

$^{128}\text{Ce}$        $Z = 58$        $N = 70$       [link to full NNDC output](#)

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

BE = 1063.286 ( 0.028) MeV

Qbeta+ = 3.092 ( 0.061) MeV

	Energy T	J+	J-	J-other	T1/2
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S-alpha=	-1.131	( 0.031)	-----		
128CE 1	0.000	0+			1 3.93 M 2
128CE 2	0.207	2+			2 0.30 NS 3
128CE 3	0.607	4+			3 8.0 PS +18-14
128CE 4	0.869	2+			4
128CE 5	1.052	0+			5
128CE 6	1.138	3+			6
128CE 7	1.157	6+			7 1.49 PS 35
128CE 8	1.306	2+			8
128CE 9	1.312	4+			9
128CE 10	1.663	5+			10
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128CE 11				1.701	11
128CE 12	1.819	8+			12 0.46 PS 7
128CE 13	1.847	6+			13
128CE 14			1.889	5-	14
128CE 15				1.980	4(-)
128CE 16	2.177	6+			16
128CE 17				2.240	(5-)
128CE 18			2.245	7-	18
128CE 19			2.286	5-	19
128CE 20	2.298	7+			20
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128CE 21				2.332	6(-)
128CE 22				2.370	
128CE 23			2.385	6-	23
128CE 24	2.466	8+			24
128CE 25			2.520	7-	25
128CE 26	2.530	10+			26 0.31 PS 7
128CE 27			2.586	7-	27
128CE 28	2.659	8+			28
128CE 29			2.700	8-	29
128CE 30			2.735	9-	30
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128CE 31			2.812	8-	31
128CE 32			2.860	9-	32
128CE 33	2.870	10+			33
128CE 34				2.975	34
128CE 35	3.001	9+			35
128CE 36			3.086	9-	36

128CE	37	3.106	12+					37	1.7 PS	5	
128CE	38			3.130	10-			38			
128CE	39					3.132	(10+)	39			
128CE	40	3.144	10+					40			
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128CE	41	3.269	10+					41			
128CE	42			3.324	11-			42			
128CE	43					3.383	(11-)	43			
128CE	44			3.398	10-			44			
128CE	45	3.478	12+					45			
128CE	46					3.585	(12+)	46			
128CE	47	3.666	14+					47	1.5 PS	4	
128CE	48			3.723	11-			48			
128CE	49			3.727	12-			49			
128CE	50					3.809	(12+)	50			
-----											
128CE	51					3.966	(13-)	51			
128CE	52	3.996	12+					52			
128CE	53			4.086	12-			53			
128CE	54					4.102	(13-)	54			
128CE	55					4.121		55			
128CE	56	4.282	14+					56	0.90 PS	14	
128CE	57	4.357	16+					57			
128CE	58			4.405	13-			58			
128CE	59			4.477	14-			59			
128CE	60					4.544	(14+)	60			
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128CE	61	4.595	14+					61			
128CE	62			4.688	15-			62			
128CE	63					4.792	(14-)	63			
128CE	64					4.847		64			
S-p	=	4.927	( 0.038)	-----							
128CE	65					4.936	(15-)	65			
128CE	66					5.069		66			
128CE	67					5.073	(15-)	67			
128CE	68	5.127	16+					68			
128CE	69	5.185	18+					69	0.21 PS	3	
128CE	70	5.192	16+					70			
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128CE	71					5.302	(16-)	71			
128CE	72					5.352	(16+)	72			
128CE	73			5.479	17-			73			
128CE	74	5.854	18+					74			
128CE	75	6.006	18+					75			
128CE	76	6.143	20+					76	0.12 PS	3	
128CE	77					6.199	(18-)	77			
128CE	78					6.225	(18+)	78			
128CE	79			6.317	19-			79			
128CE	80			6.376	19-			80			
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128CE 81						6.501	(19-)	81
128CE 82		6.605	20+					82
128CE 83		6.930	20+					83
128CE 84					7.175	21-		84
128CE 85		7.219	22+					85
128CE 86					7.296	21-		86
128CE 87							7.380 (21-)	87
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S-2p	=	7.442	( 0.031)					
128CE 88		7.462	22+					88
128CE 89		7.912	22+					89
128CE 90					8.139	23-		90
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128CE 91							8.361 (23-)	91
128CE 92		8.405	24+					92
128CE 93		8.432	24+					93
128CE 94		8.957	24+					94
128CE 95						9.219	(25-)	95
128CE 96						9.472	(25-)	96
128CE 97		9.514	26+					97
128CE 98						9.695	(26+)	98
128CE 99		10.077	26+					99
128CE 100						10.403	(27-)	100
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128CE 101						10.698	(28+)	101
128CE 102						11.078	(28+)	102
128CE 103		11.271	28+					103
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S-n	=	11.626	( 0.040)					
128CE 104						11.975	(30+)	104
128CE 105						12.541	(30+)	105
128CE 106						12.547	(30+)	106
128CE 107						13.333	(32+)	107
128CE 108						13.875	(32+)	108
128CE 109						14.762	(34+)	109
128CE 110						16.265	(36+)	110
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128CE 111						17.839	(38+)	111
-----								
S-p	=	4.927	( 0.038)					
S-n	=	11.626	( 0.040)					
S-2p	=	7.442	( 0.031)					
S-2n	=	20.856	( 0.040)					
S-alpha	=	-1.131	( 0.031)					
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S+p	=	-1.529	( 0.041)					
S+n	=	-8.825	( 0.040)					
S+2p	=	-5.640	( 0.039)					
S+2n	=	-20.032	( 0.039)					
S+alpha	=	1.683	( 0.037)					

gap p = 3.398 ( 0.056)  
gap n = 2.801 ( 0.056)  
gap 2p = 1.802 ( 0.050)  
gap 2n = 0.824 ( 0.056)  
gap alpha = 0.552 ( 0.048)