

⁴⁰K(³He,d) 1975Bo04

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

$J^\pi(^{40}\text{K g.s.}) = 4^-$.

1975Bo04:

E(³He)= 13 MeV from the CN Van de Graaff Accelerator at the HMI, Berlin. Deuterons detected with solid-state telescopes (FWHM= 27 keV). Measured $\sigma(\theta)$. DWBA analysis (DWUCK code).

E(³He)= 21 MeV from the Heidelberg MP tandem accelerator. Deuterons detected in nuclear emulsions (FWHM= 30 keV). Measured $\sigma(\theta)$. DWBA analysis (DWUCK code).

⁴¹Ca Levels

E(level) [†]	L	(2J+1)S [‡]	Comments
0	2		(2J+1)S: 8.0 to 13.0.
2587 7	1+3	0.09,0.7	L: Inconsistent with Adopted $J^\pi=5/2^-$.
2884 7	3	1.5	
3200 [#] 7			
3369 7	3	2.1	
3400 [#]			
3495 7	1+3	0.07,0.9	
3615 7	(0+2)		
3737 7	1	0.21	
3831 7	3	12.5	
3915 7	3	8.6	
3976 7	1+3	0.58,4.8	
4094 7	3(+1)	3.9	(2J+1)S: for L=3.
4451 7	1	0.26	
4742 7	1+3	0.17,1.4	
4971 7	1+3	4.3	
5186 [#]			
5275 7	(2+4)		
5336 7	(0)+3	5.5,6.9	
5401 7	1+(3)	0.31,1.5	
5537 7	1	2.75	
5759 7	1+3	0.20,2.4	
5809 7	3	3.2	
5920 [#]			
5972 7	1+3	0.34,2.0	
6042 7	1+3	0.17,0.9 [@]	
6067 7	1	1.20 [@]	
6098 7	1	0.19 [@]	
6311 [#]			
6330 [#]			E(level): 6311 and 6330 form a doublet.
6400 [#]			
6468 7	1+3	0.47,1.9 [@]	
6527 7	1+3	0.79,2.0 [@]	
6738 7	1+3	0.71 [@]	
6851 [#] 7			
7004 10	1+3	0.78,1.6 [@]	
7100 10	0		
7173 [#] 10			
7380 10	1		

Continued on next page (footnotes at end of table)

${}^{40}\text{K}({}^3\text{He,d})$ **1975Bo04 (continued)** ${}^{41}\text{Ca}$ Levels (continued)

<u>E(level)[†]</u>	<u>L</u>	<u>(2J+1)S[‡]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>
7990 <i>10</i>			8504 [#] <i>10</i>	9440 [#] <i>20</i>
8040 <i>10</i>			8543 [#] <i>10</i>	9640 [#] <i>20</i>
8388 <i>10</i>	3+1	0.26,2.4 [@]	8630 [#] <i>10</i>	10348 [#] <i>20</i>
8450 [#] <i>10</i>			9216 [#] <i>20</i>	10398 [#] <i>20</i>

[†] From 13 MeV data for levels below 7 MeV. Above 7 MeV, values are from authors' (d,n) experiment.

[‡] (2J+1)S values for E=21 MeV data. Values are normalized to 13 MeV data for 3831 level.

[#] From Figure 1 of **1975Bo04**, not listed in Table 2.

[@] For E=13 MeV data.