

$^{151}\text{Sm}(n,\gamma)$ E=thermal 1971Gr22

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$J^\pi(^{151}\text{Sm})=5/2^-$.

The values of 1993Ju01, given in comments, are from Doppler broadening of the capture gammas and depend on the assumed method of level population. The results given are for a statistical model description using a constant-temperature Fermi-gas model.

Others: 2002Za09, 1973GrYH, 1971VaYW.

 ^{152}Sm Levels

E(level) [†]	J^π [‡]	$T_{1/2}$	Comments
122 1	2 ⁺		
366 2	4 ⁺		
811 2	2 ⁺		
963	1 ⁻		$T_{1/2}$: From Doppler broadening of the 842 γ , 1993Ju01 report $T_{1/2}=49$ fs +13-10 and 19 fs +9-6 from two different analyses. the adopted value is 20.5 fs 16.
1043 2	3 ⁻		$T_{1/2}$: From Doppler broadening of the 919 γ , 1993Ju01 report $T_{1/2}=33$ fs +8-6 and 8 fs +5-4 from two different analyses. $T_{1/2}=27$ fs 5 is the adopted value from (n,n' γ).
1086 1	2 ⁺		
1233 2	3 ⁺	0.76 ps 14	$T_{1/2}$: From Doppler broadening (2002Za07).
1293 2	2 ⁺		
1372 1	4 ⁺		
1582 2	3 ⁻		
1615 2	4 ⁺		
1651 1	2 ⁻		
1758 2	4 ⁺		
1768 1	2 ⁺		
1901 2	(2 ⁺)		
1930 1			
1962 1			
2012 2	3 ⁻ ,4,5 ⁻		
2052 1	4 ⁺		
2095 1	3 ⁺ ,4		
2235 1	1,2		
(8257.7 6)	2 ⁻ ,3 ⁻		

[†] All levels reported here are fed by primary transitions, except for the 963 level, studied by 1993Ju01.

[‡] From Adopted Levels.

 $\gamma(^{152}\text{Sm})$

I γ normalization: I γ values are per 100 neutron captures in the Sm target. For γ 's assigned to ^{152}Sm , these I γ can be converted to photons per 100 neutron captures in ^{151}Sm by multiplying by 2.30.

E_γ	I γ [‡]	$E_i(\text{level})$	E_γ	I γ [‡]	$E_i(\text{level})$	J^π_i	E_f	J^π_f
^x 3575 [†] 1	1.2		^x 4017 [†] 1	1.1				
^x 3676 [†] 2	0.1		^x 4399 [†] 1	1.3				
^x 3714 [†] 1	0.99		^x 4495 [†] 1	0.12				
^x 3751 [†] 1	2.5		^x 4616 [†] 1	0.40				
^x 3939 [†] 1	0.75		^x 5243 [†] 1	0.24				
^x 3953 [†] 1	0.88		6023 1	0.29	(8257.7)	2 ⁻ ,3 ⁻	2235	1,2

Continued on next page (footnotes at end of table)

$^{151}\text{Sm}(\text{n},\gamma)$ E=thermal **1971Gr22 (continued)** $\gamma(^{152}\text{Sm})$ (continued)

E_γ	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
6163 1	0.24	(8257.7)	$2^-, 3^-$	2095	$3^+, 4$	
6206 1	0.15	(8257.7)	$2^-, 3^-$	2052	4^+	
6246 2	0.07	(8257.7)	$2^-, 3^-$	2012	$3^-, 4, 5^-$	
6296 1	0.27	(8257.7)	$2^-, 3^-$	1962		
6328 1	0.26	(8257.7)	$2^-, 3^-$	1930		
6357 2	0.09	(8257.7)	$2^-, 3^-$	1901	(2^+)	
6490 1	0.12	(8257.7)	$2^-, 3^-$	1768	2^+	
6500 2	0.07	(8257.7)	$2^-, 3^-$	1758	4^+	
6607 1	0.13	(8257.7)	$2^-, 3^-$	1651	2^-	
6643 2	0.06	(8257.7)	$2^-, 3^-$	1615	4^+	
6676 2	0.03	(8257.7)	$2^-, 3^-$	1582	3^-	E_γ : The value of 6776 given in the authors' table ii is a misprint. see authors' fig. 4.
6886 1	0.12	(8257.7)	$2^-, 3^-$	1372	4^+	
6965 2	0.08	(8257.7)	$2^-, 3^-$	1293	2^+	
7025 2	0.04	(8257.7)	$2^-, 3^-$	1233	3^+	
7172 1	0.42	(8257.7)	$2^-, 3^-$	1086	2^+	
7215 2	0.08	(8257.7)	$2^-, 3^-$	1043	3^-	
7447 2	0.04	(8257.7)	$2^-, 3^-$	811	2^+	
7892 2	0.02	(8257.7)	$2^-, 3^-$	366	4^+	
8136 1	0.42	(8257.7)	$2^-, 3^-$	122	2^+	

† Belongs to ^{152}Sm or ^{151}Sm .

‡ For intensity per 100 neutron captures, multiply by 2.30.

x γ ray not placed in level scheme.

