## $^{40}$Ca($^{6}$Li,$^{3}$He) 1974Li01

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Balraj Singh and Jun Chen[#] | NDS 126, 1 (2015) | 31-Mar-2015 |

1974Li01: E=34, 36 MeV $^{6}$Li beam of 300-400 nA was produced from the University of Rochester MP Tandem accelerator. Targets of ≈75 $\mu$g/cm$^2$ $^{40}$Ca prepared by evaporating natural calcium onto thin carbon and gold backings. $^{3}$He particles were detected in a spark counter mounted in the focal plane of a magnetic spectrograph, FWHM≈50 keV. Measured $\sigma(\theta)$. Deduced levels, J, $\pi$, L from DWBA analysis.

1986Pl01: E=156 MeV. Measured (fragment)($\gamma$) coin following breakup, deduced projectile breakup cross section.

All data are from 1974Li01.

### $^{43}$Sc Levels

| E(level) | $J^{\pi}$[@] | L | $\Sigma$ ($\sigma$(exp))/$\Sigma$ ($\sigma$(DWBA))[#] |
|---|---|---|---|
| 0 | $7/2^-$ | 3 | 0.36 |
| 470[‡] *30* | $3/2^-$ | | |
| 1180 *30* | $3/2^-$ | 1 | 1.5 |
| 1410[‡] | $7/2^-$ | | |
| 1810[†] *30* | $3/2^-$ | 1 | 0.67 |
| 1830[†] *30* | $11/2^-$ | (5) | 0.38 |
| 2290 *30* | $5/2^-$ | 3 | 0.85 |
| 2620 *30* | $9/2^-$,$11/2^-$ | 5 | 0.25 |
| 2990 *30* | $15/2^-$ | 7 | 0.16 |
| 3120 *30* | $(19/2)^-$ | (9) | 0.60 |

[†] Unresolved doublet. Strength divided by analogy with $^{43}$Ti mirror states.
[‡] Weak peak in spectrum.
[#] Sum is over all measured angles.
[@] From Adopted Levels.