^{37}Cl(p,^{3}He) 1975Gu15

^{37}Cl->^{35}S+1p1n from $J^{\pi}=3/2^{+}$ ^{37}Cl ground state.

1975Gu15: A 40.2-MeV proton beam was produced from the Michigan State University cyclotron. The target was 55 $\mu g/cm^2$ NaCl with 97% enriched ^{37}Cl made by evaporation of the salt onto a 30–$\mu g/cm^2$ carbon backing. The reaction products were detected using a wire-counter plastic-scintillator in the focal plane of an Enge split-pole spectrograph with FWHM=30 keV. Measured σ(E(^{3}He),θ). Deduced levels, L from zero-range DWUCK-DWBA analysis of the measured $\sigma(\theta)$.

1971Vi02: A 40-MeV proton beam was produced from the Grenoble variable energy cyclotron at intensities of 20-200 nA depending on the scattering angle with a 90-keV energy resolution. The target was natural purified chlorine gas 100 mm in diameter and 25 mm in height. The reaction particles were detected using two separate counter telescopes with each consisting of a 200μm phosphorous-drifted silicon ΔE detector, a 2-mm lithium-drifted silicon E detector and a 3-mm lithium-drifted silicon E-reject detector with FWHM=180 keV for ^{3}He. Measured σ(E(^{3}He),θ). Deduced L for ^{35}S ground state from zero-range Nelson-DWBA analysis of the measured $\sigma(\theta)$.

^{35}S Levels

σ_{max}: From 1975Gu15.

E(level)[†]	L[‡]	Comments
0	0+2+4	σ_{max}=26.5 μb/sr.
1575 *10*	0+2	σ_{max}=19 μb/sr.
1992 *10*	3+5	σ_{max}=1.5 μb/sr.
2717 *10*	0+2+4	σ_{max}=53.9 μb/sr.
2938 *10*	0+2+4	σ_{max}=29.2 μb/sr.
3421 *10*	0+2+4	σ_{max}=81.5 μb/sr.
3598 *10*	2+4	σ_{max}=27.8 μb/sr.
3811 *10*	3	σ_{max}=2.6 μb/sr.
4027 *10*	2	σ_{max}=2.9 μb/sr.
4114 *10*	0+2	σ_{max}=8.8 μb/sr.
4186 *10*	(2,3)	σ_{max}=5.6 μb/sr.
4290 *10*	(2)	σ_{max}=2.8 μb/sr.
4489 *10*	2	σ_{max}=2.7 μb/sr.
4577 *10*	0+2	σ_{max}=10.7 μb/sr.
4617 *10*	(1,2)	σ_{max}=13.2 μb/sr.
4843 *10*	2	σ_{max}=15.9 μb/sr.
4963 *10*	(0+2)	σ_{max}=17.3 μb/sr.
4990 *10*	0+2	σ_{max}=19.5 μb/sr.
5127 *10*	2	σ_{max}=3.5 μb/sr.
5345 *10*	3	σ_{max}=2.2 μb/sr.
5550 *10*	(3)	σ_{max}=6.2 μb/sr.
5771 *10*	2	σ_{max}=10.1 μb/sr.
5915? *10*	(2,3)	σ_{max}=3.4 μb/sr.
6129 *10*	0+2	σ_{max}=7.8 μb/sr.
6347 *10*	(2)	σ_{max}=4.8 μb/sr.
6654 *10*	(3)	σ_{max}=7.7 μb/sr.
6696 *10*	2	σ_{max}=6.7 μb/sr.
7151? *10*	(4)	σ_{max}=3.3 μb/sr.
7375? *10*		
7712? *10*	4	σ_{max}=4.6 μb/sr.
7770 *10*		σ_{max}=5.5 μb/sr.
8103 *10*	(1+3)	σ_{max}=10.6 μb/sr.
8160 *10*	(1)	σ_{max}=8.4 μb/sr.
8430 *10*	2	σ_{max}=5.7 μb/sr.
9155 *10*	2	σ_{max}=10 μb/sr.

Continued on next page (footnotes at end of table)

^{37}Cl(p,^{3}He) 1975Gu15 (continued)

^{35}S Levels (continued)

† From 1975Gu15.
‡ From DWBA analysis of the measured $\sigma(\theta)$ in 1975Gu15.