

^{152}Sm $Z = 62$ $N = 90$ [link to full NNDC output](#)

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

BE = 1253.097 (0.001) MeV

	Energy T	J+	J-	J-other	T1/2

S-alpha=	-0.220	(0.002)	-----		
152SM 1	0.000	0+			1 STABLE
152SM 2	0.122	2+			2 1.403 NS 11
152SM 3	0.366	4+			3 57.7 PS 6
152SM 4	0.685	0+			4 6.10 PS 14
152SM 5	0.707	6+			5 10.29 PS 16
152SM 6	0.810	2+			6 7.4 PS 4
152SM 7			0.963	1-	7 20.5 FS 16
152SM 8	1.023	4+			8 8.3 PS 13
152SM 9			1.041	3-	9 27 FS 5
152SM 10	1.083	0+			10 15 PS 6

152SM 11	1.086	2+			11 1.09 PS 14
152SM 12	1.125	8+			12 3.06 PS 4
152SM 13			1.222	5-	13 73 FS +16-12
152SM 14				1.226 (2+)	14
152SM 15	1.234	3+			15 0.76 PS 14
152SM 16	1.293	2+			16 16 PS LT
152SM 17	1.311	6+			17
152SM 18	1.372	4+			18 1.1 PS +7-4
152SM 19			1.506	7-	19
152SM 20			1.511	1-	20 91 FS 6

152SM 21			1.530	2-	21 0.27 PS +6-4
152SM 22	1.560	5+			22
152SM 23			1.579	3-	23 72 FS 6
152SM 24	1.609	10+			24 1.38 PS 13
152SM 25	1.613	4+			25
152SM 26			1.650	2-	26 164 PS +33-24
152SM 27	1.659	0+			27
152SM 28	1.666	8+			28
152SM 29			1.681	1-	29 38.1 FS 28
152SM 30			1.682	4-	30 596 FS GT

152SM 31	1.728	6+			31
152SM 32			1.730	3-	32 82 FS +11-9
152SM 33	1.736	0+			33
152SM 34	1.755	0+			34 277 FS GT
152SM 35	1.757	4+			35
152SM 36			1.764	5-	36 0.08 PS +9-4
152SM 37	1.769	2+			37 130 FS +42-28

152SM	38				1.777	(2+)	38	15 PS	LT
152SM	39			1.779	3-		39	56 FS	+11-9
152SM	40			1.804	5-		40		

152SM	41				1.822	(4-)	41		
152SM	42			1.879	9-		42		
152SM	43	1.891	5+				43		
152SM	44				1.892	0+,1,2	44		
152SM	45				1.901	(2+)	45		
152SM	46	1.906	2+				46		
152SM	47				1.908	(3+)	47		
152SM	48			1.920	6-		48		
152SM	49			1.930	6-		49		
152SM	50				1.930		50		

152SM	51				1.933	(4+,5,6+)	51		
152SM	52				1.945	1-,2	52		
152SM	53				1.945	1,2+	53		
152SM	54	1.946	7+				54		
152SM	55				1.946	0,1,2,3-	55		
152SM	56				1.954	3-,4,5-	56		
152SM	57				1.958	(2+,3,4+)	57		
152SM	58				1.962		58		
152SM	59				1.964	(1,2+)	59		
152SM	60				1.977	4+,5,6+	60		

152SM	61			1.977	5-		61		
152SM	62				2.004	2+,3,4+	62		
152SM	63	2.004	6+				63		
152SM	64			2.004	7-		64		
152SM	65				2.007	0,1,2,3-	65		
152SM	66				2.012	3-,4,5-	66		
152SM	67				2.012	2+,3,4+	67		
152SM	68				2.038	1,2+	68		
152SM	69	2.040	6+				69		
152SM	70				2.043	0+,1,2	70		

152SM	71				2.044	3,4+	71		
152SM	72				2.046	4+,5,6,7+	72		
152SM	73				2.048		73		
152SM	74				2.051		74		
152SM	75	2.052	4+				75		
152SM	76				2.054		76		
152SM	77				2.056		77		
152SM	78			2.058	7-		78		
152SM	79				2.064	(1-,2,3-)	79		
152SM	80				2.069	0+,1,2,3-	80		

152SM	81				2.071	3-,4,5-	81		
152SM	82	2.080	10+				82		

152SM 83						2.091	1-,2	83
152SM 84						2.092		84
152SM 85						2.097	3+,4	85
152SM 86						2.113	(2+,3,4+)	86
152SM 87				2.121	7-			87 2.4 NS 2
152SM 88						2.127	0+,1,2	88
152SM 89						2.130	(1+,2,3-)	89
152SM 90						2.138		90

152SM 91						2.138	(2+,3,4+)	91
152SM 92		2.138	2+					92
152SM 93		2.140	8+					93
152SM 94						2.146		94
152SM 95		2.149	12+					95
152SM 96						2.167	0+,1,2	96
152SM 97						2.173	1,2+	97
152SM 98						2.176	0+,1,2,3-	98
152SM 99				2.177	7-			99
152SM 100						2.194		100

152SM 101						2.201	0+,1,2	101
152SM 102				2.201	8-			102
152SM 103		2.206	7+					103
152SM 104				2.215	8-			104
152SM 105						2.225	1,2+	105
152SM 106						2.228	(5-,6,7-)	106
152SM 107						2.237	1,2	107
152SM 108		2.240	2+					108
152SM 109						2.264	6+,7,8+	109
152SM 110		2.268	2+					110

152SM 111				2.270	8-			111
152SM 112						2.285	0,1,2	112
152SM 113						2.287	0+,1,2,3-	113
152SM 114				2.290	9-			114
152SM 115						2.295	1-,2	115
152SM 116						2.309		116
152SM 117						2.309	1,2+	117
152SM 118						2.320	4+,5	118
152SM 119				2.327	11-			119
152SM 120						2.340		120

152SM 121						2.349		121
152SM 122						2.360		122
152SM 123						2.367	1-,2	123
152SM 124		2.375	9+					124
152SM 125						2.377		125
152SM 126				2.389	9-			126
152SM 127		2.392	8+					127
152SM 128						2.402	3,4+	128

152SM 129						2.415				129
152SM 130						2.423				130

152SM 131				2.424		9-				131
152SM 132				2.446		9-				132
152SM 133		2.459		8+						133
152SM 134							2.482		3,4,5	134
152SM 135							2.489			135
152SM 136							2.506		7-,8,9-	136
152SM 137							2.510		1(-)	137 0.0097 EV 25
152SM 138				2.511		10-				138
152SM 139							2.517			139
152SM 140		2.526		12+						140

152SM 141							2.542		1(+)	141 0.0058 EV 20
152SM 142							2.544			142
152SM 143							2.567		4+,5	143
152SM 144				2.576		10-				144
152SM 145		2.588		9+						145
152SM 146							2.589		4+,5	146
152SM 147				2.591		10-				147
152SM 148							2.599		7-,8+	148
152SM 149							2.612			149
152SM 150				2.641		11-				150

152SM 151							2.643		1(-)	151 0.047 EV 5
152SM 152		2.662		10+						152
152SM 153							2.663		1(+)	153 0.0088 EV 26
152SM 154							2.688		0+,1,2	154
152SM 155							2.697			155
152SM 156							2.713			156
152SM 157		2.736		14+						157
152SM 158				2.752		11-				158
152SM 159				2.809		11-				159
152SM 160							2.810		(10+)	160

152SM 161							2.818		1(+)	161 0.0141 EV 26
152SM 162		2.833		11+						162
152SM 163				2.833		13-				163
152SM 164							2.842			164
152SM 165							2.887		1(+)	165 0.012 EV 3
152SM 166							2.892		1(+)	166 0.028 EV 4
152SM 167		2.895		4+						167
152SM 168							2.899			168
152SM 169				2.901		12-				169
152SM 170		2.905		10+						170

152SM 171							2.925		0+,1,2	171
152SM 172							2.931		1(+)	172 0.078 EV 5
152SM 173							2.939		1(+)	173 0.0036 EV 25

152SM 174						2.947		1(-)		174	0.013	EV	6
152SM 175		2.977		14+						175			
152SM 176						2.992		1(+)		176	0.039	EV	5
152SM 177						3.013		1(+)		177	0.015	EV	4
152SM 178						3.025		1(+)		178	0.059	EV	4
152SM 179		3.027		11+						179			
152SM 180						3.080		13-		180			

152SM 181						3.090		1(+)		181	0.078	EV	5
152SM 182						3.108		1(-)		182	0.032	EV	7
152SM 183						3.123				183	0.0091	EV	11
152SM 184		3.128		12+						184			
152SM 185						3.263		10+, 11, 12+		185			
152SM 186						3.282		1(+)		186	0.022	EV	4
152SM 187		3.293		14+						187			
152SM 188		3.352		12+						188			
152SM 189		3.365		16+						189			
152SM 190						3.378		14-		190			

152SM 191						3.383		15-		191			
152SM 192						3.391		13-		192			
152SM 193										193	0.053	EV	17
152SM 194		3.463		16+				3.422		1(-)			
152SM 195								3.709			0.0144	EV	25
152SM 196								3.794			0.0123	EV	26
152SM 197		3.857		16+									
152SM 198								3.883			0.018	EV	3
152SM 199		3.931		14+									
152SM 200						3.973		17-		200			

152SM 201		4.005		18+						201			
152SM 202		4.048		18+						202			
152SM 203		4.525		16+						203			
152SM 204		4.750		20+						204			
152SM 205								8257.7+X		205			
S-p	=	8.666	(0.005)	-----								
S-n	=	8.258	(0.002)	-----								
152SM 206		11.300		0+						206			
152SM 207		11.530		2+						207			
152SM 208						12.800		1-		208			
152SM 209						13.200		3-		209			
S-2n	=	13.854	(0.002)	-----								
152SM 210		14.900		2+						210			

152SM 211		15.440		0+						211			

S-p	=	8.666	(0.005)	-----								
S-n	=	8.258	(0.002)	-----								
S-2p	=	15.661	(0.002)	-----								

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S-2n = 13.854 ( 0.002)-----  
S-alpha= -0.220 ( 0.002)-----  
  
S+p = -5.894 ( 0.002)  
S+n = -5.868 ( 0.002)  
S+2p = -13.521 ( 0.002)  
S+2n = -13.835 ( 0.002)  
S+alpha = -0.197 ( 0.002)  
  
gap p = 2.772 ( 0.005)  
gap n = 2.389 ( 0.002)  
gap 2p = 2.139 ( 0.003)  
gap 2n = 0.019 ( 0.003)  
gap alpha = -0.418 ( 0.003)
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