^{36}S(^{14}C,n$\alpha\gamma$)   **1986Wa19**

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	T. W. Burrows	NDS 109, 171 (2008)	30-Oct-2007

E=18-38 MeV. Measured γ-excitation function (4 MeV steps); $\gamma(\theta)$, 34 MeV, $0°-90°$ In $°$ steps; $\gamma\gamma$-coincidences; and γ's.
Intrinsic Ge low-energy, Compton suppression (intrinsic coaxial Ge and NaI or BGO anti-coincidence shield), and intrinsic Ge.
DSAM. Identification based on excitation function, nonappearance In ^{34}S+^{14}C and from the agreement with the high-spin states
proposed In (^{3}He,^{6}He).

^{45}Ca Levels

E(level)	J^{π}	$T_{1/2}$†	Comments
0.0	7/2$^-$		J^{π}: from the Adopted Levels.
1554.37 *8*	(11/2$^-$)	>2.1 ps	J^{π}: 9/2→7/2 excluded from $\gamma(\theta)$. J=7/2 to 3/2$^-$ possible but not favored.
1940.21? *12*		‡	
2877.99 *12*	(15/2$^-$)	>2.1 ps	J^{π}: 13/2→11/2 excluded from $\gamma(\theta)$. J=11/2 to 7/2 possible but not favored, assuming J^{π}(1554)=11/2.
3555.97? *10*			
3941.83 *14*		‡	

† From DSAM.
‡ >2.1 ps from DSAM(386γ; multiply placed).

γ(^{45}Ca)

E_{γ}	I_{γ}	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.†	δ†	Comments
385.74#@ *8*	2.5×10^1# *13*	1940.21?		1554.37	(11/2$^-$)			
385.74#@ *8*	2.5×10^1# *13*	3941.83		3555.97?				A$_2$=−38 *4*, A$_4$=−2 *7* for 385.74γ+386.44γ composite peak.
1063.83 *6*	3.0×10^1 *15*	3941.83		2877.99	(15/2$^-$)			E_{γ},I_{γ}: unresolved contaminant with Iγ≈300. Iγ from $\gamma\gamma$ spectra. A$_2$=+68 *9*, A$_4$=−11 *12* for composite peak.
1323.60 *9*	1590 *64*	2877.99	(15/2$^-$)	1554.37	(11/2$^-$)	Q(+O)‡	0.00 *6*	
1554.337 *80*	357 *7*	1554.37	(11/2$^-$)	0.0	7/2$^-$	Q(+O)‡	0.00 *6*	
2001.48#@ *10*	25# *8*	3555.97?		1554.37	(11/2$^-$)			
2001.48#@ *10*	25# *8*	3941.83		1940.21?				A$_2$=−8 *17*.

† From $\gamma(\theta)$.
‡ Stretched quadrupole cascade.
# Multiply placed with undivided intensity.
@ Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I$_\gamma$
& Multiply placed: undivided intensity given

Legend

→ I$_\gamma$ < 2%×I$_\gamma^{max}$
→ I$_\gamma$ < 10%×I$_\gamma^{max}$
→ I$_\gamma$ > 10%×I$_\gamma^{max}$
⇢ γ Decay (Uncertain)

$^{45}_{20}$Ca$_{25}$