^{2}H(^{40}Ar,nγ) 1977Sc11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan	NDS 133, 1 (2016)	30-Sep-2015

E(^{40}Ar)=56 MeV. Measured Eγ, Iγ using a 50 cm^3 coaxial Ge(Li) detector; deduced $T_{1/2}$ using Doppler Shift Attenuation method (DSAM).

^{41}K Levels

E(level)†	Jπ‡	$T_{1/2}$#	E(level)†	Jπ‡	$T_{1/2}$#
0.0	$3/2^+$		2144.2 *12*	$5/2^+$	0.55 ps *+21−14*
980.3 *6*	$1/2^+$	0.35 ps *14*	2165.8 *10*	$3/2^-$	>2.1 ps
1293.6 *5*	$7/2^-$	>3.5 ps	2316.4 *10*	$5/2^-$	
1560.0 *6*	$3/2^+$	0.42 ps *+20−14*	2448.8 *12*	$(3/2^+,5/2,7/2^+)$	
1581.9 *6*	$3/2^-$	>2.1 ps	2761.3 *20*	$11/2^-$	
1593.1 *10*	$1/2^+$		3142.3 *20*	$5/2^-$	
1677.4 *6*	$7/2^+$	>2.8 ps	3214.0 *20*	$5/2^-$	
1698.2 *6*	$5/2^+$	0.07 ps *+14−7*			

† From 1977Sc11 which provide the excitation energies derived from transitions observed with sufficient intensity.
‡ From the Adopted Levels. 1977Sc11 give J^π values taken from the literature.
# From DSAM measurements. Since stopping powers were not well determined, three different backing materials were used and their resulting lifetimes averaged.

γ(^{41}K)

E_γ†	E_i(level)	J_i^π	E_f	J_f^π
579.7	1560.0	$3/2^+$	980.3	$1/2^+$
584.2	2144.2	$5/2^+$	1560.0	$3/2^+$
601.6	1581.9	$3/2^-$	980.3	$1/2^+$
612.8	1593.1	$1/2^+$	980.3	$1/2^+$
765.2‡	3214.0	$5/2^-$	2448.8	$(3/2^+,5/2,7/2^+)$
980.3	980.3	$1/2^+$	0.0	$3/2^+$
1022.8	2316.4	$5/2^-$	1293.6	$7/2^-$
1293.6	1293.6	$7/2^-$	0.0	$3/2^+$
1467.7	2761.3	$11/2^-$	1293.6	$7/2^-$
1560.0	1560.0	$3/2^+$	0.0	$3/2^+$
1581.9	1581.9	$3/2^-$	0.0	$3/2^+$
1593.1	1593.1	$1/2^+$	0.0	$3/2^+$
1677.4	1677.4	$7/2^+$	0.0	$3/2^+$
1698.2	1698.2	$5/2^+$	0.0	$3/2^+$
1848.7	3142.3	$5/2^-$	1293.6	$7/2^-$
1920.4	3214.0	$5/2^-$	1293.6	$7/2^-$
2144.1	2144.2	$5/2^+$	0.0	$3/2^+$
2165.7	2165.8	$3/2^-$	0.0	$3/2^+$
2448.7	2448.8	$(3/2^+,5/2,7/2^+)$	0.0	$3/2^+$

† From level-energy differences using E(level) values given in 1977Sc11.
‡ Very weak transition shown in γ-ray spectrum of 1977Sc11.

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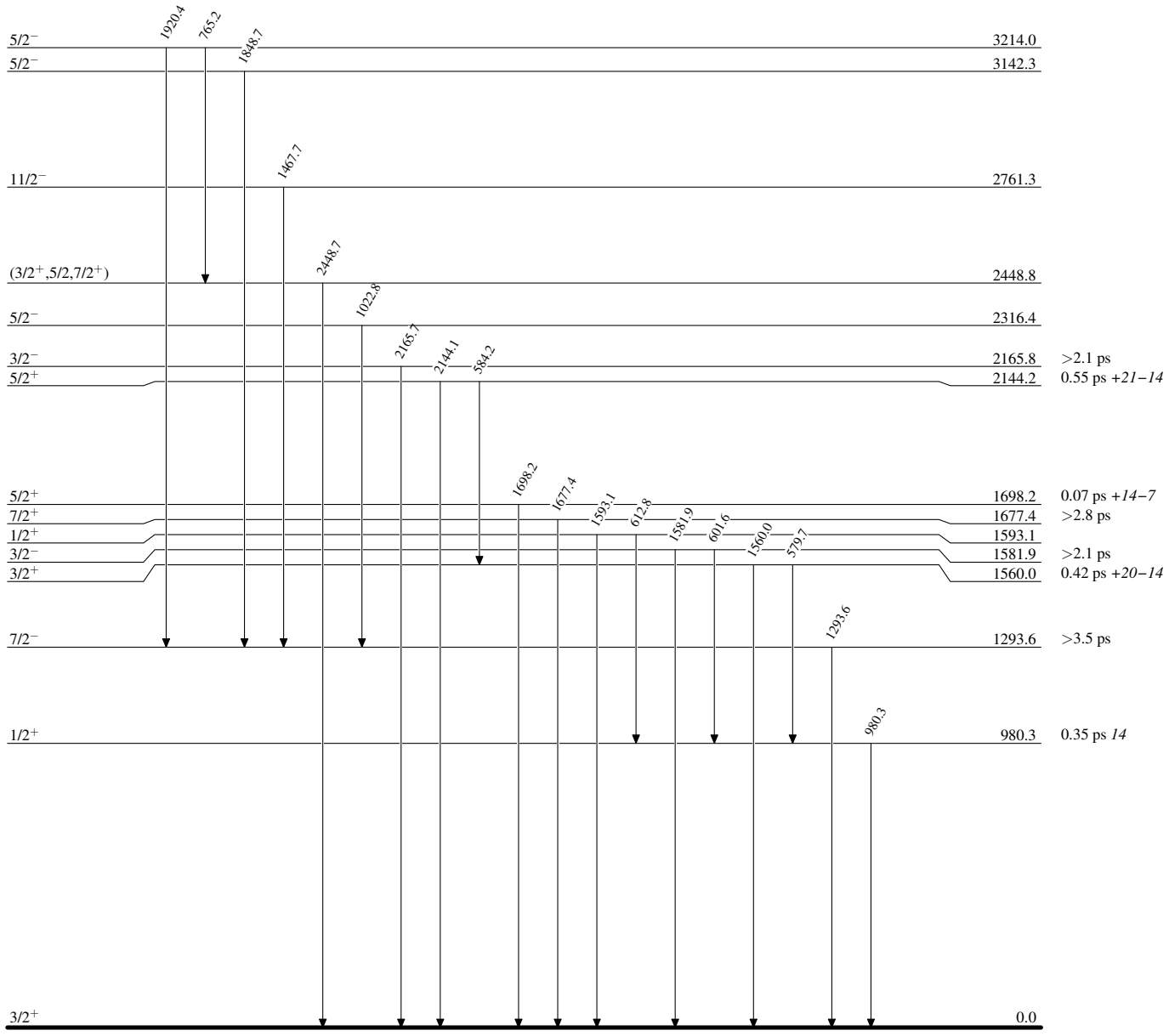
Level Scheme



$^{41}_{19}K_{22}$