

$^{40}\text{K}$        $Z = 19$        $N = 21$       [link to full NNDC output](#)

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

BE = 341.524 ( 0.000) MeV  
 Qbeta- = 1.311 ( 0.000) MeV  
 Qbeta+ = 1.504 ( 0.000) MeV

	Energy T	J+	J-	J-other	T1/2
40K	1		0.000	4-	1 1.248E+9 Y 3
40K	2		0.030	3-	2 4.25 NS 6
40K	3		0.800	2-	3 0.26 PS 5
40K	4		0.891	5-	4 0.83 PS 18
40K	5	1.644	0+		5 0.336 US 13
40K	6	1.959	2+		6 0.54 PS 8
40K	7		2.047	2-	7 0.32 PS 5
40K	8		2.070	3-	8 0.43 PS 12
40K	9		2.104	1-	9 0.46 PS 9
40K	10	2.260	3+		10 65 FS 14
40K	11	2.290	1+		11 86 FS 19
40K	12		2.291	3-	12 0.15 PS 3
40K	13			2.385 +	13
40K	14		2.397	4-	14 35 FS 14
40K	15		2.419	2-	15 0.55 PS +16-11
40K	16			2.424	16
40K	17	2.543	7+		17 1.09 NS 7
40K	18			2.558	18
40K	19	2.576	2+		19 0.155 PS 26
40K	20		2.626	0-	20 0.22 PS 5
40K	21			2.730 1	21 28 FS LT
40K	22		2.747	3-	22 0.128 PS 31
40K	23	2.757	2+		23 21 FS LT
40K	24	2.787	3+		24 38 FS LT
40K	25			2.787 3-,4-	25 55 FS 21
40K	26			2.808 (1,2)-	26 0.14 PS 5
40K	27	2.879	6+		27 0.27 PS 10
40K	28			2.951	28 35 FS 21
40K	29			2.986 (2-,3+)	29 69 FS 28
40K	30			3.028 (2-,3+)	30 50 FS LT
40K	31			3.100 (4,5)+	31 69 FS 21
40K	32			3.110 1+,2+	32 97 FS LT
40K	33			3.128 (2-,3+)	33 21 FS LT
40K	34			3.147 1(-)	34
40K	35			3.154 (2-,3)	35 21 FS LT
40K	36		3.229	2-	36 28 FS 22

40K	37					3.293	UNNATURAL	37
40K	38					3.353	(6+)	38
40K	39					3.368	(2,3)-	39
40K	40			3.394	2-			40
-----								
40K	41	3.414	2+					41
40K	42					3.439	(2+)	42
40K	43					3.448	(3,5)+	43
40K	44			3.486	2-			44
40K	45					3.517		45
40K	46					3.557	(1-,2+,3-,4+)	46
40K	47			3.599	2-			47
40K	48					3.630	2-,3-	48
40K	49					3.664	(1-,2,3,4+)	49
40K	50					3.713	(2)-	50
-----								
40K	51	3.738	1+					51
40K	52					3.768	(2)-	52
40K	53	3.797	1+					53
40K	54			3.821	2-			54
40K	55					3.840	(1,2+)	55
40K	56			3.869	2-			56
40K	57					3.872	(7+)	57
40K	58					3.888	(1-,2-)	58
40K	59					3.898		59
40K	60					3.924	(2-,3+)	60
-----								
40K	61					3.996	UNNATURAL	61
40K	62					4.020	(2)-	62
40K	63					4.080		63
40K	64					4.104	(1-,2,3-)	64
40K	65					4.111	2	65
40K	66					4.149	(2-,3+)	66
40K	67					4.180	(3-)	67
40K	68					4.213	(2-,3+)	68
40K	69					4.252	(1,2-)	69
40K	70					4.254	(1,2)-	70
-----								
40K	71			4.280	2-			71
40K	72			4.314	2-			72
40K	73					4.350	(2-)	73
40K	74	4.366	8+					74
40K	75	4.384	2 0+					75
40K	76					4.396	(2)-	76
40K	77					4.419	(2-,3,4+)	77
40K	78					4.464	(1-,2,3,4-)	78
40K	79					4.473	(2-,3,4-)	79
40K	80					4.508		80
-----								
40K	81					4.537	(1-,2,3)	81

40K 82				4.544	(0-:4-)	82
40K 83				4.589	(2-)	83
40K 84				4.662	(2-:6-)	84
40K 85				4.666	(2-:5-)	85
40K 86				4.697	UNNATURAL	86
40K 87				4.744	(2+)	87
40K 88				4.765	(1)+	88
40K 89		4.789	2-			89
40K 90				4.808	(0:3)-	90
-----						
40K 91				4.812	(8+)	91
40K 92				4.827	UNNATURAL	92
40K 93				4.851	(2-,3,4+)	93
40K 94				4.873	(2,3)-	94
40K 95	4.876	9+				95 0.7 PS LT
40K 96				4.909	(0:3)-	96
40K 97				4.930	UNNATURAL	97
40K 98				4.948	(2)-	98
40K 99				4.960	(2,3-)	99
40K 100				4.993	(2-)	100
-----						
40K 101				5.024	(2-,3,4-)	101
40K 102				5.063	(2-,3+)	102
40K 103				5.080	(0:3)-	103
40K 104				5.112	(2,3)-	104
40K 105				5.136	(0:3)-	105
40K 106				5.158	(0:3)-	106
40K 107				5.190	(2-)	107
40K 108		5.214	2-			108
40K 109				5.247		109
40K 110				5.333	(9+)	110
-----						
40K 111				5.489	(2-,3,4-)	111
40K 112				5.681		112
40K 113				5.870		113
40K 114				5.892	(9-)	114
40K 115				6.098	(1-,2,3,4-)	115
40K 116				6.118		116
40K 117				6.227	(8,10)-	117 1.4 PS LT
-----						
S-alpha=	6.438	( 0.000)	-----			
40K 118				6.790		118
40K 119				7.000		119
40K 120				7.033	(9-)	120
-----						
40K 121				7.468		121
40K 122				7.472	(9-,11-)	122
-----						
S-p	=	7.582	( 0.005)	-----		
40K 123				7.748	(9-,10-)	123
40K 124				7.795		124
40K 125				7.799		125

S-n	=	7.800 ( 0.000)		-----		
40K 126				7.801	(0:3)-	126
40K 127				7.803	(0:3)-	127
40K 128		7.809	1+			128 73 EV 8
40K 129				7.811		129
40K 130				7.812	3-	130 1.2 EV 2
-----						
40K 131				7.814	(2)-	131
40K 132				7.815	2-	132 1.64 EV 24
40K 133				7.816	(3-)	133
40K 134				7.824		134
40K 135		7.825	2+			135 95 EV 3
40K 136				7.827		136
40K 137				7.831	3-	137 3 EV
40K 138				7.832	2-	138 13 EV 1
40K 139				7.836	(2-)	139
40K 140				7.836	(2-)	140
-----						
40K 141		7.841	2+			141 0.54 KEV 3
40K 142				7.844		142
40K 143				7.844	2-	143 42 EV 2
40K 144				7.850	(2)-	144
40K 145				7.853		145
40K 146				7.853	2-	146 17 EV 4
40K 147				7.854		147
40K 148		7.856	1+			148 1.1 KEV 1
40K 149				7.857		149
40K 150				7.858	1-	150 83 EV 13
-----						
40K 151				7.860		151
40K 152				7.866	1	152 1.94 KEV 24
40K 153				7.867		153
40K 154				7.873		154
40K 155				7.878		155
40K 156				7.879		156
40K 157				7.882		157
40K 158				7.885	1-	158 0.47 KEV 5
40K 159				7.890		159
40K 160				7.890		160
-----						
40K 161				7.894		161
40K 162				7.894		162
40K 163				7.896	2-	163 0.11 KEV 3
40K 164				7.899	2-	164 36 EV 11
40K 165				7.900		165
40K 166				7.901		166
40K 167				7.903		167
40K 168				7.905		168
40K 169		7.906	1+			169 2.0 KEV 4
40K 170				7.906		170

40K 171				7.907		171
40K 172				7.912		172
40K 173				7.914		173
40K 174				7.915		174
40K 175				7.917		175
40K 176				7.919	(2)-	176
40K 177				7.923	(2)	177
40K 178				7.924		178
40K 179				7.924		179
40K 180				7.926		180
40K 181				7.931		181
40K 182				7.932		182
40K 183				7.933		183
40K 184		7.940	2-			184 0.17 KEV 4
40K 185				7.941		185
40K 186				7.943		186
40K 187				7.944		187
40K 188				7.948		188
40K 189				7.950	(3-)	189
40K 190				7.952		190
40K 191				7.958		191
40K 192				7.973	1	192 1.12 KEV 15
40K 193				7.983		193
40K 194		7.988	1+			194 1.0 KEV 2
40K 195				7.994	(9-:12-)	195
40K 196				11.000		196
40K 197				12.000		197

S-p = 7.582 ( 0.005)-----  
S-n = 7.800 ( 0.000)-----  
S-2p = 18.315 ( 0.000)-----  
S-2n = 20.877 ( 0.000)-----  
S-alpha= 6.438 ( 0.000)-----

S+p = -8.891 ( 0.000)  
S+n = -10.095 ( 0.000)  
S+2p = -13.164 ( 0.000)  
S+2n = -17.629 ( 0.000)  
S+alpha = -6.705 ( 0.002)

gap p = -1.309 ( 0.005)  
gap n = -2.296 ( 0.000)  
gap 2p = 5.152 ( 0.000)  
gap 2n = 3.248 ( 0.000)  
gap alpha = -0.267 ( 0.002)