^{9}Be(^{107}Ag,Xγ)   2009Ga40,2008Ga04,2007Re18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)	1-Mar-2019

Based on 2008Ga04 in XUNDL; compiled by M. Mitchell and B. Singh (McMaster) January 25, 2007; Updated by S. Geraedts and B. Singh (McMaster), Jan 28, 2008 to include 2008Ga04. Modified by B. Singh, September 18, 2008 to include erratum to 2008Ga04 in PL-B (available online September 18, 2008). Updated by A. MacDonald and B. Singh (McMaster), Mar 8, 2010 to include 2009Ga40.

2008Ga04: Search for long-lived isomers. Fragmentation of ^{107}Ag beam at E=750 MeV. Particle identification through fragment recoil separator. Search for isomers using the RISING (Rare ISotope INvestigations at GSI) array of 15 seven-element cluster Ge detectors. The detectors were placed in three angular rings at 51°, 90°, and 129° with respect to the secondary beam axis. Comparisons with shell-model calculations.

Measured delayed γ-ray spectra.

2007Ca26:^{107}Ag, 750 MeV, on ^{9}Be, particle separator. Measured delayed γ(t) using 15 Ge Euroball cluster detectors. Observed 123γ, 418γ, 638γ.

All data are from 2008Ga04 unless otherwise indicated.

^{82}Nb Levels

The isomeric ratio is defined as R=N$_{isomer}$/(N$_{ions}$FG), N$_{isomer}$=number of ions observed in the isomeric state, N$_{ions}$=total number of ions of that nuclear species, F=correction factor for in-flight losses, G=correction factor for finite measuring time period.

E(level)	J$^{\pi\dagger}$	T$_{1/2}$	Comments
0	0$^+$		
418	(2$^+$)		
1056	(4$^+$)		
1180	(5$^+$)	93 ns *20*	%IT=100
			Isomeric ratio (defined above), R=78 *77* (2009Ga40).
			Proposed configuration=ν5/2[422]⊗π5/2[422].
			T$_{1/2}$: from γ(t) (2009Ga40). Other: 92 ns *17* (2008Ga04) (133 ns *25* is stated as mean lifetime in 2008Ga04); 80 ns *50* (2007Ca26) from γ(t).
			Possible configuration=ν5/2[422]⊗π5/2[422], K^π=5$^+$.

† As assigned in 2009Ga40, based on shell-model predictions.

γ(^{82}Nb)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
124	1180	(5$^+$)	1056	(4$^+$)	D,Q	Mult.: M1, E1 or E2 from α(exp)=0.3 *3* (deduced by 2008Ga04 from intensity-balance arguments).
418	418	(2$^+$)	0	0$^+$		
638	1056	(4$^+$)	418	(2$^+$)		

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Level Scheme

${}^{82}_{41}$Nb$_{41}$

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