

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

Based on ensdf_240402 (Apr 2024), 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			
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				

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
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)