

⁴⁰K(d,n) 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(d)=6.5 MeV from CN van de Graaf accelerator at HMI, Berlin. Measured $\sigma(\theta)$ at $\theta = 0^\circ - 67.5^\circ$ and tof. FWHM=60 keV near 4 MeV excitation energies and 15 keV for 10 MeV excitation energies. DWBA analysis (DWUCK code).

⁴¹Ca Levels

| E(level) [†] | L | (2J+1)S [‡] | Comments |
|-----------------------|-------|----------------------|--|
| 0 | 2 | | |
| 3831 7 | 3 | 12.5 | |
| 3915 7 | 3 | 8.4 | |
| 3976 7 | 1+3 | 0.30,5.7 | |
| 4094 7 | 3(+1) | 0.13,2.7 | |
| 4451 7 | 1 | 0.20 | |
| 4742 7 | 1+3 | 0.23,0.81 | |
| 4971 7 | 1+3 | 0.27,3.5 | |
| 5059@ 7 | 1+3 | 0.30,3.2 | |
| 5186@ 7 | 1+3 | 0.39,2.3 | |
| 5336 7 | 3(+0) | (0.44) | E(level): Probable doublet. (2J+1)S: for L=0. |
| 5401 7 | 1+(3) | 0.40 | (2J+1)S: for L=1. |
| 5537 7 | 1 | 3.2 | |
| 5714@ 7 | 1 | 0.20 | |
| 5759 7 | 1+3 | 1.9 | (2J+1)S: for L=3. |
| 5972 7 | 1+3 | 1.6 | (2J+1)S: for L=3. |
| 6067 7 | 1+3 | 1.88,(3.2) | L,(2J+1)S: probably for triplet 6042+6067+6098. |
| 6315@ 7 | 1 | 0.62 | |
| 6527 7 | 1+3 | 1.02,1.8 | |
| 6738 7 | 1+3 | 0.75,0.3 | |
| 7004 10 | 1+3 | 0.78,2.2 | |
| 7100 10 | 0 | 0.22 | |
| 7280 10 | 1 | 0.95 | |
| 7380 10 | 1 | 0.81 | |
| 7415 10 | 0 | 0.74 | |
| 7533 10 | 1 | 0.44 | |
| 7572 10 | 3 | 2.3 | |
| 7774 10 | | | |
| 7990 10 | 1 | 0.19 | |
| 8040 10 | 1 | 0.38 | |
| 8187 10 | 1 | 0.77 | |
| 8292 10 | 1 | 0.13 | |
| 8388 10 | 3+1 | (4.3) | (2J+1)S: for L=3. |
| 8450 10 | 1 | 0.27 | |
| 8504 10 | 1 | 0.27 | |
| 8580 10 | 1 | 0.28 | |
| 8630 10 | 1 | 0.29 | |
| 8656 10 | 1 | 0.15 | |
| 8693 10 | 1 | 0.08 | |
| 8980 10 | 1 | 0.20 | |
| 9170 20 | 1 | 0.40 | |
| 9290 20 | 1 | 0.39 | |
| 9390 20 | 1 | 0.31 | |
| 9440 20 | 1 | 0.32 | |
| 9570 20 | 1 | 0.19 | |

Continued on next page (footnotes at end of table)

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

| <u>E(level)[†]</u> | <u>L</u> | <u>(2J+1)S[‡]</u> | <u>E(level)[†]</u> | <u>L</u> | <u>(2J+1)S[‡]</u> | <u>E(level)[†]</u> | <u>L</u> | <u>(2J+1)S[‡]</u> |
|-----------------------------|----------|----------------------------|-----------------------------|----------|----------------------------|-----------------------------|----------|----------------------------|
| 9650 20 | 1 | 0.21 | 9880 20 | 1 | 0.13 | 10300 20 | 1 | 0.20 |
| 9720 20 | 1 | 0.23 | 9910 20 | 1 | 0.06 | 10325 20 | 1 | 0.58 |
| 9740 [#] 20 | | | 9920 20 | 1 | 0.11 | 10390 [#] 20 | | |

[†] Energies are from authors' (${}^3\text{He},\text{d}$) data for levels below 7 MeV. Above this energy, the values are from (d,n).

[‡] Values are normalized to 13 MeV (${}^3\text{He},\text{d}$) data for 3831 level.

[#] From Figure 4 of **1975Bo04**.

[@] From (d,n) data.