## $^{38}$Ar($\alpha$,d) 1976De24

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jun Chen | NDS 140, 1 (2017) | 30-Sep-2015 |

$J^{\pi}(^{38}\text{Ar g.s.})=0^{+}$.

1976De24: E=34 MeV alpha beam was produced from the Princeton cyclotron. Target was 94% enriched $^{38}$Ar gas. Reaction products were detected in a freon cooled ΔE-E silicon detector telescope (FWHM≈100 keV) followed by a third detector in anticoincidence. Measured $\sigma(\theta)$. Deduced levels, J, $\pi$, L-transfer from DWBA analysis.

All data are from 1976De24, unless otherwise noted.

### $^{40}$K Levels

| E(level)† | L# | dσ/dΩ (υb/sr)‡ | E(level)† | L# | dσ/dΩ (υb/sr)‡ | E(level)† | L# | dσ/dΩ (υb/sr)‡ |
|---|---|---|---|---|---|---|---|---|
| 0 | (3) | 60 | 2290 | 3 | 65 | 3445 *50* | 4 | 120 |
| 800 | (1) | 70 | 2543 | 6 | 1000 | 3753 *50* | 4 | 330 |
| 891 | 5 | 200 | 2787 | 4 | 700 | 3908 *50* | | 300 |
| 2070 | 3 | 45 | 3094 *50* | 4 | 150 | | | |

† Rounded values from Adopted Levels for levels below 3000 and the rest are from 1976De24.

‡ At 20° (C.M. system). Absolute cross sections are accurate to 20%.

# Extracted from DWBA fits to measured differential cross sections.