

$^{40}\text{Ca}$        $Z = 20$        $N = 20$       adopted link      ENSDF link

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

BE = 342.052 ( 0.000) MeV

	Energy T	J+	J-	J-other	T1/2
40CA 1	0.000	0+			1 STABLE
40CA 2	3.353	0+			2 2.17 NS 8
40CA 3			3.737 0 ( 3-		3 41 PS 4
40CA 4	3.904	2+			4 35 FS 7
40CA 5			4.491 0 ( 5-		5 289 PS 8
40CA 6	5.212	0+			6 1.02 PS 21
40CA 7	5.249	2+			7 83 FS +11-9
40CA 8	5.279	4+			8 0.21 PS 4
40CA 9			5.614 4-		9 0.69 PS 11
40CA 10	5.629	2+			10 40 FS 15
40CA 11			5.903 1-		11 15.8 FS 22
40CA 12			6.025 2-		12 171 FS 21
40CA 13	6.030	3+			13 0.40 PS 8
40CA 14				6.160 (3-)	14
40CA 15			6.285 3-		15 0.33 PS 4
40CA 16	6.422	2+			16 12 FS +5-3
40CA 17	6.508	4+			17 128 FS 21
40CA 18	6.543	4+			18 121 FS 21
40CA 19			6.582 3-		19 0.173 FS 28
40CA 20			6.750 2-		20 96 FS 28
40CA 21	6.909	2+			21 2.41 FS +29-23
40CA 22	6.930	6+			22 0.34 PS +9-17
40CA 23			6.931 3-		23 1.4 PS 6
40CA 24				6.938 (1-;5-)	24 0.42 FS 17
40CA 25			6.950 1-		25 1.01 FS 5
S-alpha=	7.040 ( 0.000)				
40CA 26				7.100 (2+)	26
40CA 27			7.113 1-		27 55 FS 28
40CA 28			7.114 4-		28 50 FS 21
40CA 29				7.239 (3-,4,5-)	29 0.10 PS 5
40CA 30				7.278 (2,3)+	30 49 FS 35
40CA 31	7.301	0+			31 118 FS 35
40CA 32				7.397 (5+)	32 0.47 PS 14
40CA 33				7.422	33 0.20 PS 14
40CA 34				7.446 3+,4+	34 0.14 PS 5
40CA 35	7.466	2+			35 8 FS 4
40CA 36				7.481	36
40CA 37			7.532 2-		37 0.16 PS 4

40CA 38		7.561	4+							38	0.17	PS	4
40CA 39							7.623	(2-,3,4+)		39	0.111	PS	28
40CA 40					7.658	1 4-				40	10	FS	LT
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40CA 41							7.677	(6+)		41	0.20	PS	5
40CA 42					7.694	1 3-				42	6	FS	LT
40CA 43		7.702	0+							43			
40CA 44							7.769	(3,4,5-)		44	166	FS	35
40CA 45		7.815	0+							45			
40CA 46					7.870	3-				46			
40CA 47		7.872	2+							47	2.44	FS	+24-20
40CA 48		7.928	4+							48	49	FS	35
40CA 49							7.972	(LE 3)-		49			
40CA 50							7.974	(6+)		50			
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40CA 51		7.977	2+							51	21	FS	21
40CA 52		8.019	0+							52			
40CA 53							8.052			53			
40CA 54		8.092	2+							54	2.94	FS	+20-18
40CA 55		8.100	8+							55	12.5	PS	17
40CA 56					8.113	1-				56	30	FS	+20-9
40CA 57							8.135	(3-)		57	28	FS	LT
40CA 58							8.188	(3,4,5-)		58	17	FS	LT
40CA 59							8.196			59			
40CA 60							8.271	(LE 3)-		60			
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40CA 61		8.276	0+							61			
40CA 62							8.323	(1-,2+)		62	58	FS	21
S-p =		8.328	( 0.000)										
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40CA 63							8.338	(2+,3,4)		63			
40CA 64							8.359	(0,1,2)-		64	104	FS	21
40CA 65							8.364	(3-:7-)		65			
40CA 66		8.374	4+							66			
40CA 67					8.425	1 ( 2-				67	17	FS	LT
40CA 68		8.439	0+							68			
40CA 69							8.484	(1-,2-,3-)		69	24	FS	14
40CA 70							8.540	1,2+		70	14	FS	14
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40CA 71					8.551	1 5-				71	17	FS	LT
40CA 72		8.579	2+							72	3.6	FS	+13-8
40CA 73							8.587	(2+,3)		73			
40CA 74							8.633			74			
40CA 75					8.665	1-				75			
40CA 76		8.678	4+							76	42	FS	35
40CA 77							8.701	(6-)		77			
40CA 78							8.717			78			
40CA 79		8.748	2+							79	5.8	FS	+11-8
40CA 80					8.764	3-				80			
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40CA 81		8.810	2+							81			

40CA 82						8.851	6-,7-,8-	82
40CA 83						8.909		83
40CA 84		8.935	2+					84
40CA 85						8.936	(7+)	85
40CA 86		8.938	0+					86
40CA 87						8.978	5+,6+,7+	87
40CA 88		8.983	2+					88 4.5 FS +39-14
40CA 89						8.995	(1-,2+)	89
40CA 90					9.032 4-			90
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40CA 91						9.033	(7-)	91
40CA 92						9.050		92
40CA 93						9.080		93
40CA 94					9.092 3-			94
40CA 95						9.136 0	( 2-,3-	95
40CA 96						9.162		96
40CA 97						9.185		97
40CA 98						9.210 0	( (2,3)-	98
40CA 99						9.227	(1-,2,3-)	99
40CA 100						9.227	(1,2+)	100
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40CA 101						9.246	(7)-	101
40CA 102						9.274		102
40CA 103		9.304 1	( 0+					103
40CA 104						9.305	(8+)	104
40CA 105					9.363 0	( 3-		105
40CA 106						9.378	2-,3-,4-	106
40CA 107		9.388	2+					107
40CA 108						9.396		108
40CA 109					9.405 1 2-			109 0.14 KEV
40CA 110		9.406 1	0+					110
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40CA 111						9.412		111
40CA 112					9.419 1 3-			112
40CA 113						9.429 0	( (3,4)-	113
40CA 114					9.432 1	( 1-		114 0.23 KEV
40CA 115					9.454 0 3-			115 0.09 KEV
40CA 116		9.500	2+					116
40CA 117						9.536		117
40CA 118					9.538 1-			118 0.4 KEV
40CA 119						9.564 (1)	(2+)	119
40CA 120					9.603 1 3-			120 0.4 KEV
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40CA 121					9.605 1 1-			121 0.19 KEV 5
40CA 122						9.633		122
40CA 123					9.641 1 2-			123
40CA 124						9.656		124
40CA 125						9.662	LE 3-	125
40CA 126					9.669 1 3-			126
40CA 127						9.779 1 3		127

40CA 128				9.785	(1,2+)	128
40CA 129				9.802	LE 3-	129
40CA 130				9.807		130
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40CA 131				9.811	(3-,4-,5-)	131
40CA 132				9.829		132
40CA 133				9.835		133
40CA 134				9.854	(8+)	134
40CA 135				9.854	LE 3-	135
40CA 136				9.860	4-,5-,6-	136
40CA 137				9.865	1 1	137 0.100 KEV 24
40CA 138				9.869	1+,2+	138 0.90 KEV 21
40CA 139				9.899		139
40CA 140				9.921	(3-,4-,5-)	140
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40CA 141				9.940		141
40CA 142		9.954 0 4+				142
40CA 143				9.977	(3,4,5)	143
40CA 144				9.994		144

S-p = 8.328 ( 0.000)-----  
S-n = 15.635 ( 0.001)-----  
S-2p = 14.710 ( 0.000)-----  
S-2n = 28.931 ( 0.000)-----  
S-alpha= 7.040 ( 0.000)-----

S+p = -1.085 ( 0.000)  
S+n = -8.363 ( 0.000)  
S+2p = -4.836 ( 0.000)  
S+2n = -19.844 ( 0.000)  
S+alpha = -5.127 ( 0.001)

gap p = 7.243 ( 0.000)  
gap n = 7.272 ( 0.001)  
gap 2p = 9.874 ( 0.000)  
gap 2n = 9.087 ( 0.000)  
gap alpha = 1.913 ( 0.001)