^{34}S(pol d,t) 1988Kh04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 199,1 (2025)	30-Sep-2024

1988Kh04: E=52 MeV polarized deuteron beam was produced from the Karlsruhe isochronous cyclotron. Target was H_2S gas (89.8% enriched in ^{34}S). Reaction products were detected with 4 ΔE-E telescopes of surface-barrier counters (FWHM=130 keV). Measured triton spectra, $\sigma(\theta)$, analyzing powers ($iT_{11}(\theta)$) from 10° to 30° (c.m.). Deduced levels, isospins, J, π, L-transfers, spectroscopic factors from DWBA analysis of angular distribution and vector analyzing power data. Comparisons with available data.

^{33}S Levels

Spectroscopic factor $C^2S=\sigma(\theta)_{exp}/\sigma(\theta)_{DWBA}/(N\times g)$, where N is the normalization factor and $g=(2J_f+1)/(2J_i+1)$ (1966Ba54).

E(level)†	J^π	L†	C^2S†	Comments
0 *4*	$3/2^+$‡	2	2.35‡	T=1/2
840 *4*	$1/2^+$	0	0.97	T=1/2
1943 *13*	$5/2^+$#	2	0.07#	T=1/2
2309 *10*	$3/2^+$‡	2	0.20‡	T=1/2
2866 *4*	$5/2^+$#	2	1.89#	T=1/2
3833 *2*	$5/2^+$#	2	0.87#	T=1/2
4868 *20*	$(5/2^+)$#	(2)	0.11#	T=1/2
5475 *9*	$1/2^+$	0	0.54	T=3/2
5804 *24*	$(5/2^+)$#	(2)	0.18#	T=1/2
6330 *12*	$5/2^+$#	2	0.27#	T=1/2
6852 *34*	$3/2^+$‡	2	0.62‡	T=3/2
7310 *30*	$5/2^+$#	2	0.70#	T=3/2
8234 *24*	$5/2^+$#	2	0.41#	T=1/2
8794 *22*	$5/2^+$#	2	0.36#	T=3/2
9426 *25*	$5/2^+$#	2	0.81#	T=3/2
10356 *30*	$5/2^+$#	2	1.35#	T=3/2
12350? *70*		[2]	≤0.2	C^2S: $1d_{5/2}$ neutron transfer assumed in DWBA calculations.

† From 1988Kh04, with L and C^2S from DWBA analysis of measured $\sigma(\theta)$ (1988Kh04).
‡ L-1/2 from analyzing power measurement.
# L+1/2 from analyzing power measurement.