^{62}Ni(t,α) 1971Hu01,1966Bl15

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Kazimierz Zuber, Balraj Singh	NDS 125, 1 (2015)	25-Jan-2015

1971Hu01: E=12 MeV. Measured σ(Eα), θ=20°, 27.5°, 35°, magnetic spectrograph. Distorted-wave analysis.
1966Bl15: E=15.0 MeV. Measured σ(Eα,θ), 12 angles (C.M.) between 12° and 47°, semi, enriched target. Distorted-wave analysis. FWHM=40-55 keV. 18 groups reported up to 4 MeV with uncertainties ranging from 15 to 35 keV.

^{61}Co Levels

Listed cross sections are at 20°, except at 27.5° for 1635 and 1682 groups from 1971Hu01.

E(level)[†]	Jπ[‡]	L[#]	S[@]	Comments
0	7/2⁻	[3]	4.77	dσ/dΩ=3.30 μb/sr. S: 4.91 (1966Bl15).
1031 *15*	3/2⁻	[1]	0.33	dσ/dΩ=234 μb/sr. S: 0.41 (1966Bl15).
1210 *25*				dσ/dΩ=(25) μb/sr.
1272 *25*				dσ/dΩ=(34) μb/sr.
1287 *25*				dσ/dΩ=(33) μb/sr.
1338 *25*				dσ/dΩ=(25) μb/sr.
1635 *25*	7/2⁻	[3]	0.48	S: 0.83 (1966Bl15) for 1627+1674, assuming Jπ=7/2⁻. dσ/dΩ=171 μb/sr.
1682 *25*	(5/2⁻)	[3]	0.28	See comment for 1635 group. dσ/dΩ=99 μb/sr.
1903 *25*				dσ/dΩ=95 μb/sr.
1971 *25*	3/2⁻	[1]	0.09	dσ/dΩ=44 μb/sr. S: from 1966Bl15, not given in 1971Hu01.
2258 *25*	1/2⁺	[0]	1.22	dσ/dΩ=1.34 mb/sr. S: 1.41 (1966Bl15).
2368 *25*	7/2⁻	[3]	(0.24)	dσ/dΩ=129 μb/sr.
2459 *25*				dσ/dΩ=75 μb/sr.
2583 *25*	3/2⁺	[2]	1.03	dσ/dΩ=580 μb/sr. S: 1.24 (1966Bl15).
2895 *25*	7/2⁻	[3]	0.19	dσ/dΩ=94 μb/sr. S: 0.15 (1966Bl15).
3028 *25*	7/2⁻	[3]	0.26	dσ/dΩ=126 μb/sr. S: 0.15 (1966Bl15).
3163 *25*				dσ/dΩ=47 μb/sr.
3208 *25*	(3/2⁺)	[2]	0.37	dσ/dΩ=209 μb/sr. S: 0.37 (1966Bl15).
3396 *25*				dσ/dΩ=60 μb/sr.
3467 *25*	(7/2⁻)	[3]	0.40	dσ/dΩ=170 μb/sr. S: 0.33 (1966Bl15).
3585 *25*	(3/2⁺)	[2]	0.26	dσ/dΩ=143 μb/sr. S: 0.04 (1966Bl15).
3664 *25*				dσ/dΩ=44 μb/sr.
3782 *30*	(7/2⁻)	[3]	0.30	dσ/dΩ=115 μb/sr. S: 0.18 (1966Bl15).
3869 *30*	3/2⁺	[2]	0.24	dσ/dΩ=128 μb/sr. S: 0.31 (1966Bl15).
3970 *30*	(7/2⁻)	[3]	0.31	dσ/dΩ=113 μb/sr. S: 0.17 (1966Bl15).

[†] From 1971Hu01. Values from 1966Bl15 for 18 groups are in agreement with those from 1971Hu01.

Continued on next page (footnotes at end of table)

^{62}Ni(t,α) 1971Hu01,1966Bl15 (continued)

^{61}Co Levels (continued)

‡ Assumed for determination of S factors. Source of J^{π} values is not clearly stated in 1971Hu01, but these seem to be from table IV in 1966Bl15, except for 1682 and 2368 which seem to be from (t,p) data in 1971Hu01.

As implied by listed J^{π} values. 1971Hu01 and 1966Bl15 state measuring angular distributions, but no L-values are listed in these papers.

@ From 1971Hu01. Distorted wave normalization factor used is 23.4. Values from 1966Bl15 are in good agreement.