^{148}Nd(d,p) 2008Ja01

History

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

2008Ja01: E=12.1 MeV beam provided by tandem accelerator at Niels Bohr Institute. Enriched target. Detected charged particles using magnetic spectrograph. Recorded proton spectra at 60, 90 and 125°. Resolution (FWHM)=9-13 keV.

^{149}Nd Levels

All cross sections listed below are in μb/sr. The relative uncertainties are 10%, while absolute uncertainties are 20%.

E(level)†	L‡	(2J+1)S	Comments
0	[3]	0.05	dσ/dΩ (μb/sr)=26 (60°), 9 (90°), 7 (125°).
108 *3*	[3]	2.09	dσ/dΩ (μb/sr)=1115 (60°), 461 (90°), 202 (125°).
138 *3*	[3]	0.37	dσ/dΩ (μb/sr)=159 (60°), 91 (90°), 44 (125°).
166 *3*	[1]	0.05	dσ/dΩ (μb/sr)=78 (60°), 34 (90°), 12 (125°).
221 *3*	[5]	2.35	dσ/dΩ (μb/sr)=155 (60°), 85 (90°), 65 (125°).
282 *3*	[1]	0.37	dσ/dΩ (μb/sr)=550 (60°), 235 (90°), 101 (125°).
318 *3*	[3]	0.42	dσ/dΩ (μb/sr)=176 (60°), 114 (90°), 57 (125°).
341 *3*	[6]	3.11	dσ/dΩ (μb/sr)=98 (60°), 70 (90°), 56 (125°).
366 *3*	[1]	0.67	dσ/dΩ (μb/sr)=1153 (60°), 382 (90°), 177 (125°).
407 *3*	[1]	0.06	dσ/dΩ (μb/sr)=75 (60°), 34 (90°), 18 (125°).
459 *3*	[3]	0.09	dσ/dΩ (μb/sr)=39 (60°), 22 (90°), 15 (125°).
483 *3*	[0]	0.01	dσ/dΩ (μb/sr)=7 (60°), 10 (90°).
521 *3*	[6]	0.65	E(level): 2008Ja01 associate this level with 510 *3* in (d,t) for which L=6 was deduced. dσ/dΩ (μb/sr)=14 (60°), 22 (90°), 11 (125°).
551 *3*	[1]	0.01	dσ/dΩ (μb/sr)=6 (90°).
594 *3*	[2]	0.03	dσ/dΩ (μb/sr)=27 (60°), 32 (90°), 13 (125°).
709 *3*	[2]	0.02	dσ/dΩ (μb/sr)=18 (60°), 17 (90°), 7 (125°).
745 *3*	[2]	0.02	dσ/dΩ (μb/sr)=49 (60°), 7 (90°).
807 *3*	[0]	0.15	dσ/dΩ (μb/sr)=240 (60°), 125 (90°), 82 (125°).
830 *3*	[1]	0.25	dσ/dΩ (μb/sr)=394 (60°), 199 (90°), 91 (125°).
887 *3*	[2]	0.17	dσ/dΩ (μb/sr)=200 (60°), 142 (90°), 66 (125°).
916 *3*	[1]	0.16	dσ/dΩ (μb/sr)=303 (60°), 122 (90°), 50 (125°).
957 *3*	[3]	0.29	dσ/dΩ (μb/sr)=156 (60°), 89 (90°), 47 (125°).
992 *3*	[0]	0.02	dσ/dΩ (μb/sr)=33 (60°), 18 (90°), 10 (125°).
1029 *6*	[1]	0.13	dσ/dΩ (μb/sr)=172 (60°), 106 (90°), 58 (125°).
1064 *6*			dσ/dΩ (μb/sr)=72 (60°), 69 (90°), 28 (125°).
1086 *6*			dσ/dΩ (μb/sr)=226 (60°), 91 (90°), 44 (125°).
1181 *6*			dσ/dΩ (μb/sr)=507 (60°), 219 (90°), 99 (125°).
1248 *6*	[1]	0.14	dσ/dΩ (μb/sr)=227 (60°), 139 (90°), 56 (125°).
1283 *6*	[1]	0.07	dσ/dΩ (μb/sr)=75 (60°), 76 (90°), 32 (125°).
1360 *6*	[0]	0.28	dσ/dΩ (μb/sr)=717 (60°), 337 (90°), 157 (125°).
1386 *6*			dσ/dΩ (μb/sr)=33 (90°), 16 (125°).
1415 *6*			dσ/dΩ (μb/sr)=16 (90°), 6 (125°).
1446 *6*			dσ/dΩ (μb/sr)=31 (90°), 17 (125°).
1479 *6*			dσ/dΩ (μb/sr)=75 (90°), 47 (125°).
1509 *6*	[1]	0.03	dσ/dΩ (μb/sr)=21 (90°), 15 (125°).
1533 *6*			dσ/dΩ (μb/sr)=43 (90°), 25 (125°).
1558 *6*			dσ/dΩ (μb/sr)=146 (90°), 78 (125°).
1594 *6*			dσ/dΩ (μb/sr)=325 (60°), 101 (90°), 55 (125°).
1621 *6*			dσ/dΩ (μb/sr)=20 (90°), 13 (125°).
1634 *6*			dσ/dΩ (μb/sr)=185 (60°), 34 (90°), 13 (125°).
1671 *6*			dσ/dΩ (μb/sr)=124 (60°), 71 (90°), 16 (125°).
1709 *6*			dσ/dΩ (μb/sr)=146 (60°), 71 (90°), 34 (125°).
1747 *6*			dσ/dΩ (μb/sr)=51 (60°), 31 (90°), 10 (125°).
1783 *6*			dσ/dΩ (μb/sr)=77 (60°), 31 (90°), 23 (125°).

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^{148}Nd(d,p) 2008Ja01 (continued)

^{149}Nd Levels (continued)

E(level)[†]	Comments
1818 *6*	dσ/dΩ (μb/sr)=61 (60°), 29 (90°), 25 (125°).
1852 *6*	dσ/dΩ (μb/sr)=178 (60°), 83 (90°), 48 (125°).
1868 *6*	dσ/dΩ (μb/sr)=55 (90°), 17 (125°).
1885 *6*	dσ/dΩ (μb/sr)=13 (90°), 15 (125°).
1925 *6*	dσ/dΩ (μb/sr)=141 (90°), 60 (125°).
1947 *6*	dσ/dΩ (μb/sr)=49 (90°), 25 (125°).
2094 *6*	dσ/dΩ (μb/sr)=43 (90°), 23 (125°).
2140 *6*	dσ/dΩ (μb/sr)=157 (90°), 75 (125°).

[†] Uncertainties assigned by evaluators as 3 keV for levels below 1 keV and 6 keV above 1 MeV, based on a statement by 2008Ja01 that these are less than 3 keV for levels below 1 MeV and 4-6 keV for levels above this energy.
[‡] Assignments are taken by 2008Ja01 from their ^{150}Nd(d,t) data.