

$^{144}\text{Sm}$        $Z = 62$        $N = 82$       [link to full NNDC output](#)

Based on ENSDF from Dec 2018, and mass evaluation from 2016

BE = 1195.730 ( 0.002) MeV

	Energy T	J+	J-	J-other	T1/2
144SM 1	0.000	0+			1 STABLE
S-alpha= 0.132 ( 0.004)					
144SM 2	1.660	2+			2 84.4 FS 25
144SM 3			1.810	3-	3 25 PS 4
144SM 4				2.120	4
144SM 5				2.167	5
144SM 6	2.191	4+			6 0.14 PS GT
144SM 7	2.324	6+			7 880 NS 25
144SM 8	2.423	2+			8 37 FS +5-4
144SM 9	2.478	0+			9 1.2 PS GT
144SM 10	2.588	4+			10 0.12 PS GT
144SM 11				2.645	11 0.19 PS +6-4
144SM 12				2.661	12 0.5 PS +5-2
144SM 13				2.688	13 0.5 PS +9-2
144SM 14				2.707	14 36 FS GT
144SM 15				2.729	15
144SM 16	2.800	2+			16 69 FS 14
144SM 17				2.804	17 (2)
144SM 18	2.823	0+			18 0.76 PS GT
144SM 19				2.826	19 0.51 PS GT
144SM 20				2.827	20 0
144SM 21				2.883	21 0.4 PS +8-2
144SM 22				2.976	22
144SM 23	3.019	4+			23 0.4 PS +5-1
144SM 24				3.079	24 7 PS GT
144SM 25				3.119	25 0.24 PS +17-8
144SM 26			3.124	7-	26 55 FS GT
144SM 27	3.134	0+			27 0.14 PS +16-6
144SM 28				3.142	28
144SM 29				3.196	29 0.06 PS +3-2
144SM 30				3.205	30
144SM 31			3.226	1-	31 2.0 FS 7
144SM 32				3.240	32
144SM 33				3.266	33 15 FS GT
144SM 34				3.308	34 40 FS +10-8
144SM 35				3.308	35 0.08 PS +4-2
144SM 36				3.308	36 38 FS GT
144SM 37				3.318	37 (2+)

144SM	38				3.344	(3,4,5,6)	38	190	FS	GT
144SM	39			3.361	3-		39	0.26	PS	+20-8
144SM	40			3.377	8-		40	1.54	NS	17
-----										
144SM	41				3.391	(2-)	41	32	FS	+6-5
144SM	42				3.405	(2+,3-)	42	0.16	PS	+12-6
144SM	43	3.414	2+				43	53	FS	+9-7
144SM	44				3.426	(2+)	44			
144SM	45				3.444	(7-)	45			
144SM	46			3.461	9-		46	0.5	NS	2
144SM	47				3.469	(5-)	47			
144SM	48				3.481		48			
144SM	49				3.494	(4+)	49	0.01	PS	+3-2
144SM	50				3.520	(8-)	50			
-----										
144SM	51				3.524	(2+,4)	51	62	FS	+12-10
144SM	52				3.529	(3-)	52	30	FS	+8-6
144SM	53				3.535	(6-)	53			
144SM	54				3.544		54			
144SM	55	3.560	2+				55	27	FS	+6-5
144SM	56				3.564	(3-)	56	32	FS	+12-9
144SM	57				3.579		57			
144SM	58				3.597	(4-)	58	0.10	PS	+10-3
144SM	59				3.627	(2,3,4,5)	59	44	FS	+23-14
144SM	60				3.647	(4+)	60	0.12	PS	+9-4
-----										
144SM	61				3.661		61			
144SM	62			3.669	5-		62	25	FS	+26-13
144SM	63				3.689	(3+,4+)	63	21	FS	+4-3
144SM	64				3.698	7(-)	64			
144SM	65				3.708		65			
144SM	66				3.714	(1+,2+,3)	66	12	FS	+5-3
144SM	67				3.723	(2+,3+,4+)	67	5.5	FS	+23-21
144SM	68				3.724	(8-)	68			
144SM	69				3.732	(2+,3+,4+)	69	15	FS	3
144SM	70				3.740	(1,2,3,4)	70	0.10	PS	+5-3
-----										
144SM	71				3.778	(3-)	71	13	FS	+8-6
144SM	72				3.786	(2,4)	72	0.2	PS	+5-1
144SM	73				3.818	1(-)	73	10	FS	+7-6
144SM	74				3.823	(0+,1,2,3)	74	24	FS	+8-6
144SM	75				3.846	(4-)	75			
144SM	76				3.856	(2-,3-,4-)	76	32	FS	+20-12
144SM	77			3.868	5-		77	0.08	PS	+11-3
144SM	78				3.878	(1+,2+,3)	78	40	FS	+16-11
144SM	79				3.885	(1,2+)	79	8	FS	+11-7
144SM	80				3.887	5(+)	80	28	FS	+21-12
-----										
144SM	81				3.891	(1-)	81	5.9	FS	LT
144SM	82				3.907	1(+)	82	19	FS	+14-9

144SM 83				3.914	(3,4)	83	23 FS	+16-10	
144SM 84				3.940	(5-)	84	0.04 PS	+6-2	
144SM 85				3.949	(3,4,5)	85	34 FS	+12-8	
144SM 86				3.966	1(+)	86	5 FS	LT	
144SM 87				3.983	(3-)	87			
144SM 88		3.986	2+			88	33 FS	+25-14	
144SM 89				3.986	(3+)	89	21 FS	+8-6	
144SM 90				4.072	(2,3,4)	90	0.03 PS	+4-2	
-----									
144SM 91				4.083		91	0.03 PS	+5-2	
144SM 92				4.124	1(-)	92	11 FS	+18-10	
144SM 93				4.157		93	24 FS	LT	
144SM 94				4.210		94			
144SM 95				4.262	1	95			
144SM 96				4.411		96			
144SM 97				4.428		97			
144SM 98				4.675		98			
144SM 99				4.701	(10-)	99			
144SM 100				4.759	(10-)	100			
-----									
144SM 101				4.908	(11-)	101			
144SM 102				4.961	(11-)	102			
144SM 103				5.015	(1)	103			
144SM 104				5.016		104			
144SM 105				5.078	(12-)	105			
144SM 106				5.103	1,2	106			
144SM 107				5.151	(12-)	107	0.3 NS	LT	
144SM 108				5.151	(1)	108			
144SM 109				5.340		109			
144SM 110				5.351	(12-)	110			
-----									
144SM 111				5.361	(13-)	111			
144SM 112				5.521	(13-)	112			
144SM 113				5.721	(14-)	113			
144SM 114				5.770		114			
144SM 115				5.856	(13+)	115			
144SM 116				6.005	(14+)	116			
144SM 117				6.062	(14+)	117			
144SM 118				6.127	(14+)	118			
-----									
S-p	=	6.294	( 0.003)	-----					
144SM 119				6.301	(14+)	119			
144SM 120				6.316		120			
-----									
144SM 121				6.412	(15+)	121			
144SM 122				6.432	(14+)	122			
144SM 123				6.651	(15+)	123			
144SM 124				6.772		124			
144SM 125				6.792		125			
144SM 126				6.824	(16+)	126			
144SM 127				7.001		127			

144SM 128			7.161				128
144SM 129			7.238				129
144SM 130			7.398				130
-----							
144SM 131			7.525				131
144SM 132			7.573				132
144SM 133			7.605				133
144SM 134			7.650				134
144SM 135			7.661				135
144SM 136			7.691				136
144SM 137			7.871				137
144SM 138			7.911				138
144SM 139			7.938				139
144SM 140			7.950				140
-----							
144SM 141			8.085				141
144SM 142			8.282				142
144SM 143			8.326	(18)			143
144SM 144			8.426				144
144SM 145			8.627				145
144SM 146			8.998	1			146
144SM 147			9.000				147
144SM 148			9.233			2.6 NS	5
144SM 149			9.312				149
144SM 150			9.420				150
-----							
144SM 151			9.442				151
144SM 152			9.590				152
144SM 153			9.986				153
144SM 154			10.036				154
S-n = 10.520 ( 0.003)	-----						
144SM 155			10.584				155
S-2p = 10.594 ( 0.002)	-----						
144SM 156			10.698				156
144SM 157			10.935				157
144SM 158			11.000				158
144SM 159			11.719				159
144SM 160			11.768				160
-----							
144SM 161			11.903				161
144SM 162			12.284				162
144SM 163			12.739				163
-----							
S-p = 6.294 ( 0.003)	-----						
S-n = 10.520 ( 0.003)	-----						
S-2p = 10.594 ( 0.002)	-----						
S-2n = 19.122 ( 0.004)	-----						
S-alpha = 0.132 ( 0.004)	-----						

S+p = -3.315 ( 0.003)  
S+n = -6.757 ( 0.002)  
S+2p = -8.698 ( 0.004)  
S+2n = -15.173 ( 0.003)  
S+alpha = 3.271 ( 0.002)

gap p = 2.979 ( 0.005)  
gap n = 3.763 ( 0.004)  
gap 2p = 1.895 ( 0.005)  
gap 2n = 3.948 ( 0.005)  
gap alpha = 3.403 ( 0.004)