^{36}S(d,p),(pol d,p) 1989Ec01,1984Pi03,1984Th08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	John Cameron, Jun Chen and Balraj Singh, Ninel Nica	NDS 113, 365 (2012)	15-Jan-2012

1989Ec01: (pol d,p) E=20 MeV; FWHM=15-20 keV. Measured $\sigma(\theta)$, analyzing powers, Q3D magnetic spectrograph, DWBA analysis.
Additional information 1.
1984Pi03: (d,p) E=12.3 MeV; FWHM≈8 keV, measured $\sigma(\theta)$, multi-angle magnetic spectrograph, DWBA analysis.
1984Th08: (d,p) E=15 MeV; FWHM=15 keV. Measured $\sigma(\theta)$, Q3D spectrograph. DWBA analysis with N=15.5.
1979So01: (d,p) E=3.55 MeV; FWHM=10-15 keV. Authors report 11 groups up to 3.5 MeV.
1978Te05: (d,p) E=3.2 MeV, measured $\sigma(\theta)$.
Listed differential cross sections are from 1989Ec01 at 20°. See also 1984Th08 for cross sections at angles where maximum values are obtained.

^{37}S Levels

E(level)[†]	J^{π}[‡]	L[@]	(2J+1)S[#@]	Comments
0	$7/2^-$	3	5.54	Additional information 2. dσ/dΩ=10.35 mb/sr. (2J+1)S=6.2 (1984Th08), S=0.92 for 7/2 (1984Pi03). Evaluated S=0.88 *12* (2005Ts03).
645.84 *17*	$3/2^-$	1	1.75	Additional information 3. (2J+1)S=2.6 (1984Th08), S=0.7 for 3/2 (1984Pi03). dσ/dΩ=7.13 mb/sr.
1397.8 *3*	$(3/2)^+$	2	0.13	Additional information 4. (2J+1)S=0.22 (1984Th08), S=0.053 for 3/2 (1984Pi03). dσ/dΩ=0.292 mb/sr.
1991.1 *2*	$3/2^-$	1	0.13	Additional information 5. (2J+1)S=0.15 (1984Th08), S=0.075 for 3/2 (1984Pi03). dσ/dΩ=0.425 mb/sr.
2021.0 *5*	$(7/2)^-$	3	0.05	Additional information 6. (2J+1)S=0.08 (1984Th08). dσ/dΩ=0.155 mb/sr.
2514.8 *3*	$(5/2)^-$	3	0.14	Additional information 7. (2J+1)S=0.14 (1984Th08), S=0.068 for 5/2 (1984Pi03). dσ/dΩ=0.303 mb/sr.
2637.8 *2*	$1/2^-$	1	0.97	Additional information 8. (2J+1)S=1.54 (1984Th08), S=0.83 for 1/2 (1984Pi03). dσ/dΩ=3.41 mb/sr.
2776.3? *7*				E(level): tentative level reported only in 1984Pi03.
3120[&] *2*	$(9/2)^+$	4[&]	0.12	dσ/dΩ=0.194 mb/sr.
3262.5 *2*	$3/2^-$	1	0.34	Additional information 9. (2J+1)S=0.60 (1984Th08), S=0.14 for 3/2 (1984Pi03). dσ/dΩ=1.09 mb/sr.
3355.4 *4*	$(3/2)^+$	2	0.12	L: >0 (1984Th08), 1 (1984Pi03). S=0.029 for 3/2, 0.061 for 1/2 for L=1 (1984Pi03). dσ/dΩ=0.280 mb/sr.
3441.6 *13*	$(7/2)^-$	3	0.16	Additional information 10. S=0.061 for 7/2 (1984Pi03). dσ/dΩ=0.432 mb/sr.
3493.5 *13*	$3/2^-$	1	0.18	Additional information 11. (2J+1)S=0.28 (1984Th08), S=0.084 for 3/2 (1984Pi03). dσ/dΩ=0.416 mb/sr.
3555[&] *2*	(3/2)	(1,2)[&]	(0.09,0.08)	dσ/dΩ=0.232 mb/sr.
3605[&] *2*	$(1/2^-,3/2^+)$	(1,2)[&]	(0.08,0.07)	dσ/dΩ=0.166 mb/sr.
3666[&] *2*	$(3/2^+)$	(2)[&]	(0.08)	dσ/dΩ=0.175 mb/sr.

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^{36}S(d,p),(pol d,p) 1989Ec01,1984Pi03,1984Th08 (continued)

^{37}S Levels (continued)

E(level)[†]	Jπ[‡]	L[@]	(2J+1)S[#@]	Comments
3918[&] *2*	(1/2⁻)	(1)[&]	(0.03)	dσ/dΩ=58 μb/sr.
3967[&] *2*	(3/2⁻)	(1)[&]	(0.02)	dσ/dΩ=31 μb/sr.
4004.8 *13*	1/2⁻	1	0.13	Additional information 12. dσ/dΩ=0.224 mb/sr.
4072[&] *2*	(3/2⁻)	(1)[&]	(0.03)	dσ/dΩ=58 μb/sr.
4147 *2*				E(level): level reported at 4147.0 *18* (1984Pi03) and 4151 4 (1984Th08).
4368[&] *2*	(5/2⁻)	(3)[&]	(0.03)	dσ/dΩ=72 μb/sr.
4410 *2*	(5/2⁻,9/2⁺)	(3,4)	(0.16,0.26)	L: (4) (1984Th08). (2J+1)S=0.31 for L=4 (1984Th08). dσ/dΩ=0.537 mb/sr.
4471[&] *2*	(3/2⁻)	(1)[&]	(0.19)	dσ/dΩ=0.180 mb/sr.
4492[&] *2*	(3/2⁻)	(1)[&]	(0.22)	dσ/dΩ=0.158 mb/sr.
4548[&] *2*	(3/2⁻)	(1)[&]	(0.27)	dσ/dΩ=0.177 mb/sr.
4675[&] *2*	(7/2⁻,9/2⁺)	(3,4)[&]	(0.03,0.05)	dσ/dΩ=0.114 mb/sr.
4754[&] *2*	(7/2⁻,9/2⁺)	(3,4)[&]	(0.04,0.07)	dσ/dΩ=0.149 mb/sr.
4856 *2*	5/2⁻	3	0.13	L: 1,2 (1984Th08). dσ/dΩ=0.480 mb/sr.
4881.7[a] *17*		(3)[a]	(0.22)[a]	L: (1) (1984Th08). (2J+1)S=0.37 for L=1 (1984Th08). dσ/dΩ=0.705 mb/sr for 4882+4894.
4894[a] *3*	(5/2⁻)	(3)[a]	[a]	L: >0 (1984Th08).
5054 *2*	(9/2)⁺	4	0.07	Additional information 13. dσ/dΩ=0.156 mb/sr.
5089 *2*	(9/2)⁺	4	0.11	Additional information 14. dσ/dΩ=0.308 mb/sr.
5122[&] *2*	(9/2)⁺	4[&]	0.07	dσ/dΩ=0.147 mb/sr.
5502.5 *14*	5/2⁻	3	0.94	Additional information 15. (2J+1)S=1.2 (1984Th08). dσ/dΩ=2.80 mb/sr.
5664.4 *14*	5/2⁻	3	0.86	Additional information 16. dσ/dΩ=2.64 mb/sr.
5718.2 *14*	5/2⁻	3	0.41	Additional information 17. dσ/dΩ=1.25 mb/sr.

[†] Weighted average from 1989Ec01, 1984Pi03 and 1984Th08, unless otherwise noted. The proton groups At (1536) (1979So01), 3170 (1984Pi03), (3181) (1984Pi03), 4148 (1984Pi03,1984Th08), 4226 (1984Th08), 4813 (1984Th08), 5944 (1984Pi03), 6149 (1984Pi03, 1984Th08), and 6407 (1984Pi03,1984Th08) were assigned by 1989Ec01 to ^{35}S rather than to ^{37}S.

[‡] From analysis of $\sigma(\theta)$ and analyzing powers in 1989Ec01.

[#] Values from 1989Ec01 listed in 1990En08 have been renormalized to represent values analogous to those in 1984Th08.

[@] From 1989Ec01.

[&] Level from 1989Ec01 only.

[a] 4882 and 4894 are unresolved, L=(3) and (2J+1)S=0.22 are for the doublet analyzed as one group in 1989Ec01.