

^{133}La $Z = 57$ $N = 76$ adopted link ENSDF link

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

BE = 1114.386 (0.028) MeV

Qbeta+ = 2.059 (0.028) MeV

	Energy T	J+	J-	J-other	T1/2	
133LA 1	0.000	5/2+			1 3.912 H 8	
133LA 2	0.088	5/2+			2 1.30 NS 10	
133LA 3	0.097	3/2+			3 0.4 NS LT	
133LA 4	0.131	7/2+			4 1.12 NS 18	
133LA 5	0.174	1/2+			5 0.83 NS 18	
S-alpha= 0.420 (0.028)						
133LA 6	0.477	9/2+			6	
133LA 7	0.495	7/2+			7	
133LA 8			0.536	11/2-	8 62 NS 4	
133LA 9	0.541	7/2+			9	
133LA 10	0.563	9/2+			10	
133LA 11				0.591	7/2,9/2+	11
133LA 12	0.655	11/2+			12	
133LA 13				0.765	(5/2+)	13
133LA 14			0.785	7/2-	14	
133LA 15	0.838	9/2+			15	
133LA 16	0.867	7/2+			16	
133LA 17				0.950	(9/2)+	17
133LA 18			0.980	15/2-	18	
133LA 19			1.046	9/2-	19	
133LA 20				1.092	7/2+,9/2+	20
133LA 21			1.153	13/2-	21	
133LA 22	1.189	13/2+			22	
133LA 23				1.195	7/2,9/2+	23
133LA 24	1.219	7/2+			24	
133LA 25				1.220	(11/2+)	25
133LA 26	1.261	13/2+			26	
133LA 27				1.311	7/2+,9/2,11/2	27
133LA 28				1.319	7/2,9/2+	28
133LA 29			1.365	11/2-	29	
133LA 30	1.378	15/2+			30	
133LA 31			1.396	5/2-	31	
133LA 32			1.469	9/2-	32	
133LA 33				1.496	(11/2)+	33
133LA 34				1.561	(11/2-)	34
133LA 35				1.657		35
133LA 36			1.661	19/2-	36	

133LA 37						1.664		37
133LA 38						1.691	(9/2)-	38
133LA 39						1.715	7/2-,9/2-	39
133LA 40						1.734	(11/2-)	40

133LA 41						1.735	(9/2)-	41
133LA 42				1.738	17/2-			42
133LA 43						1.748	7/2,9/2	43
133LA 44						1.754	7/2-,9/2,11/2+	44
133LA 45						1.778	7/2,9/2,11/2+	45
133LA 46						1.784	(9/2+,11/2+)	46
133LA 47						1.785	7/2-,9/2,11/2-	47
133LA 48						1.807	(9/2-,11/2-)	48
133LA 49						1.816	(15/2-)	49
133LA 50						1.851	(9/2-)	50

133LA 51				1.857	7/2-			51
133LA 52				1.913	9/2-			52
133LA 53						1.954	(15/2+)	53
133LA 54						1.959	9/2-,11/2	54
133LA 55						1.968	7/2-,9/2-	55
133LA 56						1.983	7/2-,9/2,11/2+	56
133LA 57				2.018	7/2-			57
133LA 58						2.030	7/2,9/2+	58
133LA 59						2.035	(7/2-,9/2-,11/2	59-)
133LA 60						2.036	7/2-,9/2-	60

133LA 61		2.040	17/2+					61
133LA 62				2.062	9/2-			62
133LA 63		2.075	17/2+					63
133LA 64				2.123	11/2-			64
133LA 65						2.132	7/2,9/2+	65
133LA 66				2.137	9/2-			66
133LA 67						2.155	(9/2-)	67
133LA 68						2.176	(11/2-)	68
133LA 69						2.200	(9/2-)	69
133LA 70						2.201	(19/2-)	70

133LA 71						2.220		71
133LA 72						2.250	7/2+,9/2+	72
133LA 73						2.261	(13/2-,15/2,17/	732)
133LA 74		2.262	19/2+					74
133LA 75						2.289		75
133LA 76						2.299	7/2,9/2+	76
133LA 77						2.360	(7/2,9/2,11/2)-	77
133LA 78						2.367	(7/2,9/2)+	78
133LA 79		2.368	17/2+					79
133LA 80						2.425		80

133LA 81				2.450	23/2-			81

133LA 82						2.501	9/2-, 11/2+	82
133LA 83		2.504	19/2+					83
133LA 84				2.535	21/2-			84
133LA 85						2.573	(7/2+)	85
133LA 86						2.581	(21/2-)	86
133LA 87		2.682	21/2+					87
133LA 88						2.716		88
133LA 89						2.727	(19/2+)	89
133LA 90						2.735	7/2-, 9/2+	90

133LA 91						2.851	9/2-, 11/2+	91
133LA 92						2.885	(21/2+)	92
133LA 93		2.891	23/2+					93
133LA 94						2.894	(21/2+)	94
133LA 95						2.916	(23/2-)	95
133LA 96		2.928	23/2+					96
133LA 97						3.004	(23/2-)	97
133LA 98						3.105	(25/2)	98
133LA 99						3.111	(23/2+)	99
133LA 100		3.259	25/2+					100

133LA 101						3.270		101
133LA 102		3.278	23/2+					102
133LA 103		3.278	25/2+					103
133LA 104				3.293	27/2-			104
133LA 105						3.382	(25/2+)	105
133LA 106				3.431	25/2-			106
133LA 107				3.449	25/2-			107
133LA 108						3.552		108
133LA 109						3.600	(27/2-)	109
133LA 110		3.615	27/2+					110

133LA 111						3.647	(27/2)	111
133LA 112						3.763	(27/2-)	112
133LA 113						3.779	(27/2+)	113
133LA 114						3.949	(29/2-)	114
133LA 115						4.012	(29/2)	115
133LA 116		4.031	29/2+					116
133LA 117						4.055		117
133LA 118						4.072		118
133LA 119						4.134	(29/2+)	119
133LA 120				4.227	31/2-			120

S-p	=	4.349	(0.028)	-----				
133LA 121						4.359	(29/2)	121
133LA 122						4.397	(31/2-)	122
133LA 123		4.475	31/2+					123
133LA 124						4.511	(31/2)	124
133LA 125						4.513		125
133LA 126						4.569		126

133LA 127				4.832	(33/2-)	127
133LA 128				4.872		128
133LA 129				4.927	(33/2)	129
133LA 130	4.938	33/2+				130

133LA 131				5.005		131
133LA 132				5.039		132
133LA 133		5.199	35/2-			133
133LA 134				5.220		134
133LA 135				5.221	(35/2-)	135
133LA 136				5.320		136
133LA 137	5.352	35/2+				137
133LA 138				6.145	(39/2-)	138
133LA 139				6.283	(39/2+)	139

S-p = 4.349 (0.028)-----
 S-n = 9.842 (0.046)-----
 S-2p = 12.017 (0.028)-----
 S-2n = 17.868 (0.040)-----
 S-alpha= 0.420 (0.028)-----

S+p = -6.627 (0.035)
 S+n = -7.796 (0.034)
 S+2p = -10.019 (0.030)
 S+2n = -17.292 (0.029)
 S+alpha = -0.132 (0.029)

gap p = -2.279 (0.044)
 gap n = 2.047 (0.057)
 gap 2p = 1.997 (0.041)
 gap 2n = 0.576 (0.049)
 gap alpha = 0.288 (0.041)