^{150}Nd(^{3}He,α) 1980Lo06,1973Bu02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 185, 2 (2022)	23-Aug-2022

1980Lo06: E=24 MeV from the Niels Bohr Institute Tandem Van de Graaff. Measured $\sigma(\theta)$, FWHM≈30 keV, uncertainty in absolute σ=15%. Experimental $\sigma(\theta)$ were compared with DWBA calculations.

1973Bu02: E=24 MeV from the McMaster University FN tandem Van de Graaff accelerator. Measured $\sigma(\theta)$ at four angles, FWHM=25 keV.

^{149}Nd Levels

Cross section data, listed in comments, are for 45° in 1973Bu02, and for an angle where it is maximum in 1980Lo06.

E(level)[†]	L[‡]	S[†]	Comments
0	3	0.04	dσ/dΩ≈1 μb/sr (1980Lo06), ≈0.5 μb/sr (1973Bu02).
109 *10*	3	0.40	dσ/dΩ=10 μb/sr (1980Lo06), 8.8 μb/sr (1973Bu02).
≈148[#]	(3)[@]		dσ/dΩ≈1 μb/sr (1973Bu02).
225 *10*	5	1.6	dσ/dΩ=27 μb/sr (1980Lo06), 18.7 μb/sr (1973Bu02).
271[#]	(3)[@]		dσ/dΩ=5.1 μb/sr (1973Bu02).
≈317[#]			dσ/dΩ≈6 μb/sr (1973Bu02).
341 *10*	6	1.5	dσ/dΩ=98 μb/sr (1980Lo06), 56 μb/sr (1973Bu02).
≈375[#]	(1)[@]		dσ/dΩ≈0.9 μb/sr (1973Bu02).
455 *10*	3	0.24	dσ/dΩ=6 μb/sr (1980Lo06), 4.6 μb/sr (1973Bu02).
516 *10*			dσ/dΩ=6 μb/sr (1980Lo06), 4.6 μb/sr (1973Bu02).
550[#] *10*	(1)[@]		dσ/dΩ≈0.4 μb/sr (1973Bu02).
590 *10*	5	0.33	dσ/dΩ=14 μb/sr (1980Lo06), 8.1 μb/sr (1973Bu02).
650 *10*	5	2.0	dσ/dΩ=92 μb/sr (1980Lo06), 43 μb/sr (1973Bu02).
713 *10*	2	1.4	dσ/dΩ=18 μb/sr (1980Lo06), 7.7 μb/sr (1973Bu02).
743 *10*	2	0.88	dσ/dΩ=12 μb/sr (1980Lo06), 5.1 μb/sr (1973Bu02).
819 *10*			dσ/dΩ=20 μb/sr (1980Lo06), 9.4 μb/sr (1973Bu02).
842[#]			
873 *10*	2	0.81	dσ/dΩ=7 μb/sr (1980Lo06), 3.0 μb/sr (1973Bu02).
881 *10*			dσ/dΩ=4 μb/sr (1980Lo06).
923[#]			dσ/dΩ=1.7 μb/sr (1973Bu02).
957[#]			dσ/dΩ=1.7 μb/sr (1973Bu02).
984 *10*	(0)[@]		dσ/dΩ=10 μb/sr (1980Lo06), 3.8 μb/sr (1973Bu02).
1054[&] *10*			dσ/dΩ=3.8 μb/sr (1973Bu02).
1144[&] *10*	(5)[a]		dσ/dΩ=4.0 μb/sr (1973Bu02).
1260?[&] *10*			
1542 *10*			dσ/dΩ=13 μb/sr (1980Lo06).
1625 *10*	5	0.57	dσ/dΩ=34 μb/sr (1980Lo06).
1708 *10*	5	0.77	dσ/dΩ=44 μb/sr (1980Lo06).
1802 *10*			dσ/dΩ=9 μb/sr (1980Lo06).
1872 *10*			dσ/dΩ=8 μb/sr (1980Lo06).
1979 *10*			dσ/dΩ=10 μb/sr (1980Lo06).
2321 *10*			dσ/dΩ=16 μb/sr (1980Lo06).

[†] From 1980Lo06 unless otherwise stated.
[‡] From $\sigma(\theta)$ and DWBA calculations (1980Lo06) unless otherwise stated.
[#] Reported by 1973Bu02 only.
[@] From $\sigma(^{3}He,\alpha)/\sigma(d,t)$ (1973Bu02).

Continued on next page (footnotes at end of table)

^{150}Nd(^{3}He,α) 1980Lo06,1973Bu02 (continued)

^{149}Nd Levels (continued)

& Energy read from α spectrum given by 1980Lo06.
[a] 1973Bu02 give L=2 for a group at 1134.