

$^{37}\text{Cl}(\alpha,\gamma)$:4013 resonance **1981BuZY**

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

1981BuZY (also thesis by Burman): $E(\alpha)(\text{lab})=3817.5$ and 4013.5 . Measured lifetimes by DSAM. See also $^{37}\text{Cl}(\alpha,\gamma)$: 3871 Resonance.

All data are taken from thesis by **1981BuZY**.

 ^{41}K Levels

E(level)	J^π [†]	$T_{1/2}$ [‡]	Comments
0	$3/2^+$		
980	$1/2^+$	>2.1 ps	
1293	$7/2^-$	>1.4 ps	
1559	$3/2^+$	0.59 ps 17	
1582	$3/2^-$	>1.4 ps	
1594	$1/2^+$	0.30 ps 9	
1677	$7/2^+$	2.7 ps 17	
1697	$5/2^+$	0.83 ps 28	
2143	$5/2^+$	0.25 ps 7	
2167	$3/2^-$	1.5 ps 7	
2317	$5/2^-$	0.18 ps 10	
2440 [#]		0.15 [@] ps 3	
2495	$9/2^+$	1.7 ps 10	
2508	$7/2^+$	0.29 ps 6	
2594 [#]	$1/2^-, 3/2^-$	0.19 [@] ps 8	
2600?		0.159 ps 35	E(level): only observation of a level at this energy, not included in the Adopted Levels.
2713		0.83 ps 35	
2757	$5/2^+$		
2762	$11/2^-$		
3143		0.17 ps 4	
3996 [#]	$(5/2^+)$	0.097 [@] ps 35	

[†] From the Adopted Levels.

[‡] From DSAM.

[#] Level proposed on the basis of (p,γ) results by evaluators.

[@] Tentative value since based on assignment by evaluators that the observed 2440γ and 2320γ decay from the 2400- and 3996-keV levels, respectively, which were previously identified in (p,γ) studies.

 $\gamma(^{41}\text{K})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
980 1	980	$1/2^+$	0	$3/2^+$	1582 1	1582	$3/2^-$	0	$3/2^+$
1011 1	2594	$1/2^-, 3/2^-$	1582	$3/2^-$	1594 1	1594	$1/2^+$	0	$3/2^+$
1023 1	2317	$5/2^-$	1293	$7/2^-$	^x 1655 [‡] 1				
1039 1	2600?		1559	$3/2^+$	1677 1	1677	$7/2^+$	0	$3/2^+$
^x 1144 [†] 1					1697 1	1697	$5/2^+$	0	$3/2^+$
1186 1	2167	$3/2^-$	980	$1/2^+$	1849 1	3143		1293	$7/2^-$
1200 1	2495	$9/2^+$	1293	$7/2^-$	2143 1	2143	$5/2^+$	0	$3/2^+$
1293 1	1293	$7/2^-$	0	$3/2^+$	2320 1	3996	$(5/2^+)$	1677	$7/2^+$
1418 1	2713		1293	$7/2^-$	2440 1	2440		0	$3/2^+$
1469 1	2762	$11/2^-$	1293	$7/2^-$	2508 1	2508	$7/2^+$	0	$3/2^+$
1559 1	1559	$3/2^+$	0	$3/2^+$	2757 1	2757	$5/2^+$	0	$3/2^+$

Continued on next page (footnotes at end of table)

³⁷Cl(α,γ):4013 resonance **1981BuZY (continued)**

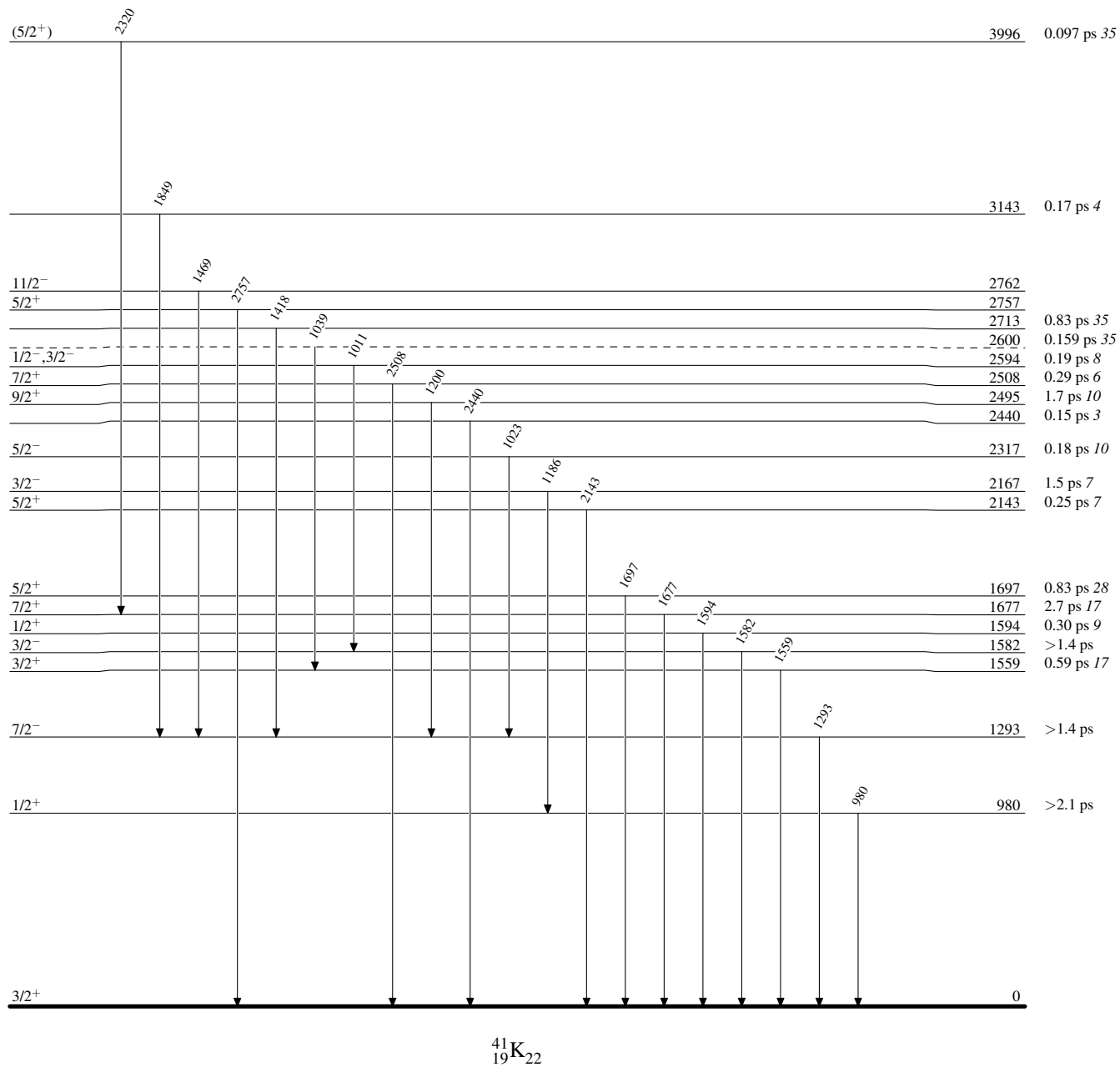
$\gamma(^{41}\text{K})$ (continued)

<u>E_{γ}</u>	<u>E_i(level)</u>
^x 2814 [#] <i>I</i>	
^x 3180 [@] <i>I</i>	
^x 3490 ^{&} <i>I</i>	

- [†] T_{1/2}=0.19 ps *4*.
- [‡] T_{1/2}=0.33 ps *8*.
- [#] T_{1/2}=1.2 ps *6*.
- [@] T_{1/2}<43 fs.
- [&] T_{1/2}<19 fs.
- ^x γ ray not placed in level scheme.

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Level Scheme

 $^{41}_{19}\text{K}_{22}$