^{105}Cd IT decay   1995Je04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

Parent: ^{105}Cd: E=2516.6 17; J^π=(21/2$^+$); $T_{1/2}$=4.5 μs 5; %IT decay=?

1995Je04: Facility: Upsala cyclotron; Beam: E(^{3}He)=30 MeV; Target: 10.5 mg/cm^2 thick, enriched to 90.5% in ^{106}Cd; Detectors: four Ge(Li), 2π charged particle array ERICIUS, consisting of plastic phoswitch detectors; Measured: γ, γ-γ coinc., Eγ, Iγ; Deduced: ^{105}Cd level scheme.

Others: 1976HaXS and 1976SpZQ.

^{105}Cd Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$	Comments
0.0	5/2$^+$		
131.3 9	7/2$^+$	1.75 ns 11	$T_{1/2}$: from the Adopted Levels.
260.1 9	(7/2)$^+$		
770.3 10	9/2$^+$		
799.1 12	11/2$^+$		
1577.6 12	(13/2)$^+$		
1685.4 14	15/2$^+$		
2389.8 14	(17/2)$^+$		
2516.6 17	(21/2$^+$)	4.5 μs 5	$T_{1/2}$: from 1976HaXS and 1976SpZQ. configuration: πg$_{9/2}^{+2}$$\nu$g$_{7/2}^{+1}$.

[†] From a least-squares fit to Eγ.
[‡] From 1995Je04.

γ(^{105}Cd)

E$_\gamma$[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[†]	Comments
126.8	2516.6	(21/2$^+$)	2389.8	(17/2)$^+$	E2	0.642	α(K)=0.505 7; α(L)=0.1113 16; α(M)=0.0220 3; α(N+..)=0.00379 6 α(N)=0.00369 6; α(O)=9.73×10^{-5} 14
131.2	131.3	7/2$^+$	0.0	5/2$^+$	M1	0.217	α(K)=0.188 3; α(L)=0.0234 4; α(M)=0.00450 7; α(N+..)=0.000848 12 α(N)=0.000802 12; α(O)=4.59×10^{-5} 7
260.2	260.1	(7/2)$^+$	0.0	5/2$^+$			
510.2	770.3	9/2$^+$	260.1	(7/2)$^+$			
639.0	770.3	9/2$^+$	131.3	7/2$^+$			
667.8	799.1	11/2$^+$	131.3	7/2$^+$			
704.5	2389.8	(17/2)$^+$	1685.4	15/2$^+$			
778.3	1577.6	(13/2)$^+$	799.1	11/2$^+$			
807.4	1577.6	(13/2)$^+$	770.3	9/2$^+$			
812.1	2389.8	(17/2)$^+$	1577.6	(13/2)$^+$			
886.3	1685.4	15/2$^+$	799.1	11/2$^+$			

[†] Additional information 1.
[‡] From (^{3}He,2p2nγ) in 1995Je04.

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Decay Scheme

%IT=?

$_{48}^{105}Cd_{57}$