

$^{33}\text{S}(\alpha, n\gamma)$ 1976No03, 1973No03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh		NDS 113, 1 (2012)	31-Dec-2011

$E(\alpha)=6.0\text{-}14.0$ MeV; measured $\gamma\text{-}\gamma$ coinc. $\gamma(\theta, \text{pol})$, RDM.

Other: 2002Ro24; $E(\alpha)=14.4, 13.4$ MeV; N- γ coincidences, $\gamma(\theta)$.

 ^{36}Ar Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
1970	$2^+{}^\dagger$		
4178.5 2	3^-	2.0 ps 3	E(level), $T_{1/2}$: from 1976No03. J^π : $\pi=-$ from E1(+M2) γ to 2^+ , 1970; J=3 from O γ to 0^+ , g.s..
4415	$4^+{}^\dagger$		
4441.0 2	2^+		E(level): from 1976No03. J^π : E2 γ to 0^+ , g.s..
4974.5 3	$(2)^-$	6.2 ps 14	E(level), $T_{1/2}$: from 1976No03. J^π : $2^-, 4^-$ from M1+E2 γ to 3^- , 4178; 4^- excluded by γ to 0^+ , g.s..
5171.4 3	5^-	88 ps 3	E(level), $T_{1/2}$: from 1976No03. J^π : E1(+M2) γ to 4^+ , 4415 and E2 γ to 3^- , 4178.
5896			
6136			
6217			
7354			
7766 ‡ 4			
8288 ‡ 4			
8593 ‡ 4			
8739 ‡ 4			
8919 ‡ 4			
9186 ‡ 4			
9408 ‡ 4			
9929 ‡ 4			

† From Adopted Levels.

‡ From 2002Ro24.

 $\gamma(^{36}\text{Ar})$

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	Comments
4178.5	3^-	2208	93.7 5	1970	2^+	E1(+M2)	-0.10 5	$E_\gamma, I_\gamma, \text{Mult.}, \delta$: from 1976No03. $A_2=-0.22$ 1, $A_4=+0.01$ 1, $P=+0.15$ 3 (1976No03). $E_\gamma, I_\gamma, \text{Mult.}$: O γ , E3 from $\Delta\pi(\text{levels})$ (1976No03). $A_2=+0.10$ 6, $A_4=+0.05$ 7, $A_6=+0.32$ 7 (1976No03).
		4178	6.3 5	0.0	0^+	E3		$E_\gamma, I_\gamma, \text{Mult.}, \delta$: from 1976No03. $A_2=-0.04$ 2, $A_4=+0.16$ 3, $P=-0.25$ 17 (1976No03).
4441.0	2^+	2470	25 2	1970	2^+	M1+E2	>1.5	$E_\gamma, I_\gamma, \text{Mult.}, \delta$: from 1976No03. $A_2=+0.27$ 2, $A_4=+0.47$ 2 (1976No03).
		4441	75 2	0.0	0^+	E2		$E_\gamma, I_\gamma, \text{Mult.}$: from 1976No03.
4974.5	$(2)^-$	796		4178.5	3^-	M1+E2	-1.1 7	$E_\gamma, I_\gamma, \text{Mult.}, \delta$: from 1976No03. $A_2=+0.17$ 2, $A_4=+0.04$ 2, $P=-0.30$ 6 (1976No03).
		3004		1970	2^+			$E_\gamma, I_\gamma, \text{Mult.}$: from 1976No03 which postulate E1+M2 G.
		4974		0.0	0^+			$E_\gamma, I_\gamma, \text{Mult.}$: from 1976No03 which postulate M2 G.

Continued on next page (footnotes at end of table)

$^{33}\text{S}(\alpha, n\gamma)$ [1976No03, 1973No03](#) (continued) $\gamma(^{36}\text{Ar})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	Comments
5171.4	5^-	757	11.8 3	4415	4^+	E1(+M2)	+0.03 4	$E_\gamma, I_\gamma, \text{Mult.}, \delta$: from 1976No03 .
		993	82.5 5	4178.5	3^-	E2(+M3)	-0.02 4	$A_2 = -0.20$ 6, $A_4 = -0.03$ 8, $P = +0.55$ 17 (1976No03).
		3201	5.7 5	1970	2^+	E3		Mult., δ : $A_2 = +0.33$ 1, $A_4 = -0.15$ 2, $P = +0.68$ 5 (1976No03).
								Mult., δ : $A_2 = +0.14$ 13, $A_4 = +0.17$ 17, $A_6 = +0.07$ 17 (1976No03).
7766		1630 [†]		6136				
8288		2392 [†]		5896				
8593		2376 [†]		6217				
8739		3568 [†]		5171.4	5^-			
8919		3748 [†]		5171.4	5^-			
9186		4015 [†]	50 [†] 10	5171.4	5^-			
		4771 [†]	50 [†] 10	4415	4^+			
9408		2054 [†]		7354				
9929		3793 [†]		6136				

[†] From [2002Ro24](#).

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Level Scheme

Intensities: % photon branching from each level

