^{59}Co(t,p) 1985Fo02,1971Hu01

History

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

1985Fo02: E=15 MeV, measured σ(E(p),θ), θ=11.25°−86.25° (lab) in steps of 7.5° by using a multiangle spectrograph with focal plane of nuclear emulsion plates; FWHM=30 keV. DWBA analysis.

1971Hu01: E=11.82 MeV. Measured σ(E(p),θ), 9 angles (C.M.) between≈5° and≈72°, magnetic spectrograph. FWHM=20 keV. Absolute uncertainty in energy is quoted by the authors as 15-25 keV due to problems in calibration curve, relative uncertainties are better.

J^{π}(^{61}Co g.s.)=7/2$^-$.

All data are from 1985Fo02, except as noted.

^{61}Co Levels

E(level)	L[†]	dσ/dΩ(max) (μb/sr)	Comments
0	0	947	L=0, σ_{max}=4820 μb/sr (1971Hu01).
1036 *7*	2	46	L=2,for 1026 group, σ_{max}=56 μb/sr (1971Hu01).
1205 *4*	2+(4)	11	L=2,for 1213 *15* group, σ_{max}=13 μb/sr (1971Hu01).
1297 *7*	2	38	L=2,for 1286 *15* group, σ_{max}=44 μb/sr (1971Hu01).
1631 *7*	0+2	25	L=0,for 1620 *15* group, σ_{max}=54 μb/sr (1971Hu01).
1674 *7*	2	142	L=2,for 1660 *15* group, σ_{max}=192 μb/sr (1971Hu01).
1891 *4*	2	8.8	
1954 *4*	4	4.4	
2012 *4*	2+4	4.1	
2236 *4*	2	24	L=2,for 2239 *20* group, σ_{max}=28 μb/sr (1971Hu01).
2307 *4*	2+4	15	L=2+4,for 2313 *20* group, σ_{max}=15 μb/sr (1971Hu01).
2350 *4*	0+4	52	L=0+2,for 2348 *20* group, σ_{max}=74 μb/sr (1971Hu01).
2385 *4*	4	14	L=4,for 2386 *20* group, σ_{max}=9 μb/sr (1971Hu01).
2433 *4*	2+4	14	L=2+4,for 2436 *25* group, σ_{max}=13 μb/sr (1971Hu01).
2479 *6*	4	4.8	
2574 *4*	1,1+2	70	L=2,for 2568 *25* group, σ_{max}=40 μb/sr (1971Hu01).
2649 *4*	2	98	L=2,for 2639 *25* group, σ_{max}=122 μb/sr (1971Hu01).
2713 *5*	2	16	L=2,for 2728 *25* group, σ_{max}=18 μb/sr (1971Hu01).
2760 *7*		15	L=2 or (1+3) or (2+4),better fitted with L=1+3 (1985Fo02). L=2,for 2765 *25* group, σ_{max}=14 μb/sr (1971Hu01).
2871 *4*	2+4	8.3	L=2,for 2882 *25* group, σ_{max}=11 μb/sr (1971Hu01).
2953 *4*	2(+6)	9.3	L=2,for 2975 *25* group, σ_{max}=13 μb/sr (1971Hu01).
3004 *4*	2+4	24	L=2,for 3017 *25* group, σ_{max}=29 μb/sr (1971Hu01). L: 2 for a 3017 *25* group (1971Hu01).
3077 *4*	2	8.0	
3130 *4*	2+4	37	L=(2+4),for 3151 *25* group, σ_{max}=29 μb/sr (1971Hu01).
3197 *14*	0+4	23	L=(0+2),for 3220 *25* group, σ_{max}=33 μb/sr (1971Hu01).
3252 *9*	0(+4)	16	
3362 *5*	2+4,3	31	L=(2+4,3),for 3394 *25* group, σ_{max}=31 μb/sr (1971Hu01).
3417 *4*	0+3+5	60	L=0+2,for 3450 *25* group (doublet), σ_{max}=130 μb/sr (1971Hu01).
3480 *4*	2+4	56	
3535 *5*		38	L=0+2,for 3515 *25* group, σ_{max}=110 μb/sr (1971Hu01). L=2+3 or 2+4, or 1+3+6 (1985Fo02).
3609 *4*	2+4,3+5	33	L=2+4,for 3578 *25* group, σ_{max}=35 μb/sr (1971Hu01).
3660 *4*	5	9.0	L=2+4,for 3653 *25* group, σ_{max}=33 μb/sr (1971Hu01).
3696 *4*	3+5	50	L: 4 for a 3713 *25* group (1971Hu01).
3732 *5*	2+6	16	L=2+4,for 3746 *25* group, σ_{max}=52 μb/sr (1971Hu01).
3776 *4*	1(+3)	19	
3816 *5*	(3),2+4	24	L=(2+4),for 3870 *25* group, σ_{max}=25 μb/sr (1971Hu01).
3915 *6*	3+5	36	L=2+4,for 3965 *25* group, σ_{max}=32 μb/sr (1971Hu01).
3987 *7*	2+4,0+4+6	18	
4071 *6*	3+(6)	49	

Continued on next page (footnotes at end of table)

^{59}Co(t,p) 1985Fo02,1971Hu01 (continued)

^{61}Co Levels (continued)

E(level)	L†	dσ/dΩ(max) (μb/sr)	E(level)	L†	dσ/dΩ(max) (μb/sr)
4152 *7*	(0)	22	4838 *6*	2+6	18
4211 *6*	5	18	4911 *5*	2+(4+6)	27
4282 *4*	2+6	17	4960 *5*	1	68
4349 *6*	0+(6)	31	5081 *12*	2+4	22
4389 *3*	0+(4+6)	40	5164 *5*	3	28
4499 *15*	0+4	38	5214 *5*	2+(5)	45
4534 *6*	2+6	22	5271 *4*	3+5	59
4622 *5*	2+(4,6)	22	5321 *6*	1+3,0+4	32
4671 *7*	2+6	45	5388 *6*	2	28
4766 *5*	2+4	17			

† From DWBA analysis of $\sigma(\theta)$.