^{139}Ce $Z = 58$ $N = 81$ adopted link ENSDF link

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

BE = 1163.495 (0.002) MeV
Qbeta+ = 0.265 (0.002) MeV

	Energy T	J+	J-	J-other	T1/2
139CE 1	0.000	3/2+		1	137.63 D 3
139CE 2	0.255	1/2+		2	110 PS 20
139CE 3			0.754 11/2-	3	57.58 S 32
139CE 4	1.320	5/2+		4	1.0 PS LT
139CE 5	1.347	7/2+		5	
S-alpha= 1.532 (0.002)					
139CE 6			1.578 7/2-	6	
139CE 7			1.579 (7/2-)	7	
139CE 8			1.597 (3/2)+	8	0.9 PS LT
139CE 9	1.631	3/2+		9	3.8 PS LT
139CE 10			1.790 (1/2+)	10	
139CE 11	1.818	5/2+		11	0.45 PS +11-8
139CE 12			1.843 (7/2-)	12	
139CE 13	1.889	1/2+		13	
139CE 14			1.908 (3/2)+	14	1.2 PS 6
139CE 15			1.965 (3/2,5/2+)	15	
139CE 16			1.985 (3/2,5/2+)	16	
139CE 17			2.016 (3/2+)	17	4.3 PS LE
139CE 18			2.018	18	
139CE 19			2.029 (11/2-,13/2)	19	
139CE 20			2.064 11/2(-)	20	
139CE 21			2.070	21	
139CE 22			2.089 3/2+,5/2+	22	0.8 PS GT
139CE 23			2.096	23	
139CE 24			2.105	24	
139CE 25			2.139 3/2+,5/2+	25	
139CE 26			2.164 (13/2-)	26	
139CE 27			2.183	27	
139CE 28			2.196	28	
139CE 29			2.209	29	
139CE 30			2.220	30	
139CE 31			2.221	31	
139CE 32			2.228	32	
139CE 33			2.246 (7/2)+	33	
139CE 34			2.280 (5/2+)	34	
139CE 35			2.286 11/2-	35	
139CE 36			2.288 (3/2+,5/2,7/2+)	36	

139CE	37					2.355		37	
139CE	38					2.361	(15/2-)	38	
139CE	39					2.363	(7/2+,9/2+)	39	
139CE	40					2.364	(3/2+,5/2+)	40	
139CE	41					2.392		41	
139CE	42					2.400		42	
139CE	43					2.421	3/2+,5/2+	43	0.43 PS +37-15
139CE	44					2.441		44	
139CE	45					2.455	7/2+,9/2+	45	
139CE	46					2.485		46	
139CE	47					2.490		47	
139CE	48					2.500		48	
139CE	49					2.541		49	
139CE	50					2.551		50	
139CE	51					2.553	(3/2+,5/2,7/2+)	51	0.50 PS +37-15
139CE	52					2.556	(9/2)+	52	
139CE	53					2.569		53	
139CE	54					2.598		54	
139CE	55					2.606		55	
139CE	56					2.632	(19/2-)	56	70 NS 5
139CE	57					2.634		57	
139CE	58					2.701		58	
139CE	59					2.753		59	
139CE	60					2.777		60	
139CE	61	2.797	7/2+					61	
139CE	62			2.819	11/2-			62	
139CE	63					2.820	(21/2-)	63	3.0 NS LE
139CE	64					2.822	9/2-,11/2-	64	
139CE	65					2.832		65	
139CE	66					2.849		66	0.63 PS +21-13
139CE	67					2.900		67	
139CE	68					2.909	(9/2)+,3/2+,5/2	68+	
139CE	69					2.952		69	
139CE	70					2.964	3/2+,5/2+	70	
139CE	71					3.052		71	
139CE	72					3.082	(7/2+,9/2+)	72	
139CE	73					3.114		73	0.79 PS +42-21
139CE	74	3.144	1/2+					74	
139CE	75					3.172	3/2+,5/2+	75	
139CE	76					3.187	(23/2-)	76	
139CE	77					3.189	(7/2+,9/2+)	77	
139CE	78					3.213		78	
139CE	79					3.269		79	
139CE	80					3.282	7/2+,9/2+	80	
139CE	81	3.302	1/2+					81	

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139CE  82 |                |                |   3.327     5/2+,7/2+        82
139CE  83 |                |                |   3.352     5/2+,7/2+        83
139CE  84 |                |                |   3.405     (1/2+)           84
139CE  85 |                |                |   3.459                      85
139CE  86 |                |                |   3.484     (25/2)           86
139CE  87 |                |                |   3.523                      87
139CE  88 |                |                |   3.535     3/2+,5/2+        88
139CE  89 |                |                |   3.592     3/2+,5/2+        89
139CE  90 |                |                |   3.655     3/2+,5/2+        90
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139CE  91 |                |                |   3.704     (27/2)           91
139CE  92 |                |                |   3.852     3/2+,5/2+        92
139CE  93 |                |                |   3.877     (23/2-)          93
139CE  94 |                |                |   4.014     (23/2+)          94
139CE  95 |                |                |   4.084     (25/2+)          95
139CE  96 |                |                |   4.099     (25/2-)          96
139CE  97 |                |                |   4.262     (3/2+,5/2+)      97
139CE  98 |                |                |   4.277     (27/2+)          98
139CE  99 |                |                |   4.405     (27/2-)          99
139CE 100 |                |                |   4.431                      100
-----------                                                                 -----------------
139CE 101 |                |                |   4.571     (29/2-)          101
139CE 102 |                |                |   4.757     (29/2+)          102
139CE 103 |                |                |   4.808     (31/2-)          103
139CE 104 |                |                |   5.212     (31/2-)          104
139CE 105 |                |                |   5.298     (29/2+)          105
139CE 106 |                |                |   5.533     (31/2+)          106
139CE 107 |                |                |   5.698     (31/2-)          107
139CE 108 |                |                |   5.737     (31/2+)          108
139CE 109 |                |                |   5.823     (33/2-)          109
139CE 110 |                |                |   5.884     (35/2-)          110
-----------                                                                 -----------------
139CE 111 |                |                |   5.916     (33/2-)          111
139CE 112 |                |                |   6.031     (33/2+)          112
139CE 113 |                |                |   6.077     (35/2-)          113
139CE 114 |                |                |   6.142     (35/2-)          114
139CE 115 |                |                |   6.155     (35/2-)          115
139CE 116 |                |                |   6.332     (37/2-)          116
139CE 117 |                |                |   6.488     (37/2-)          117
139CE 118 |                |                |   6.798     (39/2-)          118
139CE 119 |                |                |   6.845     (39/2-)          119
139CE 120 |                |                |   6.967                      120
-----------                                                                 -----------------
139CE 121 |                |                |   7.165                      121
139CE 122 |                |                |   7.308     (41/2-)          122
139CE 123 |                |                |   7.333     (41/2-)          123
139CE 124 |                |                |   7.450                      124
S-n    =   7.463 ( 0.002)-------------------------------------------------------------------------
139CE 125 |                |                |   7.572                      125
S-p    =   7.733 ( 0.002)-------------------------------------------------------------------------
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139CE 126 |                |                |   7.856     (43/2-)         126
139CE 127 |                |                |   7.987     (43/2-)         127
139CE 128 |                |                |   8.001                     128


S-p    =   7.733 ( 0.002)-------------------------------------------------------------------------
S-n    =   7.463 ( 0.002)-------------------------------------------------------------------------
S-2p   =  13.814 ( 0.002)-------------------------------------------------------------------------
S-2n   =  17.182 ( 0.002)-------------------------------------------------------------------------
S-alpha=   1.532 ( 0.002)-------------------------------------------------------------------------

S+p       =  -5.017 ( 0.006)
S+n       =  -9.188 ( 0.002)
S+2p      = -11.812 ( 0.004)
S+2n      = -14.616 ( 0.002)
S+alpha   =   0.531 ( 0.002)

gap p     =   2.716 ( 0.007)
gap n     =  -1.724 ( 0.003)
gap 2p    =   2.002 ( 0.004)
gap 2n    =   2.566 ( 0.003)
gap alpha =   2.063 ( 0.003)
```