^{62}Ni(d,t),(pol d,t) 1965Fu06,1976Hu06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	20-Jan-2020

No changes made since the 2015 update.

1965Fu06: (d,t): E=15 MeV. Measured σ(E(t),θ), θ=20°, 25°, 30°, 35°, 45°, ΔE-E telescope, FWHM≈70 keV, enriched target, thickness of (0.5-3.1 mg/cm^2), DWBA analysis $\sigma(\theta)$ data.

1976Hu06: (pol d,t): E=15 MeV. Measured analyzing power $A_y(\theta)$, 19 angles (c.m.) between ≈10° and 90°, ΔE-E Si(Li) telescope, FWHM =50 keV, enriched target thickness of 0.2 mg/cm^2. The data were compared with DWBA analyses.

^{61}Ni Levels

E(level)[†]	J$^\pi$[‡]	L[#]	C^{2}S[#]	Comments
0	3/2$^-$[&]	1	2.77	$(d\sigma/d\Omega)_{max}$=3.48 mb/sr.
65 *30*	5/2$^-$[&]	3	2.59	$(d\sigma/d\Omega)_{max}$=0.78 mb/sr.
290 *10*	1/2$^-$	1	0.88	$(d\sigma/d\Omega)_{max}$=0.94 mb/sr.
654 *20*	1/2$^-$	1	0.18	$(d\sigma/d\Omega)_{max}$=0.16 mb/sr.
1110 *20*	3/2$^-$[&]	1	0.26	$(d\sigma/d\Omega)_{max}$=0.17 mb/sr.
1132 *10*				E(level): from figure 6 in 1976Hu06.
1170 *20*	3/2$^-$[&]	1	0.34	$(d\sigma/d\Omega)_{max}$=0.22 mb/sr.
				E(level): 1186 from 1976Hu06.
1450 *20*	(7/2$^-$)[@]	3	1.05	$(d\sigma/d\Omega)_{max}$=0.16 mb/sr.
1610 *30*				$(d\sigma/d\Omega)_{max}$≈0.068 mb/sr.
1730 *30*		1	0.08	C^{2}S: for L-1/2.
				$(d\sigma/d\Omega)_{max}$=0.036 mb/sr.
2000 *30*		3	≈0.25	C^{2}S: for L+1/2.
				$(d\sigma/d\Omega)_{max}$≈0.027 mb/sr.
2140 *30*		(1+4)	≈0.08,0.72	C^{2}S: for 1/2 for L=1 and 9/2 for L=4.
				$(d\sigma/d\Omega)_{max}$≈0.023 mb/sr.
2490 *30*		(1+4)		L,E(level): from figure 8 in 1965Fu06.
				$(d\sigma/d\Omega)_{max}$≈0.048 mb/sr.
2920 *20*	(7/2$^-$)[@]	(3)	1.58	$(d\sigma/d\Omega)_{max}$=0.11 mb/sr.
3130 *20*				$(d\sigma/d\Omega)_{max}$≈0.049 mb/sr.
3310 *30*	7/2$^-$[@]	3	2.08	$(d\sigma/d\Omega)_{max}$=0.12 mb/sr.
3630 *30*		3	≈0.76	C^{2}S: for L+1/2.
				$(d\sigma/d\Omega)_{max}$≈0.034 mb/sr.

[†] Level energies with uncertainty of 10 keV assigned for groups with σ>0.5, 20 keV for σ=0.1-0.5 and 30 keV for σ<0.1 and doublets from 1965Fu06.

[‡] Spin and parity from $\sigma(\theta)$ DWBA analysis and angular distributions of vector analyzing power $A_y(\theta)$ (1976Hu06), unless otherwise stated.

[#] From comparison with DWBA calculations in 1965Fu06.

[@] From comparison of $A_y(\theta)$ distributions with empirical curves, based on L=3, L+1/2 states in ^{57}Ni and ^{59}Ni (1976Hu06).

[&] $A_y(\theta)$ analyzed for composites of (g.s.+65) keV and (1110+1186) keV (including 1132) in 1976Hu06.