^{95}Ag IT decay (<500 ms) 2003Do09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni	NDS 111,2555 (2010)	30-Jun-2009

Parent: ^{95}Ag: E=344.2 *3*; $J^\pi=(1/2^-)$; $T_{1/2}$<500 ms; %IT decay=100

^{95}Ag isomers produced in ^{58}Ni(^{40}Ca,p2nγ) reaction at 3.94 MeV/A, and separated by GSI on-line mass separator. Measured Eγ, Iγ, $\gamma\gamma$, $\beta\gamma\gamma$ coin and lifetimes using an array of 13 Ge crystals (a Cluster of 7 crystals, a Clover of 4 crystals, a single Ge detector and a LEPS detector). The positrons were measured with a plastic scintillator.

Iγ; From I(γ+ce)=100 and Mγ.

α: Additional information 1.

^{95}Ag Levels

E(level)	J^π	$T_{1/2}$[†]
0.0	$(9/2^+)$	1.85 s *34*
77.40 *20*	$(7/2^+)$	
344.2 *3*	$(1/2^-)$	<500 ms

[†] Deduced from intensity distribution of γ-ray versus time as measured in grow-in mode.

$\gamma(^{95}Ag)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α	$I_{(\gamma+ce)}$[†]	Comments
77.4 *2*	77.40	$(7/2^+)$	0.0	$(9/2^+)$	(M1)	0.868 *14*	100	ce(K)/(γ+ce)=0.403 *4*; ce(L)/(γ+ce)=0.0503 *9*; ce(M)/(γ+ce)=0.00958 *17*; ce(N)/(γ+ce)=0.00166 *3*; ce(O)/(γ+ce)=7.60×10^{-5} *14* ce(N+)/(γ+ce)=0.00173 *3* Mult.: from shell-model it is expected $\Delta\pi$=0. The experimental value for γ(77.4)/Iγ(255.8)=15 *8*/12 *6*=1.25 *91* favors M1 assignment since this ratio will be equal to 0.638 for M1 and equal to 0.259 for E2.
266.8 *2*	344.2	$(1/2^-)$	77.40	$(7/2^+)$	(E3)	0.192	100	ce(K)/(γ+ce)=0.1253 *16*; ce(L)/(γ+ce)=0.0291 *5*; ce(M)/(γ+ce)=0.00573 *9*; ce(N)/(γ+ce)=0.000935 *14* ce(O)/(γ+ce)=2.03×10^{-5} *3*; ce(N+)/(γ+ce)=0.000955 *14* Mult.: supported by shell-model calculations and by the fact that B(E3)(W.u.)>0.039 if Mult.=(E3), B(E2)(W.u.)>2.7×10^{-8} if Mult.=(E2).

[†] Absolute intensity per 100 decays.

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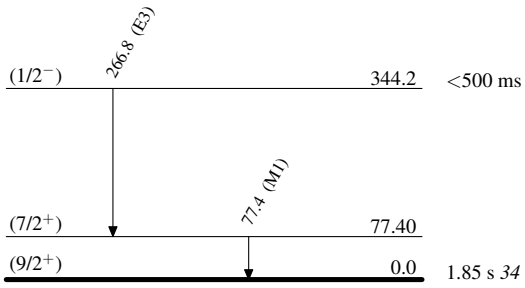
Decay Scheme

%IT=100



$^{95}_{47}Ag_{48}$