^{44}Ca(^{6}Li,d), ^{52}Cr(d,^{6}Li) 1977Fu03,1981Be26

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 179, 1 (2022)	30-Nov-2021

Also includes ^{44}Ca(^{12}C,^{8}Be) from 1977Mo06 and ^{44}Ca(^{7}Li,t) from 1980Cu06.

1977Fu03: ^{44}Ca(^{6}Li,d) E=32 MeV ^{6}Li was produced from the Rochester Van de Graaff accelerator. Reaction products were momentum-analyzed with a magnetic spectrometer (FWHM=50-125 keV) and detected with a spark counter. Measured $\sigma(\theta)$. Deduced levels, L-transfers and S from DWBA analysis. Report g.s., 980 and 2290 levels.

1981Be26: ^{52}Cr(d,^{6}Li) E=65 MeV deuteron beam was produced from the Julich isochronous cyclotron JULIC. Target was 1.2 mg/cm^2 ^{52}Cr (99.87% enriched). Reaction products were detected with ΔE-E telescopes of Si detectors (FWHM=300 keV). Measured $\sigma(\theta$=15° to 50°). Deduced levels, L-transfers and S from DWBA analysis.

Other measurements:

1977Mo06: ^{44}Ca(^{12}C,^{8}Be) E=45 MeV ^{12}C beam was produced from the Florida State University Super FN Tandem Van de Graaff. Reaction products were detected with an array of eight Si(Li) recording coincident α particles in adjacent pairs from ^{8}Be break-up and two Si(Li) detectors at small angles. Measured $\sigma(\theta_{c.m.}$=0° to 60°). Deduced levels, L, S, from DWBA analysis. Report g.s., 983 level.

1980Cu06: ^{44}Ca(^{7}Li,t) E=34 MeV ^{7}Li beam was produced from the Florida State University Super FN Tandem Van de Graaff. Reaction products were detected with ΔE-E Si counter telescopes. Measured $\sigma(\theta)$. Deduced levels, L, S from DWBA analysis. Report g.s., 983 level.

^{48}Ti Levels

Quoted values of relative spectroscopic factor S_{rel} are relative to S(^{44}Ti g.s.)=1.0 in corresponding transfer reactions.

E(level)[†]	L[#]	S_{rel}[‡]	Comments
0.0	0[&]	0.35	S_{rel}: others: 0.79 (1980Cu06), 0.89 (1977Mo06).
980 *20*	2[&]	0.07	E(level): from 1977Fu03. Others: 1000 (1981Be26), 983 (1977Mo06,1980Cu06). S_{rel}: others: 0.23 (1980Cu06), 0.18 (1977Mo06). S(2$^+$)/S(0$^+$)≈0.8 from 1981Be26.
2290 *20*	4[&]	0.015	E(level): from 1977Fu03. Other: 2360 (1981Be26), unresolved doublet of 2290+2420. S(4$^+$)/S(0$^+$)<0.3 from 1981Be26.
3.20×10^3 *15*	(4)[@]		
3.40×10^3 *15*	(4+6+8)		
4.20×10^3 *15*	(4)[@]		
4.50×10^3 *15*	(4+6+8)		
4.90×10^3 *15*	(4)[@]		
5.20×10^3 *15*	(4)[@]		

[†] From 1981Be26, unless otherwise noted.
[‡] From 1977Fu03.
[#] From DWBA analysis in 1981Be26, unless otherwise noted.
[@] Shape of $\sigma(\theta)$ similar to that for the 2.00 MeV, 4$^+$, state in ^{50}Cr(d,^{6}Li)^{46}Ti (1981Be26).
[&] From both 1981Be26 and 1977Fu03.