^{45}Sc(d,^{3}He),(pol d,^{3}He)   **1969Ma26**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh and John A. Cameron	NDS 112, 2357 (2011)	31-Jul-2011

1969Ma26: (d,^{3}He) E(d)=52 MeV deuteron beam produced from the Karlsruhe cyclotron. Target of 0.15 mg/cm^2 ^{45}Sc by vacuum deposition of natural scandium. ^{3}He momentum analyzed and detected by ΔE-E telescopes of CO$_2$ cooled surface barrier detectors. Measured σ(E(^{3}He),θ). Deduced levels, J^π, L, spectroscopic factors from DWBA analysis.

1983En02: (pol d,^{3}He) E=12.4 MeV tensor-polarized deuteron beam produced from the atomic-beam ion source on the University of Birmingham Radial Ridge cyclotron. ^{3}He detected in four silicon ΔE-E telescopes. Measured σ(E(^{3}He),θ), analyzing powers. Vector analyzing power for ground state.

Target ^{45}Sc J^π=7/2$^-$.

^{44}Ca Levels

Spectroscopic factor C^{2}S:N*g*C^{2}S=$\sigma(\theta)^{\text{exp}}/\sigma(\theta)^{\text{DWBA}}$, where N is the normalization factor and g=(2J$_f$+1)/(2J$_i$+1) (1966Ba54). N*g=2.95 in 1969Ma26.

E(level)[†]	J^π	L[‡]	C^{2}S[‡]	E(level)[†]	L[‡]	C^{2}S[‡]	E(level)[†]	L[‡]	C^{2}S[‡]
0	0$^+$[#]	3	0.40	2660	3	0.16	5070	0	0.46
1160		3	0.15	3370	2	0.92	5430	0	0.50
1880		3	0.11	3780	2	1.70	6100	2	0.92
2290		3	0.09	4480	0	0.55			

[†] From 1969Ma26 with ΔE=100 keV.
[‡] Extracted from the comparison of $\sigma(\theta)$ distributions with the DWBA predictions.
[#] From analyzing power in 1983En02. See 1983En02 for vector analyzing power data.