

$^{40}\text{Ar}(\mu^{-}, 2n\gamma)$ 2003GI07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

2003GI07: natural target. Measured $E\gamma$, $I\gamma$. Deduced Levels.

2008K102: A μE4 beam was produced from the PSI meson factory at Switzerland impinged on an argon target. Measured $E\gamma$, $I\gamma$, $\gamma(t)$. Deduced isotopic yields, ^{40}Ar muon lifetime.

 ^{38}Cl Levels

E(level)	$J^{\pi\dagger}$	Comments
0	2^{-}	isotopic yield=15.5 9 in 2008K102.
671.4	5^{-}	isotopic yield=1.6 1 in 2008K102.
755.4	3^{-}	
1309	4^{-}	
1617.4	3^{-}	
1784.8		

\dagger From Adopted Levels.

 $\gamma(^{38}\text{Cl})$

E_{γ}	I_{γ}	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Comments
308.3	0.49 2	1617.4	3^{-}	1309	4^{-}	
553.6	0.27 2	1309	4^{-}	755.4	3^{-}	
637.6		1309	4^{-}	671.4	5^{-}	E_{γ} : probably a multiplet contributed by different chlorine isotopes.
671.4	0.08 9	671.4	5^{-}	0	2^{-}	
755.4	3.91 18	755.4	3^{-}	0	2^{-}	
861.9	0.62 3	1617.4	3^{-}	755.4	3^{-}	
1029.5	0.40 5	1784.8		755.4	3^{-}	

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Level Scheme

Intensities: Partial yield per captured muon

Legend

- $I_{\gamma} < 2\% \times I_{\gamma}^{\text{max}}$
- $I_{\gamma} < 10\% \times I_{\gamma}^{\text{max}}$
- $I_{\gamma} > 10\% \times I_{\gamma}^{\text{max}}$

