

^{42}K $Z = 19$ $N = 23$ [link to full NNDC output](#)

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

BE = 359.153 (0.000) MeV

Qbeta- = 3.525 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
42K 1			0.000 2-		1 12.355 H 7
42K 2			0.107 3-		2 0.28 NS 4
42K 3			0.258 4-		3 130 PS 9
42K 4			0.639 3-		4 1.4 NS LT
42K 5				0.682 (2,3)	5
42K 6			0.699 5-		6 41 PS 8
42K 7			0.784 2-		7
42K 8			0.842 3-		8
42K 9	1.111	3+			9
42K 10	1.144	4+			10 1.4 NS LT

42K 11			1.198 4-		11
42K 12			1.255 2-		12
42K 13				1.266 (1,2,3)-	13
42K 14			1.274 2-		14
42K 15	1.376	6+			15 1.11 NS 14
42K 16				1.377 (2,3)-	16
42K 17				1.400 (2,3)	17
42K 18				1.408 (1-,2,3)	18
42K 19				1.453 (2-,3,4-)	19
42K 20				1.464 (1-,2,3)	20

42K 21				1.489 (1-:5-)	21
42K 22				1.513 (1-:5-)	22
42K 23	1.539	3+			23 3.5 PS LT
42K 24				1.692 (1-:4-)	24
42K 25				1.723 (2,3,4+)	25
42K 26				1.746 (2+,3+)	26
42K 27				1.817 (2,3,4-)	27
42K 28				1.843 (1-,2,3)	28
42K 29			1.862 2-		29
42K 30				1.913 (2-,3)	30

42K 31				1.936 (3-:6-)	31
42K 32				1.937 (1,2,3)-	32
42K 33	1.948	7+			33 1.1 PS LT
42K 34				1.988 (0-:4-)	34
42K 35	2.049	3+			35
42K 36				2.072 (2,3)-	36
42K 37				2.114 (0-:4-)	37

42K	38					2.162	(2+,3,4+)	38
42K	39	2.187	3+					39
42K	40					2.204	(2-,3,4+)	40

42K	41					2.239	(1,2,3)-	41
42K	42					2.251	(1-,2,3)	42
42K	43					2.314	(3,5)+	43
42K	44					2.359	(4+:7-)	44
42K	45					2.366	(2,3)-	45
42K	46	2.389	3+					46
42K	47					2.402	(2,3)-	47
42K	48					2.422	(1-,2,3)	48
42K	49					2.482	(1,2,3)-	49
42K	50					2.525	(2:4)	50

42K	51					2.554	(0 TO 3)-	51
42K	52					2.574	(2,3)	52
42K	53					2.607	(1-,2,3)	53
42K	54					2.628	(2-,3)	54
42K	55			2.644	3-			55
42K	56					2.654	(2-,3)	56
42K	57					2.718	(2-,3)	57
42K	58					2.766	(2+,3)	58
42K	59					2.802		59
42K	60					2.844		60

42K	61					2.863	(2-,3)	61
42K	62			2.878	3-			62
42K	63					2.917	(1-:4+)	63
42K	64					2.926	(2,3)-	64
42K	65					2.939	(1-,2,3)	65
42K	66					2.992	(5+:9+)	66
42K	67					3.008	3	67
42K	68					3.014	(1,2,3)-	68
42K	69					3.021	(2,3)-	69
42K	70	3.032	3+					70

42K	71			3.040	3-			71
42K	72	3.090	1+					72
42K	73					3.132		73
42K	74					3.168	(2+:6+)	74
42K	75					3.196	(2-,3)	75
42K	76					3.211	(1+,2,3)	76
42K	77					3.234	(3,4+)	77
42K	78					3.284	(2,3)-	78
42K	79					3.287	(2-,3,4+)	79
42K	80					3.295	(2,3)	80

42K	81	3.304	1+					81
42K	82			3.324	3-			82

42K	83	3.329	1+				83	
42K	84					3.367	(1+)	84
42K	85					3.418	(2,3)-	85
42K	86					3.421	(0-:3)	86
42K	87					3.498	(2+:9-)	87
42K	88					3.503	(2+,3,4+)	88
42K	89					3.529	(0-:3)	89
42K	90					3.560	(5+:9+)	90

42K	91					3.587		91
42K	92					3.621	(2,3)	92
42K	93					3.659	(2-,3)	93
42K	94					3.674	(1-,2,3)	94
42K	95					3.697	(3-,4+)	95
42K	96					3.758		96
42K	97					3.771	(0-:3)	97
42K	98					3.795	(0-:3)	98
42K	99					3.798	(2-,3,4+)	99
42K	100					3.832	(1+,2,3)	100

42K	101					3.862	(1-:4+)	101
42K	102					3.877	(1-:4+)	102
42K	103					3.888	(2,3)-	103
42K	104					3.890	(0-:3)	104
42K	105					3.935	(2-,3)	105
42K	106					4.014	(0-:3)	106
42K	107			4.037	3-			107
42K	108					4.040	(1,2,3)	108
42K	109					4.054	(2,3)-	109
42K	110					4.092	(3+:9-)	110

42K	111					4.104	(0-:4+)	111
42K	112					4.106	(0-:3)	112
42K	113			4.128	3-			113
42K	114					4.152	(2-,3,4+)	114
42K	115					4.155	(1-,2,3)	115
42K	116					4.179	(2-,3,4+)	116
42K	117					4.259	(1-,2,3)	117
42K	118					4.390	(2-,3,4+)	118
42K	119					4.417	(2,3)-	119
42K	120					4.428	(1+,2,3)	120

42K	121					4.443	(0-:4+)	121
42K	122					4.481	(2,3)-	122
42K	123					4.557	(1-,2,3)	123
42K	124					4.576	(2,3)-	124
42K	125					4.591	(2-,3,4+)	125
42K	126					4.604		126
42K	127					4.613	(2+,3)	127
42K	128					4.661	(2-,3)	128

42K 129				4.715	(2-,3)	129
42K 130				4.746	(3+:10)	130

42K 131		4.749	3-			131
42K 132				4.778	(1-:4+)	132
42K 133				4.807	(1:3)-	133
42K 134				4.854	(0:3)-	134
42K 135				4.877	(0:4+)	135
42K 136				4.904	(3-,4+)	136
42K 137				4.939	(1-,2,3)	137
42K 138				4.943	(1-:4-)	138
42K 139				4.960	(0-:4+)	139
42K 140				5.003	(1-,2,3)	140

42K 141				5.064	(1-:4+)	141
42K 142				5.081	(1-,2,3)	142
42K 143				5.097	(0-:3)	143
42K 144				5.142		144
42K 145				5.179	(0-:4+)	145
42K 146				5.247	(1-:4+)	146
42K 147				5.319	(2-,3)	147
42K 148				5.364		148
42K 149				5.380		149
42K 150				5.477	(1+,2,3)	150

42K 151				5.484		151
42K 152				5.556		152
42K 153				5.622		153
42K 154				5.630	(4+)	154
42K 155				5.655		155
42K 156				5.683		156
42K 157				5.697	(1-:4+)	157
42K 158				5.711	(2-,3,4+)	158
42K 159				5.723		159
42K 160				5.738		160

42K 161				5.748		161
42K 162				5.760	(1-,2,3+)	162
42K 163				5.772		163
42K 164				5.790	(0:4+)	164
42K 165				5.809		165
42K 166				5.819		166
42K 167				5.846	(1+,2,3+)	167
42K 168				5.896		168
42K 169				5.927		169
42K 170				5.954	(1:3)	170

42K 171				5.969		171
42K 172				5.978	(4+)	172
42K 173				6.013		173

42K	174				6.450 3	(0+)	174
S-n	=	7.534	(0.000)	-----			
42K	175				7.534	1+,2+	175
42K	176				7.535		176
42K	177				7.536	1+,2+	177
42K	178				7.537	(0:3)-	178
42K	179				7.538		179
42K	180				7.539	1+,2+	180

42K	181				7.540		181
42K	182				7.540		182
42K	183				7.542		183
42K	184				7.542		184
42K	185				7.544	(0:3)-	185
42K	186				7.545		186
42K	187				7.547	(0:3)-	187
42K	188				7.548	(0:3)-	188
42K	189				7.549		189
42K	190				7.549		190

42K	191				7.550	1+,2+	191
42K	192				7.551		192
42K	193				7.552		193
42K	194				7.553		194
42K	195				7.554	(0:3)-	195
42K	196				7.558	(1+,2+)	196
42K	197				7.560		197
42K	198				7.560	(0:3)-	198
42K	199				7.561		199
42K	200				7.566		200

42K	201				7.566		201
42K	202				7.567		202
42K	203				7.568		203
42K	204				7.571	1+,2+	204
42K	205				7.572		205
42K	206				7.575	(1+,2+)	206
42K	207				7.576		207
42K	208				7.577		208
42K	209				7.577		209
42K	210				7.580		210

42K	211				7.580		211
42K	212				7.581		212
42K	213				7.582		213
42K	214				7.583		214
42K	215				7.584		215
42K	216				7.585		216
42K	217				7.586		217
42K	218				7.586		218

42K 219				7.588	(0:3)-	219
42K 220				7.590		220

42K 221				7.591	(1+,2+)	221
42K 222				7.592		222
42K 223				7.595		223
42K 224				7.595		224
42K 225				7.595	(0:3)-	225
42K 226				7.598		226
42K 227				7.599	(0:3)-	227
42K 228				7.600		228
42K 229				7.600		229
42K 230				7.603	(0:3)-	230

42K 231				7.603		231
42K 232				7.604		232
42K 233				7.607		233
42K 234				7.607	(0:3)-	234
42K 235				7.609		235
42K 236				7.611		236
42K 237				7.612		237
42K 238				7.612	(0:3)-	238
42K 239				7.614		239
42K 240				7.615		240

42K 241				7.615	(0:3)-	241
42K 242				7.618		242
42K 243				7.620		243
42K 244				7.622	(0:3)-	244
42K 245				7.623		245
42K 246				7.625		246
42K 247				7.626		247
42K 248				7.628		248
42K 249				7.628		249
42K 250				7.629		250

42K 251				7.630		251
42K 252				7.632	(0:3)-	252
42K 253				7.633		253
42K 254				7.635		254
42K 255				7.637		255
42K 256				7.638		256
42K 257				7.640		257
42K 258				7.641		258
42K 259				7.642		259
42K 260				7.644		260

42K 261				7.645		261
42K 262				7.647		262
42K 263				7.647	(0:3)-	263

S-alpha= 7.649 (0.000)			
42K	264		7.652
42K	265		7.652
42K	266		7.653
42K	267		7.655
42K	268		7.657
42K	269		7.657
42K	270		7.659

42K	271		7.660
42K	272		7.663
42K	273		7.664
42K	274		7.664
42K	275		7.665
42K	276		7.666
42K	277		7.669
42K	278		7.671
42K	279		7.675
42K	280		7.676

42K	281		7.676
42K	282		7.680
42K	283		7.681

S-p = 9.243 (0.000)-----
S-n = 7.534 (0.000)-----
S-2p = 22.042 (0.032)-----
S-2n = 17.629 (0.000)-----
S-alpha= 7.649 (0.000)-----

S+p = -10.676 (0.000)
S+n = -9.625 (0.000)
S+2p = -17.372 (0.002)
S+2n = -16.902 (0.000)
S+alpha = -9.164 (0.001)

gap p = -1.432 (0.000)
gap n = -2.091 (0.000)
gap 2p = 4.670 (0.032)
gap 2n = 0.727 (0.000)
gap alpha = -1.515 (0.001)