

^{42}Sc $Z = 21$ $N = 21$ adopted link ENSDF link

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

BE = 354.687 (0.000) MeV

Qbeta+ = 6.426 (0.000) MeV

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

42SC 1	0.000	1 0+			1 680.79 MS 28
42SC 2	0.611	0 1+			2 28 FS 12
42SC 3	0.616	0 7+			3 61.7 S 4
42SC 4	1.491	0 3+			4 31 PS 5
42SC 5	1.510	0 5+			5 44 PS 8
42SC 6	1.586	1 2+			6 54 FS 12
42SC 7				1.704	7
42SC 8	1.845	0 3(+)			8 3.5 NS LT
42SC 9	1.874	1 0+			9 70 FS LT
42SC 10	1.888	0 1+			10 42 FS LT

42SC 11	2.187	0 3+			11 0.54 PS 24
42SC 12	2.223	0 1+			12 87 FS 35
42SC 13	2.223	0 3+			13 0.63 PS 35
42SC 14	2.269	0 2+			14 70 FS GT
42SC 15				2.296 (1,2)	15
42SC 16	2.389	3+			16
42SC 17	2.434	0 4+			17 0.14 PS GT
42SC 18	2.455	1+			18 0.18 PS 11
42SC 19	2.487	1 2+			19 50 FS LT
42SC 20				2.507 (1,2,3)+	20

42SC 21				2.535 (1,2+)	21 0.66 PS 28
42SC 22				2.587 (2,4)	22
42SC 23	2.607	4(+)			23
42SC 24	2.652	0 (2+)			24 35 FS 21
42SC 25				2.669	25
42SC 26				2.726	26
42SC 27				2.795 (5+,6+)	27
42SC 28	2.816	1 4+			28 35 FS 14
42SC 29				2.833 (2+,3,4+)	29 0.21 PS 11
42SC 30	2.848	3+			30 0.20 PS 13

42SC 31				2.883	31
42SC 32	2.910	4+			32 0.8 PS GT
42SC 33	2.966	1+			33
42SC 34	2.996	4+			34 0.14 PS GT
42SC 35			3.023 4-		35
42SC 36	3.089	5+			36 0.21 PS 4

42SC 37						3.146		37		
42SC 38						3.166		38		
42SC 39		3.175	(5)+					39		
42SC 40		3.224	(5+)					40	0.21 PS	GT

42SC 41						3.238	(5,6,7)+	41		
42SC 42		3.285	7+					42		
42SC 43						3.321	(1+,2,3+)	43	0.14 PS	GT
42SC 44						3.324	(3+,4,5+)	44	35 FS	LT
42SC 45		3.348	1+					45		
42SC 46						3.366		46		
42SC 47		3.391	3+					47	62 FS	49
42SC 48						3.446	(2:5)(+)	48		
42SC 49						3.468		49		
42SC 50						3.493		50		

42SC 51						3.512		51		
42SC 52						3.529		52		
42SC 53		3.546	(5+)					53		
42SC 54						3.580		54		
42SC 55						3.602	(5,6,7)+	55		
42SC 56					3.603	(8-)		56		
42SC 57						3.669		57		
42SC 58		3.688	0 1+					58	28 FS	LT
42SC 59						3.701		59		
42SC 60		3.710	(5+)					60		

42SC 61		3.719	(5+)					61	70 FS	GT
42SC 62		3.752	(7+)					62		
42SC 63						3.775		63		
42SC 64		3.797	3+					64		
42SC 65						3.855		65		
42SC 66		3.866	1+					66		
42SC 67						3.880		67		
42SC 68		3.884	6(+)					68		
42SC 69						3.896	(3,4,5)+	69		
42SC 70						3.915		70		

42SC 71		3.934	0 3+					71	52 FS	LT
42SC 72						4.022		72		
42SC 73						4.048	(2,3,4)	73	14 FS	LT
42SC 74		4.062	(6+)					74		
42SC 75						4.070	(3,4,5)+	75		
42SC 76					4.117	(10-)		76	0.5 NS	AP
42SC 77						4.176	(3,4,5)+	77		
42SC 78		4.204	(2 TO 5)+					78		
42SC 79					4.246	9(-)		79		
42SC 80						4.246		80		

42SC 81						4.262		81		

S-p	=	4.272	(0.000)				
42SC	82					4.274		82
42SC	83					4.289	(2:5)+	83
42SC	84					4.370		84
42SC	85					4.391	(1,2,3)+	85
42SC	86					4.410	(2:5)+	86
42SC	87					4.469	(2,3)+	87
42SC	88					4.548	(2:5)+	88
42SC	89					4.582	(2:5)+	89
42SC	90					4.604	(2:5)(+)	90

42SC	91					4.665	(2:5)+	91
42SC	92					4.704		92
42SC	93					4.725	(2:5)+	93
42SC	94					4.755	(3,4,5)+	94
42SC	95					4.786		95
42SC	96					4.808		96
42SC	97					4.828	(2:5)+	97
42SC	98					4.875	(1,2,3)+	98
42SC	99	4.883		(8+)				99
42SC	100	4.928		1+				100

42SC	101					4.971		101
42SC	102	4.992		9(+)				102
42SC	103					5.001	(1,2,3)+	103
42SC	104					5.028		104
42SC	105					5.048	(3,4,5)+	105
42SC	106					5.084		106
42SC	107					5.120	(1,2,3)+	107
42SC	108	5.140		1+				108
42SC	109					5.305		109
42SC	110					5.326		110

42SC	111					5.352		111
42SC	112					5.370		112
42SC	113					5.380		113
42SC	114	5.402		(7+)				114
42SC	115					5.436		115
42SC	116				5.451	11(-)		116
42SC	117					5.475		117
42SC	118	5.507		8(+)				118
42SC	119					5.520		119
42SC	120					5.572		120

42SC	121					5.635	(2:5)+	121
42SC	122					5.651	(2:5)+	122
42SC	123	5.686		(1+)				123
42SC	124	5.716		1+				124
S-alpha=		5.745	(0.000)				
42SC	125					5.771		125

42SC 126				5.810	126
42SC 127				5.865 (2:5)(+)	127
42SC 128	5.963	(9+)			128
42SC 129				5.966 (2:5)(+)	129
42SC 130				5.996 (3,4)+	130

42SC 131				6.011	131
42SC 132				6.076 (2+,3,4+)	132
42SC 133				6.090	133
42SC 134	6.118	(8+)			134
42SC 135				6.174 (3+,4+)	135
42SC 136				6.253 (3+,4)	136
42SC 137	6.327	1+			137
42SC 138				6.364	138
42SC 139				6.737	139
42SC 140	6.824	(10+)			140

42SC 141	6.921	11(+)			141
42SC 142				7.068	142
42SC 143				7.129	143
42SC 144	7.184	10(+)			144
42SC 145				7.261	145
42SC 146				7.295	146
42SC 147	7.307	(11+)			147
42SC 148				7.418	148
42SC 149				7.491	149
42SC 150				7.586	150

42SC 151	7.676	11(+)			151
42SC 152				7.678	152
42SC 153				7.776	153
42SC 154				7.884	154
42SC 155				7.923	155
42SC 156				7.974	156
42SC 157			8.094	(10-)	157
42SC 158	8.105	(1+)			158
42SC 159				8.182	159
42SC 160				8.205	160

42SC 161				8.251	161
42SC 162				8.292	162
42SC 163				8.338	163
42SC 164				8.373	164
42SC 165				8.400	165
42SC 166				8.492	166
42SC 167				8.540	167
42SC 168	8.732	(1+)			168
42SC 169	8.798	(13+)			169
42SC 170				8.810	170

42SC 171				8.854	171
42SC 172				8.887	172
42SC 173				8.887	173
42SC 174				8.920	174
42SC 175				8.929	175
42SC 176	8.981	(1+)			176
42SC 177				9.004	177
42SC 178				9.068	178
42SC 179				9.088	179
42SC 180				9.113	180

42SC 181				9.156	181
42SC 182				9.203	182
42SC 183				9.236	183
42SC 184				9.280	184
42SC 185				9.312	185
42SC 186				9.406	186
42SC 187	9.511	(13+)			187
42SC 188				9.565	188
42SC 189				9.611	189
42SC 190				9.620 (12)	190

42SC 191				9.793	191
42SC 192				9.826	192
42SC 193				9.874	193
42SC 194				9.901	194
42SC 195				9.947	195
42SC 196				9.978	196
42SC 197	10.011	1+			197
42SC 198	10.013	(13+)			198
42SC 199				10.118	199
42SC 200				10.142	200

42SC 201				10.165	201
42SC 202				10.195	202
42SC 203	10.250	1+			203
42SC 204				10.271	204
42SC 205	10.338	1+			205
42SC 206				10.395	206
42SC 207	10.437	1+			207
42SC 208	10.451	(13+)			208
42SC 209			10.536	(12-)	209
42SC 210	10.561	(1+)			210

42SC 211				10.583 13	211
42SC 212				10.695	212
42SC 213				10.735	213
42SC 214				10.809	214
42SC 215				10.939	215
42SC 216				11.070	216

42SC 217				11.180	217
42SC 218				11.220	218
42SC 219				11.260	219
42SC 220				11.400	220

S-n	=	11.550	(0.000)	-----	

42SC 221				11.620	221
42SC 222				11.810	222
42SC 223		11.830	(1+)		223
42SC 224		11.853	(15+)		224
42SC 225				11.931	225
42SC 226		12.000	(1+)		226
42SC 227				12.401	227
42SC 228				12.420	228
42SC 229				12.449	229
42SC 230				12.700	230

42SC 231				13.022	231
42SC 232				13.026	232
42SC 233				13.094 (15)	233

S-2p	=	13.163	(0.000)	-----	
42SC 234				13.418	234
42SC 235				13.620	235
42SC 236				15.966 (17)	236
42SC 237				0.000	237

0

S-p = 4.272 (0.000) -----
S-n = 11.550 (0.000) -----
S-2p = 13.163 (0.000) -----
S-2n = 27.740 (0.003) -----
S-alpha= 5.745 (0.000) -----

S+p = -4.484 (0.006)
S+n = -12.138 (0.002)
S+2p = -6.265 (0.007)
S+2n = -21.838 (0.002)
S+alpha = -7.380 (0.000)

gap p = -0.211 (0.006)
gap n = -0.588 (0.002)
gap 2p = 6.898 (0.007)
gap 2n = 5.903 (0.003)
gap alpha = -1.635 (0.000)