0	0^+	From 599γ(t), apparent $T_{1/2}$(^{76}Cu isomer)=0.84 s *6*; but after subtraction of 698γ contribution, $T_{1/2}$(^{76}Cu isomer)=1.27 s *30* (1990Wi12) which is assigned to the second, longer-lived isomer (1990Wi12).
697.78 *5*	52.9 *20*	1296.46	(4^+)	598.68	(2^+)	From 698γ(t), $T_{1/2}$=0.57 s *6* which suggests all the intensity of 698γ is from shorter-lived isomer (1990Wi12).
1053.4 *5*	2.4 *10*	2813.94		1760.88?		E_γ,I_γ: from $\gamma\gamma$. The ordering of the 1053-464 is not established.
1097.6 *5*	3.0 *13*	2813.94		1715.96		

Continued on next page (footnotes at end of table)

^{76}Cu β^- decay (0.641 s+1.27 s) 1990Wi12 (continued)

$\gamma(^{76}Zn)$ (continued)

E_γ	I_γ	E_i(level)	E_f	J^π_f	Comments
[x]1151.3 *5*	6 *3*				Coin with 599γ.
1337.08 *8*	30.2 *20*	2633.54	1296.46	(4^+)	
1783.46 *21*	7.0 *11*	2813.94	1030.51	(0^+)	

[†] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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Decay Scheme

Intensities: Relative I_γ