## $^{35}$Cl(p,$^{3}$He) 1971Vi02

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jun Chen and Balraj Singh | NDS 199,1 (2025) | 30-Sep-2024 |

1971Vi02: E=40 MeV proton beam was produced from the Grenoble variable energy cyclotron. Target was gas of natural purified chlorine, 100 mm in diameter and 25 mm in height. Reaction products were detected with two separate counter telescopes with each consisting of a 200 $\mu$m phosphorous-drifted silicon ΔE detector, a 2 mm lithium-drifted silicon E detector and a 3 mm lithium-drifted silicon E-reject detector (FWHM=180 keV). Measured $\sigma$(E($^{3}$He),$\theta$), $\theta_{c.m.}\approx 10^\circ$ to 60°. Deduced levels, L-transfers from DWBA analysis. Comparisons with available data and shell-model calculations. Report 9 levels.

1976Na18: E=40 MeV protons were produced from the Michigan State University cyclotron. Measured $\sigma(\theta)$ for $^{33}$S g.s. and $\sigma(\theta)$ of (p,t) for its mirror state in $^{33}$Cl.

### $^{33}$S Levels

| E(level)[†] | L[†] | $\sigma_{rel}$[†‡] |
|---|---|---|
| 0 | 0+2+4 | 29 |
| 840 *50* | 2 | 14 |
| 1950 *50* | 0+2 | |
| 2300 *50* | | |
| 2950 *50* | 2+4 | 36 |
| 5500 *50* | | |
| 6950 *60* | 0+2 | 28 |
| 7300 *60* | | |
| 8100 *60* | | |

[†] From 1971Vi02, with L-transfers are from DWBA analysis of measured $\sigma(\theta)$.

[‡] Relative integrated cross section ($\theta_{c.m.}$=10° to 60°) normalized to 100 for $^{37}$Cl(p,t) (1971Vi02).