

$^{32}\text{S}(t,p)$  **1978Cr01**

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

**1978Cr01:**  $^{32}\text{S}(t,p)$  E=10 MeV, antimony trisulfide target. Used multiangle magnetic spectrograph and nuclear emulsion plates.

Measured angular distributions and did dw calculations (code DWUCK).

Others: **1973Cr04**, **1975Cr07**, **1979Fo17**.

**1978Cr01:** Relative Normalizations For Several Possible Configurations

E(MeV)	L	Configuration	$\sigma_{\text{rel}}/\sigma_{\text{DW}}$	
			(I, I)	(I, I')
0.00	0	$(d_{3/2})^2$	100	100
		$(s_{1/2})^2$	13.8	13.0
2.13	2	$(d_{3/2})^2$	11.8	11.5
		$d_{3/2}, s_{1/2}$	1.62	1.52
3.31	2	$(d_{3/2})^2$	9.12	8.79
		$d_{3/2}, s_{1/2}$	1.18	1.12
3.91	0	$(d_{3/2})^2$	3.62	3.33
		$(s_{1/2})^2$	0.48	0.42
		$(f_{7/2})^2$	1.75	2.18
4.12	2	$(d_{3/2})^2$	4.50	4.24
		$d_{3/2}, s_{1/2}$	0.59	0.53
		$(f_{7/2})^2$	2.25	2.61
4.62	3	$d_{3/2}, f_{7/2}$	33.8	33.3
		$d_{3/2}, p_{3/2}$	2.62	2.67
4.69	4	$(f_{7/2})^2$	2.00	1.88
		$d_{3/2}, f_{7/2}$	0.48	0.48
4.89	2	$(d_{3/2})^2$	3.50	3.30
		$(f_{7/2})^2$	1.88	1.88
5.22	0	$(d_{3/2})^2$	5.38	4.85
		$(f_{7/2})^2$	3.38	3.64
		$(p_{3/2})^2$	0.29	0.28
5.68	1	$d_{3/2}, p_{3/2}$	3.25	3.18
		$d_{3/2}, f_{7/2}$	2.12	2.18
5.76	1	$d_{3/2}, p_{3/2}$	9.38	8.18
5.86	0	$(f_{7/2})^2$	15.0	
6.01	2	$(f_{7/2})^2$	33.75	33.33
		$(p_{3/2})^2$	3.75	3.03
6.13	2	$(f_{7/2})^2$	7.75	7.88
6.18	3	$d_{3/2}, p_{3/2}$	0.22	0.21
		$d_{3/2}, f_{7/2}$	3.12	2.73
6.35	1	$d_{3/2}, p_{3/2}$	6.38	5.76
6.83	2	$(f_{7/2})^2$	4.25	4.55
		$(p_{3/2})^2$	0.36	
7.11	3	$d_{3/2}, f_{7/2}$	11.25	10.00
		$d_{3/2}, p_{3/2}$	0.78	0.67
		$(f_{7/2})^2$	6.50	6.67
7.24	2	$(p_{3/2})^2$	0.62	0.55
		$d_{3/2}, f_{7/2}$	22.50	20.61
7.62	3	$d_{3/2}, p_{3/2}$	1.62	1.52
		$d_{3/2}, f_{7/2}$	23.75	23.03
7.74	3	$d_{3/2}, p_{3/2}$	1.88	1.61
		$(f_{7/2})^2$	4.75	5.15
7.80	2	$(p_{3/2})^2$	0.48	0.39
		$((f_{7/2})^2)$	20.62	

8.02	0	$(p_{3/2})^2$	0.56	
8.25	2	$(f_{7/2})^2$	5.12	5.15
	2	$(p_{3/2})^2$	0.49	0.36
	3	$d_{3/2}, p_{3/2}$	0.62	0.52
	3	$d_{3/2}, f_{7/2}$	8.75	4.24
8.29	4	$(f_{7/2})^2$	4.75	4.85
	5	$d_{3/2}, f_{7/2}$	1.12	1.30
8.38	1	$d_{3/2}, p_{3/2}$	8.38	
8.42	4	$(f_{7/2})^2$	11.25	
8.50	1	$d_{3/2}, p_{3/2}$	12.25	

 $^{34}\text{S}$  Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$L^\dagger$	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$L^\dagger$	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$L^\dagger$	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$L^\dagger$
0	$0^+$	0	5679 <sup>#</sup> 14	$5^-$	5,(1)	6690 15			7714 16		
2128 10	$2^+$	2	5759 14	$1^-$	1	6743 15			7739 16	$2^+$	2
3308 11	$(2^+)$	(2)	5859 14	$0^+$	0	6828 15	$2^+$	2	7801 16	$2^+$	2
3915 12	$0^+$	0	6008 14	$2^+$	2	6869 15			7971 16		
4085 12			6128 14	$2^+$	2	6898 15			8025 16	$0^+$	0
4121 12	$2^+$	2	6179 14	$(3^-)$	(3)	6956 15			8255 16	$2^+$	2
4623 13	$3^-$	3	6256 14			7112 15	$3^-$	3,(2)	8293 16		
4690 13	$(4^+)$	(4)	6349 14	$1^-$	1	7245 15	$(2^+)$	(2,3)	8383 16	$1^-$	1
4888 <sup>#</sup> 13	$(2^+)$	(2)	6423 14			7388 15	$3^-$	3	8418 16	$4^+$	4
5225 13	$0^+$	0	6488 14			7472 15			8496 16	$1^-$	1
5320 13			6535 15			7547 16					
5380 13			6639 15			7621 16	$3^-$	3			

<sup>†</sup> From 1978Cr01.

<sup>‡</sup> Based on measured L values (only natural parity states are populated).

<sup>#</sup> Doublet unresolved In 1978Cr01.