

$^{34}\text{S}(\text{pol d,p})$ 1977Ab07

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, John Cameron and Balraj Singh		NDS 112,2715 (2011)	20-Oct-2011

1977Ab07: E=11.8 deuterons produced from the University of Wisconsin Lamb-shift polarized ion source and tandem accelerator.

Target: a 90% enriched ^{34}S , 610 $\mu\text{g}/\text{cm}^2$ thick, evaporated onto a 100 $\mu\text{g}/\text{cm}^2$ gold foil and covered by a 50 $\mu\text{g}/\text{cm}^2$ gold layer.

Detectors: four ΔE -E counter telescopes of freon-cooled surface-barrier and Si(Li) detectors, FWHM=60 keV. Measured $\sigma(E_p, \theta)$, $iT_{11}(E_p, \theta)$. Deduced levels, J^π , L, spectroscopic factors.

 ^{35}S Levels

Spectroscopic factor C^2S : $N \cdot C^2S = \sigma(\theta)^{\text{exp}} / \sigma(\theta)^{\text{DWBA}}$, where N is the normalization factor, N=1.53 in 1977Ab07.

E(level) [†]	J^π [‡]	L	C^2S ^{&}	Comments
0	3/2 ⁺ [#]	2	0.56,0.48 [#]	
1572	1/2 ⁺ [@]	0	0.27,0.18 [@]	
1992	7/2 ⁻ [@]	3	1.16,0.73 [@]	
2348	3/2 ⁻ [@]	1	0.56,0.46 [@]	
2718	5/2 ⁺ [@]	2	0.03,0.02 [@]	
2939	3/2 ⁺ , 5/2 ⁺	2	0.10,0.06	C^2S : extracted from an incoherent superposition of direct and compound cross sections in 1977Ab07.
3421	5/2 ⁺ [@]	2	0.04,0.03 [@]	
3563				
3802	3/2 ⁻ [@]	1	0.10,0.08 [@]	
3818				
4190	1/2 ⁻ [#]	1	0.15,0.13 [#]	
4482	7/2 ⁻ [@]	3	0.06,0.05 [@]	
4575				
4837				
4904	1/2 ⁻ [#]	1	0.48,0.41 [#]	
4963	3/2 ⁻ [@]	1	0.19,0.17 [@]	
5058	7/2 ⁻ [@]	3	0.03,0.03 [@]	
5126				

[†] From 1977Ab07.

[‡] L+1/2 or L-1/2 choice from vector analyzing powers.

[#] L-1/2 from analyzing power measurement.

[@] L+1/2 from analyzing power measurement.

[&] For two sets of potentials in 1977Ab07, unless otherwise noted.