

^{136}Ce $Z = 58$ $N = 78$ [link to full NNDC output](#)

Based on ENSDF from Dec 2018, and mass evaluation from 2016

BE = 1138.831 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
136CE 1	0.000	0+			1 STABLE
S-alpha= 0.498 (0.001)					
136CE 2	0.552	2+			2 6.7 PS 8
136CE 3				1.076	3
136CE 4	1.092	2+			4 4.4 PS 7
136CE 5	1.314	4+			5 0.94 PS 17
136CE 6	1.553	3+			6
136CE 7			1.978 5-		7 496 PS 23
136CE 8				1.982 (3-)	8
136CE 9	2.067	2+			9 0.151 PS 16
136CE 10	2.155	2+			10 0.039 PS 5
136CE 11	2.214	6+			11 5 NS LE
136CE 12				2.274 (2+)	12 0.305 PS 25
136CE 13			2.307 7-		13 270 PS 24
136CE 14	2.366	6+			14 5 NS LE
136CE 15				2.425 (6-)	15 3 NS LE
136CE 16				2.451 (2+)	16 0.17 PS 3
136CE 17				2.517 (2+,3)	17
136CE 18				2.595 (2+)	18
136CE 19				2.682 (2+)	19
136CE 20				2.793 (1,2+)	20
136CE 21				2.828 (1,2,3)	21
136CE 22				2.866 (1,2+)	22
136CE 23				2.904 (1,2,3)	23
136CE 24				2.932 (1,2+)	24
136CE 25				2.942 (2+)	25
136CE 26				2.955 (8+)	26
136CE 27	2.989	8+			27
136CE 28				2.991 (2+,3,4+)	28
136CE 29				3.011	29
136CE 30	3.095	10+			30 1.9 US 1
136CE 31				3.146 (8-)	31 3 NS LE
136CE 32				3.174 (1,2+)	32
136CE 33				3.201 (2+)	33
136CE 34				3.233 (1,2,3)	34
136CE 35				3.264 (1,2+)	35
136CE 36			3.278 9-		36 3 NS LE
136CE 37				3.281 (1,2+)	37

136CE	38					3.362	(1,2+)	38			
136CE	39					3.400	(10+)	39	3 NS		LE
136CE	40					3.441	(9+)	40			

136CE	41					3.575		41			
136CE	42					3.579	(1,2+)	42			
136CE	43					3.705	(1,2,3)	43			
136CE	44	3.760	12+					44			
136CE	45					3.865	(10+)	45			
136CE	46					3.987	(10-)	46	3 NS		LE
136CE	47					4.023	(1,2,3)	47			
136CE	48			4.084	11-			48	3 NS		LT
136CE	49					4.240	(11-)	49			
136CE	50					4.360	(11+)	50			

136CE	51					4.597	(12-)	51			
136CE	52	4.786	14+					52			
136CE	53					4.833	(14+)	53			
136CE	54					4.872	(13-)	54			
136CE	55					4.928	(13+)	55			
136CE	56					5.097	(13-)	56			
136CE	57	5.305	15+					57			
136CE	58					5.568	(15+)	58	0.69 PS		26
136CE	59					5.594	(16+)	59			
136CE	60	5.643	16+					60	0.69 PS		GT

136CE	61			5.645	14-			61			
136CE	62					5.662	(14-)	62			
136CE	63					5.801	(15-)	63			
136CE	64			5.809	15-			64			
136CE	65					5.841	(16)	65			
136CE	66					5.856		66			
136CE	67	5.877	17+					67	0.69 PS		GT
136CE	68			5.995	16-			68			
136CE	69					6.098	(17+)	69	0.56 PS		LT
136CE	70					6.170	(18+)	70	0.69 PS		GT

136CE	71					6.273	(17+)	71	0.35 PS		9
136CE	72			6.282	17-			72			
136CE	73					6.380		73			
136CE	74					6.524	(19)	74			
136CE	75					6.539	(19+)	75	0.40 PS		15
136CE	76					6.642	(18+)	76			
136CE	77			6.663	18-			77	0.509 PS		15
136CE	78					6.832	(17-)	78			
136CE	79					6.885		79			
136CE	80					6.933	(20+)	80	0.55 PS		+17-18

136CE	81					7.086	(19+)	81			
136CE	82			7.099	19-			82	0.315 PS		+12-10

S-p = 7.154 (0.009)-----									
136CE	83						7.238	(19+)	83
136CE	84						7.293		84
136CE	85						7.326		85
136CE	86						7.345	(21+)	86 0.43 PS LT
136CE	87		7.585	20-					87 0.263 PS +26-31
136CE	88						7.801	(22+)	88
136CE	89		8.110	21-					89 0.253 PS +18-28
136CE	90						8.215		90

136CE	91						8.316	(23+)	91
136CE	92		8.625	22-					92 0.43 PS LT
136CE	93		9.228	23-					93

S-p = 7.154 (0.009)-----
 S-n = 9.964 (0.010)-----
 S-2p = 12.137 (0.000)-----
 S-2n = 17.818 (0.020)-----
 S-alpha= 0.498 (0.001)-----

S+p = -3.982 (0.008)
 S+n = -7.482 (0.001)
 S+2p = -10.088 (0.012)
 S+2n = -17.205 (0.005)
 S+alpha = -0.175 (0.004)

gap p = 3.172 (0.012)
 gap n = 2.482 (0.010)
 gap 2p = 2.049 (0.012)
 gap 2n = 0.613 (0.021)
 gap alpha = 0.323 (0.004)