^{48}Ca(^{6}Li,^{6}He) 1973Ga21,1990KaZH

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

1973Ga21: E=34 MeV ^{6}Li beam from the Rochester MP tandem. Target was 50 μg/cm^2 97% enriched ^{48}Ca on a 20 μg/cm^2 carbon backing. Reaction products were momentum-analyzed with an Enge split-pole spectrograph (FWHM=30-40 keV). Measured $\sigma(\theta$(c.m.)=10° to 55°). Deduced levels, J, π, L-transfers from DWBA analysis. Comparisons with available data.

1990KaZH,1990KaZJ: E=150 MeV. Measured $\sigma(\theta$=0°,6°,8°,10°,12°); mag spect. FWHM=170 keV. One-step DWBA analysis in progress. Large energy resolution precluded resolving most low-energy states.

All data are from 1973Ga21, except as noted. See 1990Wi08 and 1974Wh07 for discussions of correlation between L(^{6}Li,^{6}He)=0 transition cross sections and corresponding Gamow-Teller β decay strength.

^{48}Sc Levels

E(level)	L†	E(level)	L†	E(level)	Jπ	L†
0.0	(6)	3342 *10*	3,(2)	5003 *15*		2,(3)
131‡	4	3455 *10*	2,(3)	5190 *20*		2,(3)
252‡	(4)	3680[c] *10*	3,(2)	5318 *20*		2,(3)
623‡	2	3714[c] *10*		5485 *20*		2,(3)
1096‡#@	6	4169& *10*	0	5574 *25*		2,(3)
1143‡#@	(2)	4450 *15*	3,(2)	5975 *25*		0
2521&[a]	0	4566 *15*	2,(3)	6187& *25*		0,(2)
3068 *10*	3,(2)	4671 *15*	3,(2)	6.67×10^3[d]	(0$^+$)[d]	
3270[b] *10*	3,(2)	4735 *15*	3,(2)	≈7.5×10^3[d]	(1$^+$)[d]	

† From DWBA analysis.
‡ Rounded values from Adopted Levels.
# Resolved at θ=10° only (1973Ga21).
@ Unresolved in 1990KaZH.
& Also reported by 1990KaZH.
[a] From 1972Ri07.
[b] Possible doublet (1973Ga21).
[c] Not resolved (1973Ga21).
[d] From 1990KaZH. Parentheses added by evaluator due to preliminary nature of work.