

$^{152}\text{Sm}$        $Z = 62$        $N = 90$       adopted link      ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 1253.098 ( 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							3.422	1(-)	193	0.053	EV	17
152SM 194		3.463	16+						194			
152SM 195						3.709			195	0.0144	EV	25
152SM 196						3.794			196	0.0123	EV	26
152SM 197		3.857	16+						197			
152SM 198							3.883		198	0.018	EV	3
152SM 199		3.931	14+						199			
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			

S-p = 8.666 ( 0.005)-----  
S-n = 8.258 ( 0.002)-----  
S-2p = 15.661 ( 0.002)-----  
S-2n = 13.854 ( 0.002)-----  
S-alpha= -0.220 ( 0.002)-----

S+p = -5.893 ( 0.002)  
S+n = -5.868 ( 0.001)  
S+2p = -13.521 ( 0.001)  
S+2n = -13.835 ( 0.002)  
S+alpha = -0.197 ( 0.001)

gap p = 2.772 ( 0.005)  
gap n = 2.390 ( 0.002)

gap 2p = 2.140 ( 0.002)  
gap 2n = 0.019 ( 0.002)  
gap alpha = -0.417 ( 0.003)