

^{45}Sc $Z = 21$ $N = 24$ [link to full NNDC output](#)

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

BE = 387.852 (0.001) MeV

	Energy T	J+	J-	J-other	T1/2
45SC 1	|	|	0.000	7/2-	1 STABLE
45SC 2	0.012	3/2+	|	|	2 318 MS 7
45SC 3	|	|	0.377	3/2-	3 43.3 PS 23
45SC 4	0.543	5/2+	|	|	4 5.5 PS 6
45SC 5	|	|	0.720	5/2-	5 206 FS 16
45SC 6	0.939	1/2+	|	|	6 7.3 PS +6-3
45SC 7	0.974	7/2+	|	|	7 2.54 PS 23
45SC 8	|	|	1.068	3/2-	8 0.28 PS 6
45SC 9	|	|	1.237	11/2-	9 1.80 PS 10
45SC 10	1.303	3/2+	|	|	10 2.3 PS +7-4

45SC 11	|	|	|	1.354 (11/2-)	11
45SC 12	|	|	|	1.409 (7/2)-	12 257 FS +23-18
45SC 13	1.433	9/2+	|	|	13 3.6 PS 18
45SC 14	|	|	|	1.472 (7/2+)	14
45SC 15	|	|	|	1.556 (3/2)-	15 0.28 PS +12-8
45SC 16	|	|	1.662	9/2-	16 98 FS 10
45SC 17	|	|	|	1.716	17
45SC 18	1.800	5/2+	|	|	18 65 FS 15
45SC 19	|	|	|	1.901	19
45SC 20	|	|	|	1.931 1/2,3/2,5/2+	20

45SC 21	|	|	|	1.936	21 32 FS +16-11
45SC 22	|	|	|	1.936	22 61 FS +22-16
45SC 23	2.031	11/2+	|	|	23 0.76 PS +12-8
45SC 24	|	|	2.090	15/2-	24
45SC 25	|	|	|	2.093 5/2	25 8.3 FS 21
45SC 26	|	|	|	2.106 LE 7/2	26
45SC 27	|	|	2.106	15/2-	27 1.4 PS GT
45SC 28	|	|	|	2.138 3/2-,5/2	28 0.31 PS +9-7
45SC 29	|	|	|	2.151 (1/2,3/2,5/2)	29 60 FS +17-12
45SC 30	|	|	|	2.152	30

45SC 31	|	|	|	2.222 (3/2-,5/2)	31
45SC 32	|	|	|	2.224 5/2+,7/2+	32
45SC 33	|	|	|	2.289 (7/2-,9/2)	33 0.21 PS 7
45SC 34	|	|	|	2.304 (5/2-)	34 55 FS +35-17
45SC 35	|	|	|	2.322 3/2-,5/2,7/2+	35 45 FS +11-7
45SC 36	|	|	|	2.341 (7/2-)	36 31 FS 7
45SC 37	|	|	|	2.352 3/2-,5/2	37
45SC 38	|	|	|	2.385	38

45SC 39	|		|		|	2.531	(1/2+,3/2,5/2)	39			
45SC 40	|	2.563	13/2+	|	|			40	1.0 PS	3	

45SC 41	|		|		|	2.590	3/2-,5/2,7/2-	41	35 FS	8	
45SC 42	|		|		|	2.601	1/2+,3/2,5/2	42			
45SC 43	|		|		|	2.634		43			
45SC 44	|		|		|	2.700		44			
45SC 45	|		|		|	2.747	5/2-,7/2-	45			
45SC 46	|		|		|	2.779	(1/2-,3/2,5/2)	46			
45SC 47	|		|		|	2.861	(1/2-,3/2,5/2)	47			
45SC 48	|		|		|	2.895	1/2+,3/2,5/2	48	7 FS	4	
45SC 49	|		|		|	2.904	3/2+,5/2+	49			
45SC 50	|		|		|	2.943	(5/2)+	50			

45SC 51	|		|		|	2.960	(9/2+,11/2-)	51			
45SC 52	|		|		|	2.964	(3/2+,5/2+)	52			
45SC 53	|		|	2.980	3/2-	|		53			
45SC 54	|		|		|	3.026	1/2-,3/2-	54			
45SC 55	|		|		|	3.059		55			
45SC 56	|		|		|	3.092	1/2+,3/2,5/2	56			
45SC 57	|		|		|	3.104	(3/2,5/2)	57			
45SC 58	|	3.111	7/2+	|	|			58			
45SC 59	|		|		|	3.136	5/2-,7/2-,9/2-	59			
45SC 60	|		|		|	3.159		60			

45SC 61	|		|		|	3.198		61			
45SC 62	|		|		|	3.224		62			
45SC 63	|		|		|	3.283	(+)	63			
45SC 64	|	3.295	15/2+	|	|			64	0.46 PS	5	
45SC 65	|		|		|	3.329	+	65			
45SC 66	|		|		|	3.349	(+)	66			
45SC 67	|		|		|	3.364	(15/2-)	67			
45SC 68	|		|		|	3.366	(5/2)-	68			
45SC 69	|		|		|	3.400	1/2-,3/2-	69			
45SC 70	|		|		|	3.443	+	70			

45SC 71	|		|		|	3.457	(5/2)-	71			
45SC 72	|		|		|	3.462	5/2-,7/2-	72			
45SC 73	|		|		|	3.475	3/2+,5/2+	73			
45SC 74	|		|	3.487	3/2-	|		74			
45SC 75	|		|		|	3.525	3/2-,5/2	75			
45SC 76	|		|		|	3.549	1/2+,3/2,5/2,7/2	76+			
45SC 77	|		|	3.570	17/2-	|		77	0.07 PS	LT	
45SC 78	|		|		|	3.581	5/2-,7/2-,9/2-	78			
45SC 79	|		|		|	3.584	1/2,3/2,5/2+	79			
45SC 80	|		|		|	3.606	+	80			

45SC 81	|		|	3.693	19/2-	|		81	1.39 PS	14	
45SC 82	|		|		|	3.714	1/2,3/2,5/2	82	13 FS	+14-10	
45SC 83	|		|		|	3.722		83			

45SC 84	|	|	|	3.776	(+)	84
45SC 85	|	|	|	3.864		85
45SC 86	|	|	|	3.882	(1/2-)	86
45SC 87	|	|	|	3.890	+	87
45SC 88	|	|	|	3.916	1/2-, 3/2-	88
45SC 89	|	|	|	3.938	5/2-, 7/2-, 9/2-	89
45SC 90	|	|	|	3.982	3/2+, 5/2+	90

45SC 91	|	|	|	4.031	+	91
45SC 92	|	|	|	4.034	5/2-, 7/2-, 9/2-	92
45SC 93	4.055	17/2+	|	|	|	93 0.28 PS 6
45SC 94	|	|	|	4.085	(1/2-, 3/2-)	94
45SC 95	|	|	|	4.129		95
45SC 96	|	|	|	4.178		96
45SC 97	|	|	|	4.244		97
45SC 98	|	|	|	4.307	-	98
45SC 99	|	|	|	4.360	3/2+, 5/2+	99
45SC 100	|	|	|	4.424		100

45SC 101	|	|	|	4.464		101
45SC 102	|	|	|	4.505	1/2-, 3/2-	102
45SC 103	|	|	|	4.546		103
45SC 104	|	|	|	4.610	(13/2-, 15/2+)	104
45SC 105	|	|	|	4.610		105
45SC 106	|	|	|	4.662	(1/2, 3/2)	106
45SC 107	|	|	|	4.690	(13/2+, 15/2-)	107
45SC 108	|	|	|	4.713		108
45SC 109	|	|	|	4.739		109
45SC 110	|	|	|	4.774		110

45SC 111	|	|	|	4.801		111
45SC 112	|	|	|	4.824		112
45SC 113	|	|	|	4.869		113
45SC 114	4.895	19/2+	|	|	|	114 0.21 PS 4
45SC 115	|	|	|	4.919	(1/2-, 3/2-)	115
45SC 116	|	|	|	4.950	(17/2+)	116
45SC 117	|	|	|	4.965	5/2-, 7/2-, 9/2-	117
45SC 118	|	|	|	5.009		118
45SC 119	|	|	|	5.049		119
45SC 120	|	|	|	5.084		120

45SC 121	|	|	|	5.125		121
45SC 122	|	|	|	5.169		122
45SC 123	|	|	|	5.219		123
45SC 124	|	|	|	5.261		124
45SC 125	|	|	|	5.299		125
45SC 126	|	|	|	5.374		126
45SC 127	|	5.418	23/2-	|	|	127 1.32 PS 14
45SC 128	|	|	|	5.419		128
45SC 129	|	|	|	5.444		129

45SC 130	|	|	|	5.504		130		

45SC 131	|	|	|	5.516	(19/2-)	131		
45SC 132	|	|	|	5.574		132		
45SC 133	|	|	|	5.604		133		
45SC 134	|	|	|	5.669	3/2+,5/2+	134		
45SC 135	|	5.697	21/2+|	|		135	0.28 PS	14
45SC 136	|	|	|	5.711	(21/2-)	136		
45SC 137	|	|	|	5.774		137		
45SC 138	|	|	|	5.810		138		
45SC 139	|	|	|	5.834		139		
45SC 140	|	|	|	5.931		140		

45SC 141	|	|	|	5.964		141		
45SC 142	|	|	|	5.971		142		
45SC 143	|	|	|	6.004		143		
45SC 144	|	|	|	6.031		144		
45SC 145	|	|	|	6.119		145		
45SC 146	|	|	|	6.179		146		
45SC 147	|	|	|	6.202		147		
45SC 148	|	|	|	6.244		148		
45SC 149	|	|	|	6.332		149		
45SC 150	|	|	|	6.369	3/2+,5/2+	150		

45SC 151	|	|	|	6.438		151		
45SC 152	|	|	|	6.476		152		
45SC 153	|	|	|	6.551	5/2-,7/2-,9/2-	153		
45SC 154	|	|	|	6.609		154		
45SC 155	|	|	|	6.667	(5/2-,7/2-,9/2-)	155		
45SC 156	|	6.684	23/2+|	|		156	0.17 PS	4
45SC 157	|	|	6.699	7/2-|		157		
45SC 158	|	|	|	6.750	3/2+,5/2+	158		
45SC 159	|	|	|	6.751	(5/2-,7/2-,9/2-)	159		
45SC 160	|	|	|	6.820	5/2-,7/2-,9/2-	160		

S-p	=	6.892	(0.001)	-----				
45SC 161	|	|	|	7.613	(23/2-)	161		
45SC 162	|	|	|	7.650		162		
45SC 163	|	|	|	7.696		163		
45SC 164	|	|	|	7.711		164		
45SC 165	|	|	|	7.713		165		
45SC 166	|	|	|	7.715		166		
45SC 167	|	|	|	7.725	3/2(-)	167		
45SC 168	|	|	|	7.774	3/2(+)	168		
45SC 169	|	7.929	25/2+|	|		169	0.07 PS	LT

S-alpha	=	7.937	(0.000)	-----				
45SC 170	|	|	8.003	19/2- TO	27/2-	170	0.07 PS	LT

45SC 171	|	|	8.112	3/2-|		171	37 EV	9
45SC 172	|	|	|	8.118		172	20 EV	+8-18

45SC 173	|		|	8.128	3/2-	|			173	23 EV	7
45SC 174	|		|			|	8.305		174		
45SC 175	|	8.364	25/2+	|		|			175	0.07 PS	LT
45SC 176	|		|			|	8.436	3/2-,5/2	176		
45SC 177	|	8.471	5/2+	|		|			177		
45SC 178	|		|			|	8.476	(3/2)-	178	12 EV	5
45SC 179	|		|			|	8.484	(3/2)-	179	25 EV	7
45SC 180	|		|	8.492	3/2-	|			180		

45SC 181	|		|	8.498	3/2-	|			181	80 EV	15
45SC 182	|		|	8.503	3/2-	|			182	400 EV	40
45SC 183	|		|	8.509	3/2-	|			183		
45SC 184	|		|	8.516	3/2-	|			184	60 EV	10
45SC 185	|		|	8.519	3/2-	|			185	30 EV	7
45SC 186	|		|			|	8.528	(3/2)-	186	7 EV	5
45SC 187	|		|			|	8.529	(3/2)-	187	5 EV	3
45SC 188	|		|	8.533	3/2-	|			188	10 EV	5
45SC 189	|		|	8.543	3/2-	|			189	10 EV	5
45SC 190	|		|			|	8.553	(1/2)-	190	10 EV	5

45SC 191	|		|	8.580	1/2-	|			191	50 EV	10
45SC 192	|		|			|	8.591	(1/2)-	192	15 EV	5
45SC 193	|		|			|	8.606	5/2	193		
45SC 194	|		|	8.616	1/2-	|			194	40 EV	10
45SC 195	|	8.622	27/2+	|		|			195	0.19 PS	6
45SC 196	|		|			|	8.658	(1/2)-	196	26 EV	7
45SC 197	|		|			|	8.665	(1/2)-	197	5 EV	3
45SC 198	|		|			|	8.675	(1/2)-	198	15 EV	5
45SC 199	|		|	8.696	1/2-	|			199	36 EV	7
45SC 200	|		|			|	8.712	(1/2)-	200	15 EV	5

45SC 201	|		|			|	8.716	(1/2)-	201	26 EV	7
45SC 202	|		|	8.736	1/2-	|			202	60 EV	10
45SC 203	|		|			|	8.749	(1/2)-	203	11 EV	5
45SC 204	|		|	8.755	1/2-	|			204	100 EV	15
45SC 205	|		|	8.766	1/2-	|			205	52 EV	10
45SC 206	|		|	8.795	1/2-	|			206	76 EV	15
45SC 207	|		|	8.807	1/2-	|			207	35 EV	7
45SC 208	|		|			|	8.814	(1/2)-	208	21 EV	5
45SC 209	|		|			|	8.825	(1/2)-	209	11 EV	5
45SC 210	|		|	8.838	1/2-	|			210	400 EV	40

45SC 211	|		|	8.844	1/2-	|			211	35 EV	7
45SC 212	|		|	8.863	1/2-	|			212	175 EV	20
45SC 213	|		|	8.870	1/2-	|			213	241 EV	25
45SC 214	|		|	8.886	1/2-	|			214	54 EV	10
45SC 215	|		|	8.888	1/2-	|			215	351 EV	35
45SC 216	|		|	8.892	1/2-	|			216	64 EV	10
45SC 217	|		|	8.908	1/2-	|			217	243 EV	25
45SC 218	|		|	8.917	1/2-	|			218	36 EV	7

45SC 219	|		|	8.935	1/2-	|			219	64 EV	10
45SC 220	|		|			|	8.948	(1/2)-	220	20 EV	5

45SC 221	|		|			|	8.949	(1/2)-	221	16 EV	5
45SC 222	|		|	8.961	1/2-	|			222	60 EV	10
45SC 223	|		|	8.965	1/2-	|			223	31 EV	7
45SC 224	|		|			|	8.976	(25/2-)	224		
45SC 225	|		|	8.983	1/2-	|			225	49 EV	10
45SC 226	|		|	8.996	1/2-	|			226	40 EV	10
45SC 227	|		|			|	9.017	(1/2)-	227	12 EV	5
45SC 228	|		|			|	9.164		228		
45SC 229	|		|			|	9.481		229		
45SC 230	|		|			|	10.001		230		

45SC 231	|		|			|	10.008	(27/2-)	231		
45SC 232	|		|			|	10.169	(29/2+)	232		
45SC 233	|		|			|	10.299		233		
45SC 234	|		|			|	10.936		234		
45SC 235	|		|			|	11.022	(31/2+)	235		
45SC 236	|		|			|	11.201	(29/2+)	236		

S-n	=	11.327	(	0.002)	-----						
45SC 237	|		|			|	12.142		237		
45SC 238	|		|			|	12.593	(31/2-)	238		
45SC 239	|		|			|	13.373	(31/2+)	239		
45SC 240	|		|			|	13.675		240		

45SC 241	|		|			|	14.517	(33/2+)	241		
45SC 242	|		|			|	15.313		242		
45SC 243	|		|			|	15.703	(35/2-)	243		
45SC 244	|		|			|	16.462	(35/2+)	244		

S-p	=	6.892	(	0.001)	-----						
S-n	=	11.327	(	0.002)	-----						
S-2p	=	19.074	(	0.001)	-----						
S-2n	=	21.026	(	0.002)	-----						
S-alpha	=	7.937	(	0.000)	-----						

S+p	=	-10.345	(	0.001)							
S+n	=	-8.761	(	0.001)							
S+2p	=	-15.513	(	0.001)							
S+2n	=	-19.407	(	0.002)							
S+alpha	=	-9.315	(	0.001)							

gap p	=	-3.453	(	0.001)							
gap n	=	2.567	(	0.002)							
gap 2p	=	3.562	(	0.001)							
gap 2n	=	1.619	(	0.003)							
gap alpha	=	-1.378	(	0.001)							