^{42}Ca(^{6}Li,^{6}He) 1990Mo13,1975Wh01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen[#] and Balraj Singh	NDS 135, 1 (2016)	31-May-2016

1990Mo13: E=156 MeV ^{6}Li beam was produced at the Karlsruhe Isochronous Cyclotron KIZ. Target of a 2.7 mg/cm^2 self-supporting ^{42}Ca foil (enriched to 87.7%). Reaction products were momentum analyzed with the QQDS magnetic spectrograph "little John" and detected by position sensitive proportional counter, an ionization chamber and a plastic scintillator. Measured cross section at 0°, $\sigma(\theta)$. Deduced levels. DWBA analysis.

1975Wh01 (also 1974Wh07): E=34 MeV beam was produced at the Argonne National Laboratory (ANL). Reaction products were analyzed with the ANL Engel split-pole spectrograph and detected by two 4.5 cm long Si surface barrier position-sensitive detectors. Measured $\sigma(\theta)$. DWBA analysis.

^{42}Sc Levels

E(level)	J$^\pi$[‡]	L	σ (mb/sr)[†]	Comments
0	0$^+$	(1)		L: implied from $\sigma(\theta)$ (1975Wh01).
610	1$^+$	0	1.1	L: from 1990Mo13. L=90%(L=0)+10%(L=6) for 1$^+$ and 7$^+$ doublet (1975Wh01). dσ/dΩ=30 μb/sr for first maximum at 10° (1975Wh01).
2220	(1)		0.11	

[†] From 1990Mo13 at 0′.
[‡] From Adopted Levels.