^{33}S(d,α) 1974Te02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 184, 29 (2022)	24-Jun-2022

J^π(^{33}S target)=3/2$^+$.

1974Te02: E=7 MeV deuterons from a cyclotron, presumably at Leningrad State University. Measured α-particle spectra and $\sigma(\theta)$ using a scattering chamber and a semiconductor detector. FWHM=40-60 keV. Germanium sulfide targets (90.65% enriched in ^{33}S). Hauser-Feshbach analysis of measured $\sigma(\theta)$ data.

^{31}P Levels

E(level)[†]	J$^\pi$[‡]	Comments
0	1/2$^+$	
1266	3/2$^+$	
2234	9/2$^+$	J$^\pi$: 5/2$^+$ in Adopted Levels.
3134	3/2$^+$	J$^\pi$: 1/2$^+$ in Adopted Levels.
3295	5/2$^+$	
3414	7/2$^+$	
3506	3/2$^+$	
4191	5/2	
4260	5/2	J$^\pi$: 3/2$^+$ in Adopted Levels.
4431	7/2$^-$	
4592	3/2$^+$	
4634	7/2$^+$	
4783	5/2$^+$	
5014	1/2	J$^\pi$: (3/2$^+$) in Adopted Levels.
5015	3/2$^-$	
5116	5/2	
5253	1/2	
5344	(7/2,9/2$^+$)	J$^\pi$: 9/2$^+$ in Adopted Levels.
5529	5/2	J$^\pi$: (5/2)$^+$ in Adopted Levels.
5557	3/2$^+$	
5672	5/2	
5773	7/2	
5892	9/2	
5988	3/2$^-$	J$^\pi$: (3/2)$^+$ in Adopted Levels.
6048		
6079	(7/2$^-$,9/2$^+$)	J$^\pi$: 9/2$^+$ in Adopted Levels.
6158	1/2,3/2,5/2	
6232	1/2,3/2,5/2	J$^\pi$: (7/2)$^+$ in Adopted Levels.
6332		
6381	3/2$^+$	
6399	7/2	
6462	(3/2,5/2)$^+$	J$^\pi$: 5/2$^+$ in Adopted Levels.
6495	(1/2,3/2)$^-$	J$^\pi$: 3/2$^-$ in Adopted Levels.
6594	5/2$^-$	
6610	3/2,(11/2$^-$)	J$^\pi$: 3/2$^-$ in Adopted Levels.
6668		
6843	5/2$^-$	
6908	3/2$^-$	
6932	5/2$^+$	
7077		
7139	1/2$^+$	
7210	(1/2,3/2)$^-$	
7314		
7356		

Continued on next page (footnotes at end of table)

^{33}S(d,α) 1974Te02 (continued)

^{31}P Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
7465	(7/2$^-$,9/2,11/2)	J$^{\pi}$: (7/2,9/2)$^-$ in Adopted Levels.
7572		

[†] From 1974Te02.

[‡] As proposed by 1974Te02 based on comparisons of measured $\sigma(\theta)$ distributions with predictions from Hauser-Feshbach calculations. 1974Te02 state that such comparisons show small effect for parity dependence. Assignments from Adopted Levels are given under comments if different spin or parity where given.