

^{139}La $Z = 57$ $N = 82$ adopted link ENSDF link

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

BE = 1164.542 (0.001) MeV

	Energy T	J+	J-	J-other	T1/2
139LA 1	0.000	7/2+			1 STABLE
139LA 2	0.166	5/2+			2 1.50 NS 3
139LA 3	1.209	1/2+			3
139LA 4				1.216	4
139LA 5	1.219	9/2+			5 0.58 PS 9
139LA 6				1.257 (5/2)+	6
139LA 7				1.381 (9/2+)	7
139LA 8				1.420 (11/2)-	8
139LA 9				1.420 (7/2)+	9
139LA 10				1.476 (9/2+)	10
139LA 11	1.536	7/2+			11 0.044 PS 7
139LA 12				1.538 (11/2+)	12
139LA 13				1.559 3/2+,5/2+	13
139LA 14				1.578 5/2+,7/2+	14
139LA 15	1.683	7/2+			15
139LA 16				1.712 (13/2+)	16
139LA 17	1.716	5/2+			17
139LA 18				1.740	18
139LA 19				1.761	19
139LA 20				1.766 (5/2)+	20
139LA 21	1.780	1/2+			21
139LA 22				1.800 (17/2+)	22 315 NS 35
139LA 23				1.810	23
139LA 24				1.837	24
139LA 25				1.854	25
139LA 26				1.857 (3/2+,5/2+)	26
139LA 27				1.894	27
139LA 28				1.920 (7/2+)	28
139LA 29				1.941 (7/2+)	29
139LA 30				1.950 (3/2+)	30
139LA 31				1.954	31
139LA 32				1.963 (13/2+)	32
139LA 33				1.963 (5/2)+	33
139LA 34				1.980	34
139LA 35				2.033 (15/2+)	35
139LA 36				2.035	36
139LA 37				2.060	37
S-alpha=	2.065 (0.001)				

139LA 38				2.123		38
139LA 39				2.136		39
139LA 40				2.152		40

139LA 41				2.158		41
139LA 42				2.232	(7/2,11/2)	42
139LA 43				2.240	3/2+,5/2+	43
139LA 44				2.276		44
139LA 45				2.291		45
139LA 46		2.310	1/2+			46
139LA 47				2.313		47
139LA 48				2.357		48
139LA 49				2.385		49
139LA 50				2.390		50

139LA 51				2.401	(11/2-,9/2-)	51
139LA 52				2.440		52
139LA 53				2.448		53
139LA 54				2.466		54
139LA 55				2.573		55
139LA 56				2.597		56
139LA 57				2.600		57
139LA 58				2.685	-	58
139LA 59				2.705		59
139LA 60				2.712		60

139LA 61				2.724		61
139LA 62				2.747		62
139LA 63				2.774		63
139LA 64				2.780	(-)	64
139LA 65				2.800		65
139LA 66				2.811	(+)	66
139LA 67				2.828		67
139LA 68				2.862		68
139LA 69				2.868		69
139LA 70				2.870	+	70

139LA 71				2.877		71
139LA 72				2.886	(19/2+)	72
139LA 73				2.890	(-)	73
139LA 74				2.918	(17/2+)	74
139LA 75				2.928		75
139LA 76				2.964		76
139LA 77				2.972		77
139LA 78				2.990		78
139LA 79				3.043		79
139LA 80				3.053		80

139LA 81				3.061	(19/2-)	81
139LA 82				3.077		82

139LA 83			3.095		83
139LA 84			3.114		84
139LA 85			3.147		85
139LA 86			3.150	(19/2+)	86
139LA 87			3.175	(21/2+)	87
139LA 88			3.184	(23/2+)	88
139LA 89			3.196		89
139LA 90			3.221		90

139LA 91			3.248	(21/2-)	91
139LA 92			3.252		92
139LA 93			3.262		93
139LA 94			3.275		94
139LA 95			3.303		95
139LA 96			3.306	(23/2-)	96
139LA 97			3.351		97
139LA 98			3.355	-	98
139LA 99			3.361		99
139LA 100			3.365	(21/2+)	100

139LA 101			3.370		101
139LA 102			3.375	(15/2)-	102
139LA 103			3.401		103
139LA 104			3.433		104
139LA 105			3.445		105
139LA 106			3.458		106
139LA 107			3.475		107
139LA 108			3.483		108
139LA 109			3.485	-	109
139LA 110			3.517	-	110

139LA 111			3.523		111
139LA 112			3.527		112
139LA 113			3.544		113
139LA 114			3.555	-	114
139LA 115			3.557		115
139LA 116			3.561		116
139LA 117			3.573		117
139LA 118			3.586		118
139LA 119			3.611	-	119
139LA 120			3.631		120

139LA 121			3.664		121
139LA 122			3.688	-	122
139LA 123			3.732		123
139LA 124			3.748	-	124
139LA 125			3.785	-	125
139LA 126			3.790		126
139LA 127			3.799		127
139LA 128			3.805	-	128

139LA 129			3.832		129
139LA 130			3.841		130

139LA 131			3.854		131
139LA 132			3.868		132
139LA 133			3.878		133
139LA 134			3.886		134
139LA 135			3.905	-	135
139LA 136			3.919		136
139LA 137			3.927	(17/2)-	137
139LA 138			3.931		138
139LA 139			3.941		139
139LA 140			3.952	-	140

139LA 141			3.963		141
139LA 142			3.980	-	142
139LA 143			4.014	-	143
139LA 144			4.095	-	144
139LA 145			4.116	(25/2+)	145
139LA 146			4.148	-	146
139LA 147			4.230	-	147
139LA 148			4.252	(23/2+)	148
139LA 149			4.336	(-)	149
139LA 150			4.394	(-)	150

139LA 151			4.628	(27/2-)	151
139LA 152			4.641	(25/2+)	152
139LA 153			4.791		153
139LA 154			5.218	(27/2+)	154
139LA 155			5.381		155
139LA 156			5.390		156
139LA 157			5.407		157
139LA 158			5.423		158
139LA 159			5.545		159
139LA 160			5.553		160

139LA 161			5.572		161
139LA 162			5.582		162
139LA 163			5.595		163
139LA 164			5.620		164
139LA 165			5.659		165
139LA 166			5.688		166
139LA 167			5.709		167
139LA 168			5.716		168
139LA 169			5.723		169
139LA 170			5.811		170

139LA 171			5.831		171
139LA 172			5.849		172
139LA 173			5.940		173

139LA 174				5.984		174
139LA 175		6.016	7/2-			175 0.051 EV +14-8
139LA 176				6.047		176
139LA 177				6.078		177
139LA 178				6.098		178
139LA 179				6.112		179
139LA 180				6.114	9/2(-)	180 0.068 EV 34

139LA 181				6.131		181
139LA 182				6.151		182
139LA 183				6.178		183
139LA 184				6.194		184
139LA 185				6.214		185
139LA 186				6.233		186
139LA 187				6.249		187
S-p =	6.250	(0.001)	-----			
139LA 188				6.260		188
139LA 189				6.269		189
139LA 190				6.301		190

139LA 191				6.326		191
139LA 192				6.355		192
139LA 193				6.366		193
139LA 194				6.384		194
139LA 195				6.403		195
139LA 196		6.417	9/2-			196 0.081 EV +13-7
139LA 197				6.435		197
139LA 198				6.442		198
139LA 199				6.451		199
139LA 200				6.465		200

139LA 201				6.484		201
139LA 202				6.491		202
139LA 203				6.501		203
139LA 204				6.527		204
139LA 205				6.540		205
139LA 206				6.550		206
139LA 207				6.619		207
139LA 208				6.651		208
139LA 209				6.675		209
139LA 210				6.713		210

139LA 211				6.724		211
139LA 212				6.756		212
139LA 213				6.759	7/2	213
139LA 214				6.768		214
139LA 215				6.875		215
139LA 216				6.890		216
139LA 217				6.901		217
139LA 218				6.926		218

139LA 219				6.969		219
139LA 220				6.983		220

139LA 221				7.020		221
139LA 222				7.036		222
139LA 223				7.052		223
139LA 224				7.154		224
139LA 225				7.158		225
139LA 226				7.273		226
139LA 227				7.278		227
139LA 228				7.320		228
139LA 229				7.327		229
139LA 230				7.370		230

139LA 231				7.400		231
139LA 232				7.414		232
139LA 233				7.445		233
139LA 234				7.451		234
139LA 235				7.463		235
139LA 236				7.472		236
139LA 237				7.507		237
139LA 238				7.553		238
139LA 239				7.562		239
139LA 240				7.570		240

139LA 241				7.580		241
139LA 242				7.592		242
139LA 243				7.599		243
139LA 244		7.636	7/2-			244 0.17 EV 4
139LA 245				7.661		245
139LA 246				7.667		246
139LA 247				7.679		247
139LA 248				7.685		248
139LA 249				7.692		249
139LA 250				7.699		250

139LA 251				7.765		251
139LA 252				7.789		252
139LA 253				7.905		253
139LA 254				7.912		254
139LA 255				7.922		255
139LA 256				7.961		256
139LA 257				7.972		257
139LA 258				8.527		258
139LA 259				8.552		259
139LA 260				8.582	(7/2,9/2)	260

139LA 261				8.596		261
S-n = 8.780 (0.001)	-----					
139LA 262				8.781		262

139LA 263			8.799	263
139LA 264			8.845	264
139LA 265			8.868	265
139LA 266			8.908	266
139LA 267			8.996	267
139LA 268			9.016	268
139LA 269			9.037	269
139LA 270			9.083	270
-----				-----
139LA 271			9.131	271

S-p = 6.250 (0.001)-----
S-n = 8.780 (0.001)-----
S-2p = 15.255 (0.001)-----
S-2n = 16.224 (0.002)-----
S-alpha= 2.065 (0.001)-----

S+p = -8.141 (0.001)
S+n = -5.161 (0.001)
S+2p = -13.370 (0.002)
S+2n = -11.850 (0.004)
S+alpha = 1.729 (0.002)

gap p = -1.891 (0.002)
gap n = 3.619 (0.001)
gap 2p = 1.885 (0.002)
gap 2n = 4.374 (0.005)
gap alpha = 3.795 (0.002)