

$^{35}\text{Cl}(\text{d},\alpha)$  1955Pa54,1969Bo30

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

**1955Pa54:** E=3.0-7.5 MeV deuteron beams were produced from the MIT-ONR electrostatic generator. Target was Barium chloride on a formvar film backed by a thin gold layer, with thickness of about 80-300  $\mu\text{g}/\text{cm}^2$ . Reaction products were momentum-analyzed with a broad-range magnetic spectrograph and detected in nuclear emulsions. Measured  $\alpha$  spectrum. Deduced levels. Report 16 levels.

**1969Bo30:** E=4.0-5.5 MeV deuteron beams were produced from the 5.5 MV Van de Graaff accelerator at the Southern Universities Nuclear Institute. Target was natural  $\text{BaCl}_2$  with a thickness between 20 and 100  $\mu\text{g}/\text{cm}^2$ . Reaction products were detected with four silicon surface-barrier detectors. Measured  $\sigma(\text{E}_d,\theta)$ . Deduced levels, J. Report 8 levels.

Other: 1941Sh09.

 $^{33}\text{S}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	Comments
0	3/2	
844 6	1/2	E(level): other: 842 (1969Bo30).
1966 7	5/2	E(level): other: 1952 (1969Bo30).
2312 8	5/2	E(level): other: 2316 (1969Bo30).
2869 8	(3/2),5/2	E(level): other: 2869 (1969Bo30).
2938 8		
2969 8	(3/2)	E(level): other: 2970 (1969Bo30). $J^\pi$ : from a fit to $\sigma(\theta)$ after subtraction of a $7/2^-$ component (1969Bo30).
3227 8	3/2	E(level): other: 3235 (1969Bo30).
3365 8		
3840 9	(3/2),5/2	E(level): other: 3830 (1969Bo30).
3947 9		E(level): other: 3943 (1969Bo30), but not assigned to $^{33}\text{S}$ by the author.
4060 9		
4105 9		
4159 9		
4224 9		
4749 10		

<sup>†</sup> From 1955Pa54. Values quoted from 1969Bo30, except 2869, 2970 and 3830 as reported in the paper, are not listed in the paper and are read off from the  $\alpha$  spectrum in Fig.1 of 1969Bo30 by the evaluators.

<sup>‡</sup> From the comparison of measured  $\sigma(\theta)$  with Hauser-Feshbach cross-section in 1969Bo30.