^{33}S(^{3}He,d) 1971Er03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, Balraj Singh	NDS 113, 1563 (2012)	28-May-2012

^{33}S target J^{π}: $3/2^{+}$.

1971Er03: ^{33}S(^{3}He,d) E=14 MeV, 83%-enriched S target (CdS on C backing). Used Enge split-pole magnetic spectrograph to record deuterons At 10° *6*5*65° In steps of 5° with energy resolution of 15 keV. Used DWBA analysis (code AUTOFIT). Extracted spectroscopic factors.

^{34}Cl Levels

E(level)[†]	L[†]	$[(2J_f+1)/(2J_i+1)]C^2S$[‡]	E(level)[†]	L[†]	$[(2J_f+1)/(2J_i+1)]C^2S$[‡]
0	2	0.25	3382.7 *20*	2	0.31
145.5	2	1.42	3544.9 *25*	1	0.18
461.0 *12*	0+2	0.04+0.08	3631.4 *25*	3	1.10
665.1 *14*	0+2	0.07+0.50	3773.0 *24*	1	0.05
1229.4 *16*	0	0.12	3983.4 *25*	3	0.44
1885 *3*	0	0.02	4076 *3*	3	0.52
1923.3 *17*	2	0.04	4146 *3*	(1+3)[#]	0.08+0.24
2157.5 *15*	2	0.66	4353 *3*	1	0.14
2579.1 *16*	0	0.03	4418 *3*	1	0.11
2608.5 *13*	2	0.08	4461 *3*	1	0.09
2720.7 *25*	1+3	0.04+0.39	4516.3 *22*	1	0.13
3128.0 *22*	2	0.11	4607.9 *21*	1	0.11
3333.0 *24*	2	0.09	4638.7 *21*	1	0.06

† From 1971Er03.

‡ From 1971Er03. Same data are reported by 1978En02 as $(2J_f+1)S_p^+$, which multiplied by $C^2 \times 1/(2J_i+1)=1/2 \times 1/4=1/8$ give those listed here.

While 1971Er03 report L=(1+3) they comment that 4146 might be the analog of (2^+), 4119-keV state In ^{34}S from ^{33}S(d,p) reaction, fitted with a mixed L=0+2 distribution, with which the fit In this (^{3}He,d) reaction might also be consistent. Based on 1990En08 this level is a doublet consistent with 4148 level (π=+) and 4140 level (π=−), which might explain why both parity values seem to be valid for this level.