

^{142}Ce $Z = 58$ $N = 84$ adopted link ENSDF link

Based on ensdf_240402 (Apr 2024), and mass evaluation from 2020

BE = 1185.284 (0.002) MeV

	Energy T	J+		J-		J-other		T1/2

S-alpha=	-1.304	(0.002)	-----					

142CE	1	0.000	0+					1 5E+16 Y GT
142CE	2	0.641	2+					2 5.56 PS 12
142CE	3	1.219	4+					3 7.5 PS 7
142CE	4	1.536	2+					4 0.83 PS LT
142CE	5			1.653	3-			5 1.8 PS GT
142CE	6			1.742	5-			6
142CE	7	1.743	6+					7
142CE	8	2.005	2+					8 0.045 PS +5-4
142CE	9					2.014		9
142CE	10	2.031	0+					10 0.17 PS +15-6

142CE	11	2.045	4+					11 0.33 PS +11-7
142CE	12	2.112	4+					12 0.37 PS +30-12
142CE	13			2.125	5-			13 0.41 PS GT
142CE	14	2.182	3+					14 0.26 PS +55-11
142CE	15			2.188	1-			15 0.011 PS 2
142CE	16	2.211	6+					16
142CE	17	2.278	4+					17 0.083 PS +49-28
142CE	18	2.330	3+					18 0.21 PS +21-8
142CE	19	2.365	2+					19 0.016 PS +3-2
142CE	20					2.375 +		20 0.69 PS GT

142CE	21			2.384	4-			21 0.060 PS +76-28
142CE	22	2.398	1+					22 0.076 PS +21-14
142CE	23	2.540	4+					23 0.041 PS +18-12
142CE	24					2.543 1		24 0.014 PS LT
142CE	25	2.543	2+					25 0.21 PS +25-8
142CE	26	2.570	5+					26 0.12 PS +18-6
142CE	27	2.576	3+					27 0.69 PS GT
142CE	28					2.591		28
142CE	29			2.592	(7-)			29
142CE	30	2.598	2+					30 1.66 PS GT

142CE	31					2.603 (3,2)+		31 0.24 PS +25-8
142CE	32	2.606	4+					32 0.049 PS +83-28
142CE	33	2.624	8+					33
142CE	34	2.667	1+					34 0.054 PS +24-15
142CE	35					2.681 (2,3,4)+		35 0.15 PS +15-6
142CE	36	2.697	2+					36 0.08 PS +6-3

142CE	37	2.699	4+				37	0.076	PS	+21-15
142CE	38	2.715	3+				38	0.12	PS	+13-5
142CE	39	2.726	5+				39	0.049	PS	+26-16
142CE	40			2.728	2(-)		40	0.27	PS	+29-8

142CE	41					2.735 (3,2)+	41	0.37	PS	GT
142CE	42					2.742 (2,3)+	42	0.076	PS	+28-14
142CE	43					2.768 (1,2,3)+	43	0.055	PS	+18-12
142CE	44	2.774	(3)+				44	0.69	PS	GT
142CE	45					2.785 (3,4,5)	45	0.23	PS	+63-10
142CE	46					2.793	46			
142CE	47	2.801	1(+)				47	0.010	PS	2
142CE	48	2.806	3+				48	0.10	PS	+7-3
142CE	49					2.843 (2,3)+	49	0.038	PS	+10-8
142CE	50	2.853	2+				50	0.076	PS	+42-21

142CE	51	2.858	(8+)				51			
142CE	52					2.860 4	52	0.69	PS	GT
142CE	53	2.869	(4)+				53	0.46	PS	GT
142CE	54	2.888	3+				54	0.041	PS	+12-9
142CE	55					2.922	55			
142CE	56					2.935 (2,3,4)	56	0.48	PS	GT
142CE	57	2.956	3+				57	0.017	PS	+7-6
142CE	58					2.986	58			
142CE	59			2.994	9(-)		59			
142CE	60	2.999	1+				60	0.017	PS	+13-8

142CE	61					3.010	61	0.69	PS	GT
142CE	62					3.012 1	62	0.016	PS	+6-4
142CE	63					3.042	63	0.18	PS	+34-8
142CE	64	3.052	(3)+				64	0.69	PS	GT
142CE	65					3.061 +	65	0.09	PS	+11-4
142CE	66					3.067	66			
142CE	67					3.090 (2,3)+	67	0.058	PS	+29-17
142CE	68					3.102	68			
142CE	69	3.106	3+				69	0.053	PS	+26-15
142CE	70					3.110	70	0.69	PS	GT

142CE	71					3.122	71			
142CE	72					3.126 (1,2,3)	72	0.65	PS	GT
142CE	73	3.145	3+				73			
142CE	74	3.154	2+				74	0.11	PS	+15-5
142CE	75					3.155	75	0.69	PS	GT
142CE	76					3.165	76			
142CE	77					3.180 1	77	0.69	PS	GT
142CE	78	3.209	3+				78	0.043	PS	+41-18
142CE	79					3.218	79	0.69	PS	GT
142CE	80			3.229	(5-)		80			

142CE	81					3.301	81	0.69	PS	GT

142CE 82		3.305	2+				82			
142CE 83						3.314 1	83	13.3	FS	6
142CE 84		3.381	(9+)				84			
142CE 85						3.401 1	85	13.6	FS	5
142CE 86						3.420 1-,2-	86			
142CE 87						3.424	87			
142CE 88						3.436	88			
142CE 89						3.460	89			
142CE 90						3.470	90			

142CE 91						3.515 1	91	33	FS	+6-4
142CE 92		3.536	(10+)				92			
142CE 93		3.612	2+				93			
142CE 94						3.633 1	94	36.7	FS	21
142CE 95						3.644 1	95	15.2	FS	7
142CE 96						3.649	96			
142CE 97		3.676	1+				97			
142CE 98						3.689	98			
142CE 99						3.704	99			
142CE 100		3.718	1+				100			

142CE 101						3.720 1	101	40.9	FS	28
142CE 102						3.732	102			
142CE 103						3.746 1	103	37.4	FS	28
142CE 104						3.777 1	104	33.3	FS	28
142CE 105					3.833	11(-)	105			
142CE 106						3.851	106	22.2	FS	21
142CE 107						3.884	107			
142CE 108		3.906	(11+)				108			
142CE 109						3.914	109			
142CE 110						3.976	110			

142CE 111		4.043	2+				111			
142CE 112						4.046	112			
142CE 113						4.048	113			
142CE 114		4.357	(12+)				114			
142CE 115					4.605	(13-)	115			
142CE 116						4.717	116			
142CE 117					4.896	(14-)	117			
142CE 118					5.173	(15-)	118			
142CE 119					5.515	(16-)	119			
142CE 120					5.877	(17-)	120			

142CE 121						6.528	121			
142CE 122						6.880	122			

S-p = 8.892 (0.005) -----
S-n = 7.173 (0.003) -----
S-2p = 15.843 (0.008) -----

S-2n = 12.601 (0.003) -----
S-alpha= -1.304 (0.002) -----

S+p = -5.824 (0.003)
S+n = -5.145 (0.003)
S+2p = -13.793 (0.003)
S+2n = -12.041 (0.004)
S+alpha = 1.182 (0.003)

gap p = 3.068 (0.006)
gap n = 2.029 (0.004)
gap 2p = 2.050 (0.009)
gap 2n = 0.560 (0.005)
gap alpha = -0.122 (0.004)