

$^{144}\text{Sm}(\text{p,p}')$ 1993Mu06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93, 599 (2001)	1-Dec-2000

1993Mu06: E=22 MeV; measured $d\sigma/d\Omega(\theta)$, $\theta=10^\circ-80^\circ$. Magnetic Spectrograph, FWHM=4-5 keV. L and β_L values obtained from DWBA analysis of angular distributions.

Others: 1974La06 (Ep=30 MeV), 1973Ma31 (Ep=9.3-11 MeV).

 ^{144}Sm Levels

E(level)	J^π	L	β_L	Comments
0	0^+			
1660	2^+	2	0.075	
1810	3^-	3	0.150	
2191	4^+	4	0.055	
2323	6^+	(6)	(0.025)	
2423	2^+	2	0.046	
2478	0^+	0	(0.008)	
2588	4^+	4	0.035	
2645	$1^{(+)}$	(0)	(0.007)	Angular distribution can be alternatively accounted for with L=(2) and $\beta_2=(0.007)$.
2661	(2^+)	2	0.010	
2688	$3^{(+)}$	4	0.012	
2707	(5^+)	(2)	(0.008)	Angular distribution can be alternatively accounted for with L=(4) and $\beta_4=(0.008)$.
2799	2^+	2	0.030	
2823	0^+			
2826	(5^-)	5	0.068	
2883	(4^+)	4	0.043	
3019	4^+	4	0.041	
3080	$(5,6,7)$			
3119	$(3,4^-)$			
3124	7^-	7	0.024	
3134	0^+			
3196	$(3,4^+,5)$	(5)	(0.013)	
3225	1^-	(1)	(0.008)	
3266	$(4^+,6^+)$	(4)	(0.011)	Angular distribution can be alternatively accounted for with L=(6) and $\beta_6=0.015$.
3308	6^+	6	(0.025)	
3308	$(2,3^-)$			
3344	$(3,4,5,6)$			
3361	3^-	(3)	(0.016)	
3377	8^-	7	0.012	
3391	(2^-)			
3405	$2^+,3^-$	(2)	(0.008)	Angular distribution can be alternatively accounted for with L=(3) and $\beta_3=(0.011)$, or L=(5) and $\beta_5=(0.013)$.
3413	2^+	(2)	(0.011)	
3446		9	0.023	The L value is 9 but no J^π value is assigned. Possible typing error.
3461	9^-	(7)	(0.018)	The L value is 7 but J^π is taken as 9^- . Possible typing error.
3470				
3494	(4^+)	4	0.008	
3524	(2^+)	(2)	(0.011)	
3530	3^-	3	0.031	
3560	2^+			
3564	(3^-)	3	0.035	
3597	(4^-)	(2)	(0.008)	Angular distribution can be alternatively accounted for with L=(3) and $\beta_3=(0.011)$, or L=(5) and $\beta_5=(0.011)$.
3627	$(2,3,4,5)$	4	0.008	
3647	(4^+)	(2)	(0.012)	Angular distribution can be alternatively accounted for with L=(4) and $\beta_4=(0.014)$.
3669	(5^-)	5	0.025	

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$^{144}\text{Sm}(\text{p},\text{p}') \quad 1993\text{Mu06 (continued)}$ ^{144}Sm Levels (continued)

E(level)	$J^\pi^\dagger$	L	$\beta_L^\ddagger$	Comments
3688	(3 ⁺ ,4 ⁺)	4	0.012	
3714	(1 ⁺ ,2 ⁺ ,3)			
3722	(2 ⁺ ,3 ⁺ ,4 ⁺)	3	0.032	
3732	(2 ⁺ ,3 ⁺ ,4 ⁺)	2	0.041	
3740	(1,2,3,4)			
3778	(3 ⁻)			
3786	(2,3,4)			
3818	1 ⁽⁻⁾			
3824	(0 ⁺ ,1,2,3)	(3)	(0.020)	
3846	(4 ⁻)	3	0.017	
3855	(2 ⁻ ,3 ⁻ ,4 ⁻)	3	0.023	
3868	5 ⁻	5	0.013	
3878	(1 ⁺ ,2 ⁺ ,3)			
3885	(1,2 ⁺)			
3887	5 ⁽⁺⁾			
3891	1 ⁻	1	0.009	
3907	1 ⁽⁺⁾	(1)	(0.008)	Angular distribution can be alternatively accounted for with L=(2) and $\beta_2=(0.008)$.
3914	(3,4)			
3940	(5 ⁻)	(5)	(0.013)	
3949	(3,4,5)	(4)	(0.035)	
3966	1 ⁽⁺⁾			
3983	3 ⁻	3	0.015	
3988	(2 ⁺)	2	0.016	
4083		(3,6)		
4158		(3,6)		

[†] As given by authors, from literature and/or from [1993Ga16](#) in (n,n' γ).

[‡] A poor reproduction of $\sigma(\theta)$ is indicated by a β_L given in parentheses.