^{44}Ca(d,^{3}He) 1976Do05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 126, 1 (2015)	31-Mar-2015

1976Do05 (also 1975Wa17): E=52 MeV deuteron beam was produced from the Karlsruhe isochronous cyclotron and impinged on an 98.55% enriched self-supporting ^{44}Ca foil. ^{3}He particles were detected by counter telescopes consisting of 300 μm ΔE and 2000 μm E surface barrier counters, FWHM=120 keV. Measured σ(E(^{3}He),θ). Deduced levels, J, π, L, spectroscopic factors from DWBA analysis.

1974De36, E=19 MeV deuteron beam was produced from the University of Minnesota MP Tandem and impinged on a 60 μg/cm^2 target prepared by evaporating a 98.5% enriched ^{44}Ca onto a 15 μg/cm^2 carbon foil. ^{3}He particles were detected by solid state position detectors placed in the focal plane of an Enge split-pole spectrometer, FWHM=15 keV. Measured σ(E(^{3}He),θ). Deduced, levels, J, π, L, spectroscopic factors from DWBA analysis.

1969Yn01: E=22 MeV deuteron beam was produced from the Argonne cyclotron and impinged on enriched ^{44}Ca target on Formvar backing. ^{3}He particles were detected with a ΔE-E telescope of surface-barrier detectors, FWHM=70-130 keV. Measured σ(E(^{3}He),θ). Deduced, levels, J, π, L, spectroscopic factors from DWBA analysis.

Target ^{44}Ca $J^{\pi}=0^{+}$.

All data from 1976Do05 unless otherwise noted.

^{43}K Levels

E(level)	L	C^{2}S[‡]	Comments
0	2	3.15	C^{2}S: 2.90 (1974De36), 4.5 (1969Yn01).
566[†] *8*	0	1.15	C^{2}S: 1.55 (1974De36), 2 (1969Yn01).
748[†] *8*	3	0.85	C^{2}S: 0.98 (1974De36).
982[†] *8*	1	0.16	C^{2}S: 0.27 (1974De36).
1119[†] *8*	2	0.36	C^{2}S: for d5/2. C^{2}S=0.50 for d3/2. Other: 0.30 (1974De36).
1540 *15*	2	0.24	
1870 *15*			
2180 *15*			
2450 *15*	0	0.32	
2670 *15*	2	0.41	
3070 *15*	2	0.16	
3230 *15*	2	0.20	
3340 *15*	2	0.56	
3730 *15*	(2)	0.13	
3880 *15*	(2)	0.1	
4020 *15*	2	0.15	
4120 *15*	2	0.31	
4470 *15*	2	0.17	
4790 *15*	2	0.14	
5190 *30*	2	0.23	
5610 *30*	2	0.23	
5900 *30*	2	0.30	
7450 *30*	(2)	0.1	

[†] From weighted average of 1974De36 and 1976Do05.

[‡] From 1976Do05. 1978En02 give S-factors which are adjusted upwards by ≈19% using standard normalization factors as discussed in 1977En02.