^{33}S(α,pγ) 1977No09,1976No03,1973No03

History

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

1977No09: E=14.0 MeV, measured $\gamma(\theta)$, linear polarization, $T_{1/2}$ (DSAM).
1976No03: E=6.0-14.0 MeV, measured $\gamma\gamma$-coin, $\gamma(\theta)$, linear polarization, $T_{1/2}$ (RDM).
1973No03: E=7.1, 8.7 MeV, Eγ, $T_{1/2}$ (RDM).

^{36}Cl Levels

E(level)†	J$^\pi$†	$T_{1/2}$	Comments
0.0	2^+		J^π: from Adopted Levels.
788	3^+	20.8 ps *7*	J^π: from Adopted Levels. $T_{1/2}$: mean lifetime τ In ps: 30 *2* (1973No03).
1164	1^+	4.9 ps *3*	J^π: from Adopted Levels. $T_{1/2}$: mean lifetime τ In ps: 7.1 *5* (1973No03).
1601.0 *1*	1^+,(2^+)		
1950.8 *3*	2^-	1.59 ps *14*	$T_{1/2}$: mean lifetime τ In ps: 2.3 *2* (1976No03).
1959.8 *11*	2^+		J^π: from Adopted Levels.
2470.2 *3*	3^-	<0.7 ps	$T_{1/2}$: mean lifetime τ In ps:<1 (1976No03).
2491.8 *3*	2^+		
2518.2 *2*	5^-	1.64 ns *11*	$T_{1/2}$: mean lifetime τ In ns: 2.36 *16* (1973No03).
2676.6 *3*	1^+,(2^+)		
2810.4 *2*	4^-	2.29 ps *21*	$T_{1/2}$: mean lifetime τ In ps: 3.3 *3* (1976No03).
3102.4 *3*	4^-		
3723.2 *3*	4^-		
4293.8 *6*	6^-	>0.27 ps	$T_{1/2}$: mean lifetime τ In ps:>0.4 (1977No09).
5313.1 *7*	7^+		

† From 1976No03 up to E(level)<3700, and from 1977No09 above, except if noted otherwise.

^{33}S(α,pγ) 1977No09,1976No03,1973No03 (continued)

$\gamma(^{36}Cl)$

E_i(level)	J_i^π	E_γ[†]	photon branching (%)[‡]	E_f	J_f^π	Mult.[#]	δ[#]	Comments
788	3^+	788	100	0.0	2^+			
1164	1^+	1164	100	0.0	2^+			
1601.0	1^+,(2^+)	437	17 *2*	1164	1^+	M1,E2		A_2=−0.08 *10*, A_4=+0.00 *12*, P=−0.09 *8* (1976No03).
		1601	83 *2*	0.0	2^+	M1,E2		A_2=0.00 *2*, A_4=+0.02 *3*, P=+0.09 *7* (1976No03).
1950.8	2^-	787	32[@] *2*	1164	1^+	E1,M2		
		1163	5[@] *2*	788	3^+	E1,M2		
		1951	63[@] *2*	0.0	2^+	E1,M2		A_2=−0.31 *21*, A_4=+0.20 *10*, P=−0.08 *10* (1976No03).
2470.2	3^-	519	100	1950.8	2^-	M1+E2	+0.03 *1*	A_2=−0.19 *1*, A_4=−0.02 *1*, P=−0.37 *3* (1976No03).
2491.8	2^+	532	9 *1*	1959.8	2^+	M1+E2	>+2.7	δ: or<−2.7.
								A_2=+0.16 *13*, A_4=+0.06 *15* (1976No03).
		1328	82 *2*	1164	1^+	M1+E2	−0.10 *7*	A_2=−0.23 *2*, A_4=0.00 *3*, P=−0.18 *6* (1976No03).
		2492	9 *2*	0.0	2^+	M1,E2		
2518.2	5^-	1730	95.6 *5*	788	3^+	M2+E3	−0.11 *1*	A_2=+0.25 *1*, A_4=+0.13 *2*, P=−0.49 *5* (1976No03).
		2518	4.4 *5*	0.0	2^+	E3		δ: 0.
								A_2=+0.45 *7*, A_4=+0.19 *8*, P=+0.5 *4* (1976No03).
2676.6	1^+,(2^+)	2677	100	0.0	2^+	M1+E2	−0.05 *9*	δ: or −2.7 *8*, both for decay from 1^+; −0.35 *18* for decay from (2^+).
								A_2=−0.01 *4*, A_4=−0.01 *5*, P=+0.07 *36* (1976No03).
2810.4	4^-	292	39 *1*	2518.2	5^-	M1(+E2)	+0.03 *3*	A_2=−0.15 *2*, A_4=−0.04 *3*, P=−0.14 *4* (1976No03).
		860	10 *2*	1950.8	2^-	E2		δ: 0.
								A_2=+0.17 *6*, A_4=+0.05 *7*, P=+0.46 *19* (1976No03).
		2022	51 *1*	788	3^+	E1+M2	−0.14 *3*	A_2=−0.53 *2*, A_4=+0.06 *2*, P=+0.31 *9* (1976No03).
3102.4	4^-	632	65[&]	2470.2	3^-	M1+E2	+0.07 *2*	A_2=−0.12 *3*, A_4=−0.10 *4*, P=−0.43 *6* (1976No03).
		2314	35[&]	788	3^+	E1,M2		
3723.2	4^-	913	100	2810.4	4^-	M1+E2[b]	−0.06[b] *8*	A_2=+0.26 *7*, A_4=−0.11 *8*, P=+0.61 *27* (1976No03).
								A_2=+0.31 *4*, A_4=−0.07 *4*, P=+0,67 *19* (1977No09).
4293.8	6^-	1484	5.6[a] *6*	2810.4	4^-	E2[b]		δ: 0 (1977No09).
								A_2=+0.12 *9*, A_4=−0.30 *10* (1977No09).
		1776	94.4[a] *6*	2518.2	5^-	M1+E2[b]	+0.54[b] *8*	A_2=+0.46 *2*, A_4=+0.11 *2*, P=+0.77 *13* (1977No09).
5313.1	7^+	1019	56.2[a] *11*	4293.8	6^-	E1+M2[b]	−0.082[b] *10*	A_2=−0.11 *2*, A_4=−0.02 *2*, P=+0.51 *7* (1977No09).
		2795	43.8[a] *11*	2518.2	5^-	M2(+E3)[b]	−0.01[b] *3*	A_2=+0.50 *5*, A_4=−0.24 *4*, P=−1.0 *5* (1977No09).

[†] From 1976No03 for γ's from levels up to E(level)<3700, and from 1977No09 for γ's from levels above.
[‡] From 1976No03, except when noted otherwise.
[#] From 1976No03 based on $\gamma(\theta)$ and linear polarization measurements, except when noted otherwise.
[@] Cited by 1976No03 As from 1976Sp06 (^{35}Cl(n,γ) dataset).
[&] Cited by 1976No03 As from 1973EnVA.
[a] From 1977No09.
[b] From 1977No09 based on $\gamma(\theta)$ and linear polarization measurements.

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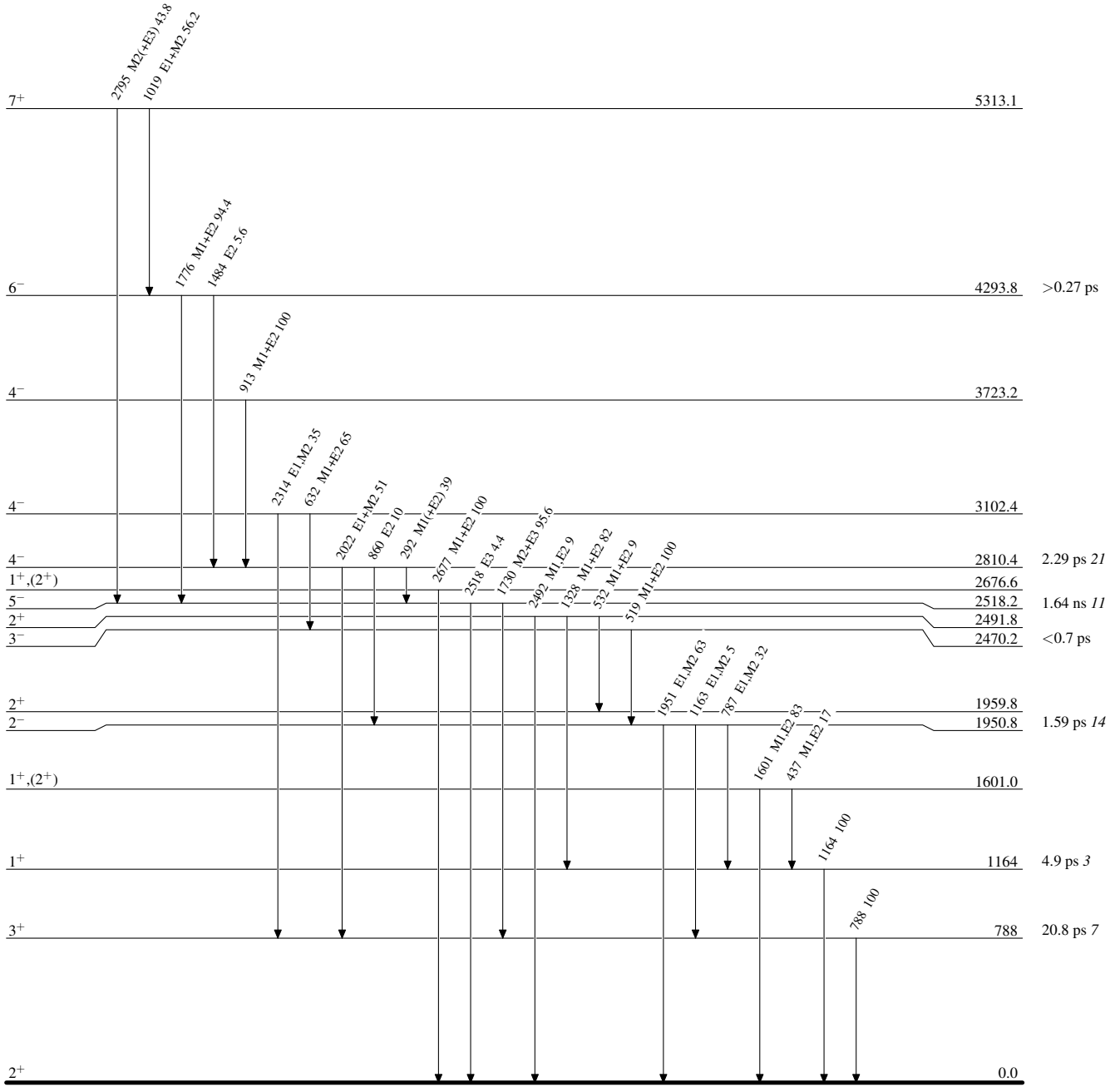
Level Scheme

Intensities: % photon branching from each level



$^{36}_{17}Cl_{19}$