^{29}Si(^{16}O,pnγ) 1980Sh09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 126, 1 (2015)	31-Mar-2015

1980Sh09: E=40, 42 MeV ^{16}O beam. Target of a 200 μg/cm^2 ^{29}Si (enriched to 95%) on a 250 μm gold backing. γ-rays were detected by Ge(Li) detectors. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma$(t), $\gamma(\theta)$, γ(lin pol). Deduced levels, J, π, mixing ratios, γ-branchings, $T_{1/2}$ by Doppler-shift attenuation method (DSAM).

^{43}Sc Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$
0.0	7/2$^-$	
1829.94 *20*	11/2$^-$	
2987.5 *4*	15/2$^-$	
3123.3 *5*	19/2$^-$	
5517.3 *8*	19/2$^+$	<62[#] fs
6428.6 *9*	23/2$^+$	16.3[@] ps *15*
7354.8 *11*	25/2$^+$	0.42[#] ps *11*

[†] From least-squares fit to Eγ data.
[‡] From Adopted Levels.
[#] DSAM (1980Sh09).
[@] RDM (1980Sh09).

γ(^{43}Sc)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	δ[‡]	Comments
135.8 *3*	14 *1*	3123.3	19/2$^-$	2987.5	15/2$^-$	E2		A$_2$=+0.36 *5*, A$_4$=−0.09 *5* (1980Sh09). δ(O/Q)=0.00 *1*.
911.3 *5*	11 *1*	6428.6	23/2$^+$	5517.3	19/2$^+$	E2		A$_2$=+0.32 *2*, A$_4$=−0.25 *2*. Pol=+0.67 *9* (1980Sh09). δ(M3/E2)=0.00 *2*.
926.2 *5*	4.0 *5*	7354.8	25/2$^+$	6428.6	23/2$^+$	M1(+E2)	−0.1 *1*	Mult.,δ: from A$_2$=−0.14 *5*, A$_4$=0.00 *5*. Pol=−0.4 *5* (1980Sh09).
1157.5 *3*	71 *2*	2987.5	15/2$^-$	1829.94	11/2$^-$	E2		A$_2$=+0.30 *2*, A$_4$=−0.12 *2*. Pol=+0.48 *7* (1980Sh09). δ(M3/E2)=0.00 *1*.
1829.9 *2*	100 *3*	1829.94	11/2$^-$	0.0	7/2$^-$	E2		A$_2$=+0.26 *2*, A$_4$=−0.10 *2*. Pol=+0.45 *9* (1980Sh09). δ(M3/E2)=0.00 *1*.
2393.9 *7*	14 *1*	5517.3	19/2$^+$	3123.3	19/2$^-$	E1(+M2)	0.0 *1*	Mult.,δ: A$_2$=+0.43 *3*, A$_4$=0.00 *4*. Pol=−0.8 *4* (1980Sh09).
3305.5 *15*	1.0 *5*	6428.6	23/2$^+$	3123.3	19/2$^-$	M2+E3	+0.27 *9*	Iγ(3305)/Iγ(911)=0.07 *1*. Mult.,δ: A$_2$=+0.69 *15*, A$_4$=+0.24 *11* (1980Sh09).

[†] From 1980Sh09.
[‡] From $\gamma(\theta)$ and γ(lin pol) of 1980Sh09.

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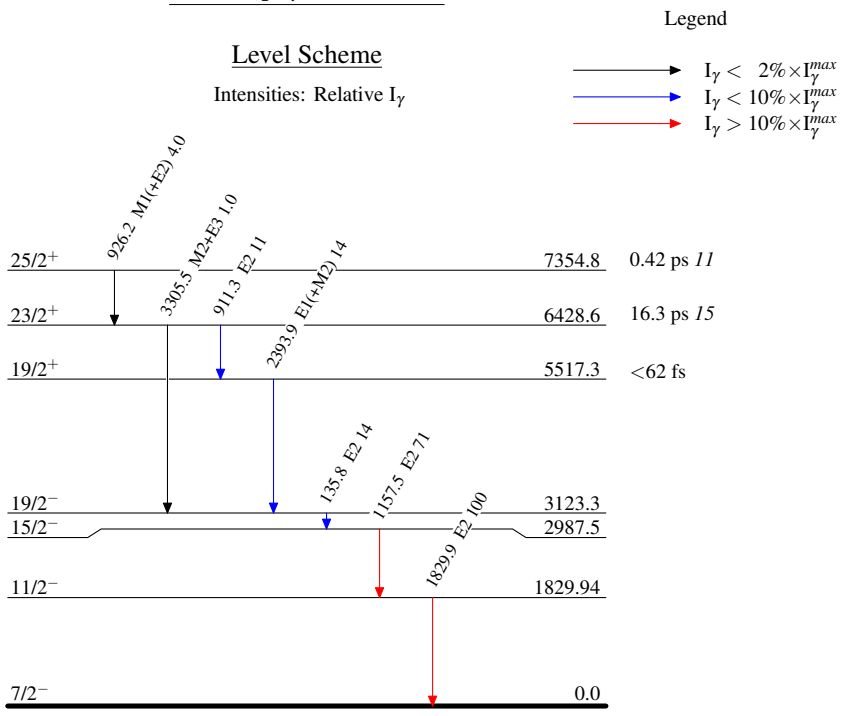
Level Scheme

Intensities: Relative I_γ



$^{43}_{21}Sc_{22}$