^{41}K(p,nγ) 1970Jo03,1971La08

History

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

1970Jo03: E(p)=3.33-4.33 MeV from Orsay 4 MV Van de Graaff accelerator. Measured Eγ and γ branching. Gammas detected with a Ge(Li) detector and their branchings deduced with a NaI(Tl) detector.

1971La08 (same group as 1970Jo03): E(p)=3.24-5.18 MeV. Measured lifetimes by Doppler-shift attenuation method.

1970Ho26: E(p)=4.5 MeV. γ rays detected with Ge(Li). Measured lifetimes by pγ(t) and pulsed beam technique.

1967Si11: E(p) with energies slighly above E_{thresh}= 1.2 MeV. γ-rays measured with Ge(Li) detectors. Measured lifetimes of 1944 and 2467 levels by Doppler-shift attenuation method.

^{41}Ca Levels

E(level)	J$^\pi$[†]	$T_{1/2}$[‡]	Comments
0	7/2$^-$		
1944 *5*	3/2$^-$	0.28 ps *9*	$T_{1/2}$: From 1971La08. Other: 0.31 ps *+17−7* (1967Si11)
2011 *5*	3/2$^+$	0.56 ns *14*	$T_{1/2}$: from pγ(t) and pulsed beam technique (1970Ho26).
2467 *5*	3/2$^-$	>0.5 ps	$T_{1/2}$: From DSAM method (1967Si11).
2578 *5*	5/2$^-$	66 fs *21*	
2605 *5*	5/2$^+$	111 fs *35*	
2673 *5*	1/2$^+$	0.28 ps *+29−18*	
2882 *5*	7/2$^+$	≤14 fs	
2957 *5*	7/2$^-$	≤28 fs	
3200[#]	9/2$^+$	19 fs *17*	
3614[#]	7/2$^+$	15 fs *9*	
3730[#]	3/2$^-$	38 fs *14*	

[†] From Adopted Levels.
[‡] From DSAM (1971La08), except when stated otherwise.
[#] From 1971La08.

γ(^{41}Ca)

E_i(level)	J_i^π	E$_\gamma$[†]	I$_\gamma$[‡]	E_f	J_f^π	Comments
1944	3/2$^-$	1944 *5*	100	0	7/2$^-$	E$_\gamma$: 1948 (1970Ho26).
2011	3/2$^+$	67[#]	<5	1944	3/2$^-$	E$_\gamma$,I$_\gamma$: From 1970Ho26. This γ-ray was not observed but an upper limit of 5% was set.
		2011 *5*	100	0	7/2$^-$	
2467	3/2$^-$	456[#]	≤0.5	2011	3/2$^+$	
		523 *5*	100	1944	3/2$^-$	
		2467[#]	≤0.3	0	7/2$^-$	
2578	5/2$^-$	567[#]	≤1	2011	3/2$^+$	
		634[#]	≤1	1944	3/2$^-$	
		2578 *5*	100	0	7/2$^-$	
2605	5/2$^+$	594[#]	≤8	2011	3/2$^+$	
		661[#]	≤5	1944	3/2$^-$	
		2605 *5*	100	0	7/2$^-$	
2673	1/2$^+$	662 *5*	30	2011	3/2$^+$	
		731 *5*	70	1944	3/2$^-$	
		2673[#]	≤4	0	7/2$^-$	
2882	7/2$^+$	871[#]	≤1	2011	3/2$^+$	

Continued on next page (footnotes at end of table)

^{41}K(p,nγ) 1970Jo03,1971La08 (continued)

γ(^{41}Ca) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
2882	$7/2^+$	938[#]	≤1	1944	$3/2^-$	2957	$7/2^-$	2957 *5*	100	0	$7/2^-$
		2882 *5*		0	$7/2^-$	3200	$9/2^+$	3200		0	$7/2^-$
2957	$7/2^-$	946[#]	≤10	2011	$3/2^+$	3614	$7/2^+$	3614		0	$7/2^-$
		1013[#]	≤10	1944	$3/2^-$	3730	$3/2^-$	3730		0	$7/2^-$

[†] From level-energy differences. Uncertain gammas except as noted were extracted by the evaluators from the level scheme in Fig.4 (1970Jo03), do not appear in Table 2 (1970Jo03) nor in Fig.2 (1970Jo03).
[‡] From 1970Jo03.
[#] Placement of transition in the level scheme is uncertain.

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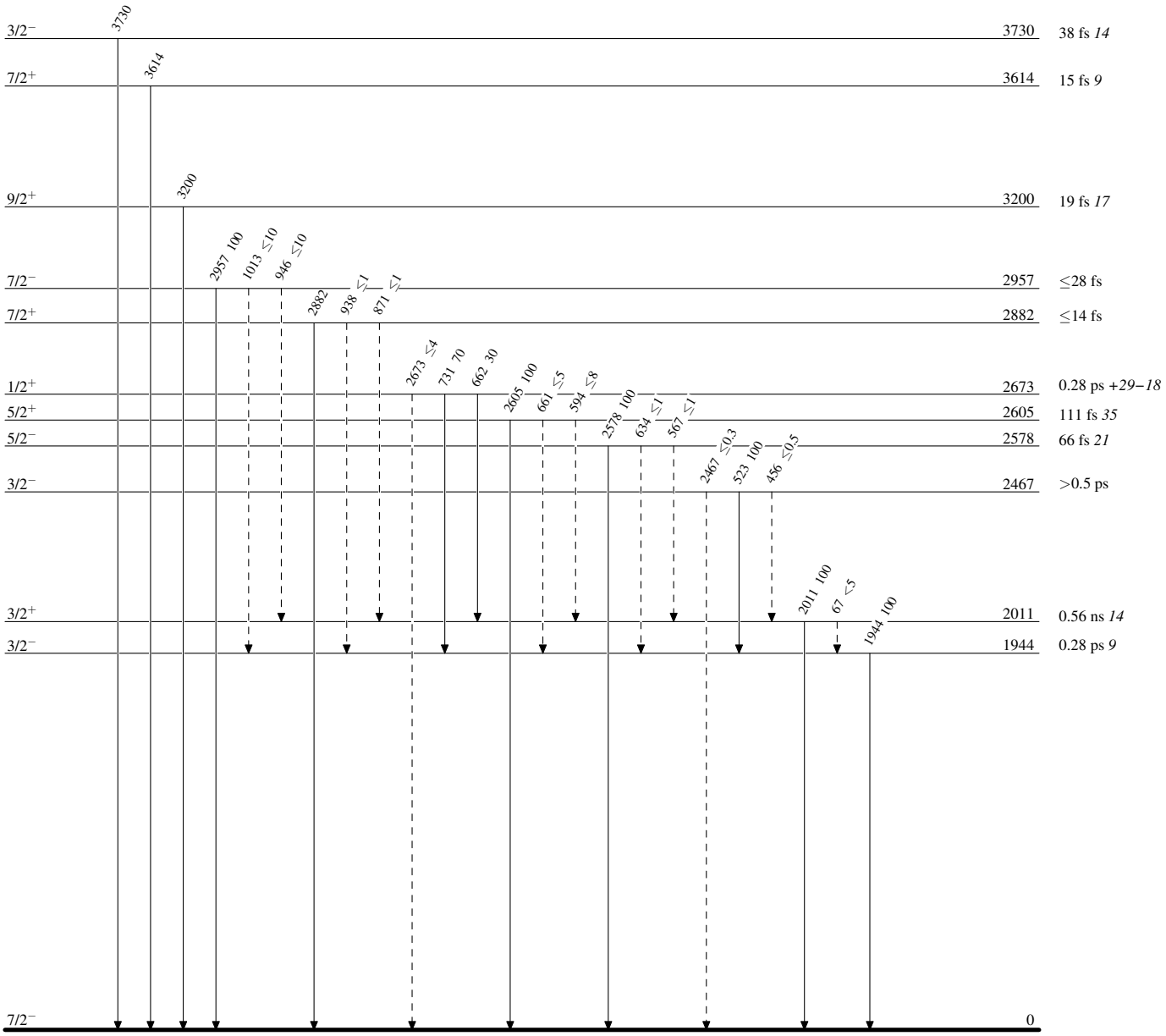
Legend

Level Scheme

Intensities: % photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{41}_{20}Ca_{21}$