

^{140}Nd $Z = 60$ $N = 80$ [link to full NNDC output](#)

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

BE = 1167.302 (0.004) MeV

Qbeta+ = 0.429 (0.007) MeV

	Energy T	J+	J-	J-other	T1/2
140ND 1	0.000	0+			1 3.37 D 2
S-alpha= 0.175 (0.004)					
140ND 2	0.774	2+			2
140ND 3	1.413	0+			3
140ND 4	1.414	2+			4
140ND 5				1.490 (2)+	5
140ND 6	1.802	4+			6
140ND 7			1.936 3-		7
140ND 8				2.124 3(-)	8
140ND 9	2.140	2+			9
140ND 10			2.221 7-		10 0.60 MS 5
140ND 11			2.276 5-		11
140ND 12	2.330	0+			12
140ND 13	2.332	2+			13
140ND 14	2.360	0+			14
140ND 15	2.366	6+			15
140ND 16	2.400	4+			16
140ND 17	2.468	2+			17
140ND 18			2.514 5-		18
140ND 19				2.548 (0)+	19
140ND 20				2.575 (4+,5-)	20
140ND 21			2.606 3-		21
140ND 22				2.670	22
140ND 23	2.686	4+			23
140ND 24	2.710	2+			24
140ND 25				2.810	25
140ND 26				2.830 (2+)	26
140ND 27				2.842 6(+),7(-)	27
140ND 28				2.889 (5-)	28
140ND 29	2.911	0+			29
140ND 30				2.943 (6+)	30
140ND 31	3.014	4+			31
140ND 32	3.061	4+			32
140ND 33			3.062 7-		33
140ND 34				3.136 (4+)	34
140ND 35	3.185	8+			35
140ND 36				3.206 (2+)	36

140ND 37						3.239	(2+)	37
140ND 38				3.239	8-			38
140ND 39		3.286	4+					39
140ND 40						3.324	2+&4+	40

140ND 41		3.387	2+					41
140ND 42						3.419	7,8,9(-)	42
140ND 43				3.455	9-			43
140ND 44		3.460	4+					44
140ND 45		3.493	4+					45
140ND 46						3.510		46
140ND 47						3.561	(2+)	47
140ND 48				3.574	3-			48
140ND 49						3.621	(4+)	49
140ND 50		3.621	10+					50 22 NS 1

140ND 51						3.666	(7-)	51
140ND 52						3.673	7(-)	52
140ND 53						3.733		53
140ND 54		3.755	6+					54
140ND 55						3.780		55
140ND 56						3.810		56
140ND 57						3.844	(6+)	57
140ND 58						3.889	(1-)	58
140ND 59						3.925		59
140ND 60						3.949		60

140ND 61				4.031	10-			61
140ND 62		4.157	10+					62
140ND 63						4.170		63
140ND 64				4.176	10-			64
140ND 65				4.323	11-			65
140ND 66						4.350	7,8,9	66
140ND 67						4.367	7,8,9(-)	67
140ND 68				4.514	12-			68 0.25 NS
140ND 69				4.703	13-			69
140ND 70				4.878	11-			70

140ND 71		4.915	11+					71
140ND 72				5.099	12-			72
140ND 73				5.138	12-			73
140ND 74						5.267		74
140ND 75				5.312	13-			75
140ND 76						5.383		76
140ND 77						5.421		77
140ND 78				5.432	14-			78
140ND 79				5.614	15-			79
140ND 80						5.626		80

140ND 81						5.644	15(-)	81

140ND 82				5.903	16	82
140ND 83				5.966		83
140ND 84		5.971	15-			84
140ND 85				5.972		85
140ND 86		6.158	16-			86
140ND 87				6.158		87
140ND 88				6.346		88
140ND 89				6.408	17	89
140ND 90				6.515		90

140ND 91				6.577		91
140ND 92				6.615		92
S-p	=	6.729	(0.009)	-----		
140ND 93				6.731		93
140ND 94				6.770		94
140ND 95				6.861		95
140ND 96				6.890		96
140ND 97		6.892	16-			97
140ND 98		6.967	17-			98
140ND 99		7.057	17-			99
140ND 100		7.133	17-			100

140ND 101				7.166		101
140ND 102				7.207		102
140ND 103				7.338		103
140ND 104				7.488		104
140ND 105				7.496		105
140ND 106		7.525	18-			106
140ND 107				7.659		107
140ND 108		7.813	18-			108
140ND 109		7.825	18-			109
140ND 110				7.950		110

140ND 111				8.040		111
140ND 112				8.049		112
140ND 113				8.191		113
140ND 114				8.323	19(+)	114
140ND 115				8.338		115
140ND 116		8.438	20-			116
140ND 117				8.525		117
140ND 118				8.549		118
140ND 119				8.605	20(+)	119
140ND 120				8.634		120

140ND 121				8.778		121
140ND 122				8.906		122
140ND 123				8.981	20(+), 21, 22-	123
140ND 124				9.011		124
140ND 125				9.035	21(+)	125
140ND 126		9.173	21-			126

140ND 127		9.266	22-			127	
140ND 128					9.431	128	
140ND 129					9.523	129	
140ND 130					9.567	22(+)	130

140ND 131					9.569	22(+)	131
140ND 132		9.646	22-				132
140ND 133					9.672	22(+)	133
140ND 134		9.794	23-				134
140ND 135					9.872		135
140ND 136					9.893	23(+)	136
140ND 137		10.126	24-				137
140ND 138					10.264	24(+)	138
140ND 139					10.307	24(+)	139

S-n = 10.316 (0.028)-----							
140ND 140		10.576	25-				140

140ND 141		10.587	24-				141
140ND 142					10.742	25(+)	142
140ND 143					11.072	26(+)	143
140ND 144		11.173	26-				144

S-2p = 11.266 (0.006)-----							
140ND 145					11.314	26(+)	145
140ND 146		11.365	27-				146
140ND 147					11.398		147
140ND 148		11.564	26-				148
140ND 149		11.600	26-				149
140ND 150					11.846	27(+)	150

140ND 151					11.967	(27+)	151
140ND 152					12.124	28(+)	152
140ND 153		12.240	28-				153
140ND 154					12.400		154
140ND 155		12.422	29-				155
140ND 156					12.425		156
140ND 157					12.445		157
140ND 158					12.479	(29-)	158
140ND 159					12.525	29(+)	159
140ND 160					12.897		160

140ND 161		13.050	30-				161
140ND 162					13.323		162
140ND 163		13.393	31-				163
140ND 164					13.406	(30+)	164
140ND 165					13.583	31(+)	165
140ND 166		13.703	31-				166
140ND 167		13.959	32-				167
140ND 168		14.472	33-				168
140ND 169					14.843	(32+)	169
140ND 170					14.858		170

140ND 171				14.904	33(+)	171
140ND 172		15.041	34-			172
140ND 173		15.140	33-			173
140ND 174		15.146	33-			174
140ND 175				15.316		175
140ND 176		15.722	35-			176
140ND 177				15.774		177
140ND 178		16.035	34-			178
140ND 179				16.275		179
140ND 180		16.285	36-			180
140ND 181				16.343	(35+)	181
140ND 182				16.438		182
140ND 183				16.975	36(-),37,38-	183
140ND 184		17.078	36-			184
140ND 185				17.151	(37-)	185
140ND 186				17.645		186
140ND 187				17.678	(38-)	187
140ND 188				17.880		188
140ND 189		18.319	38-			189
S-2n = 18.383 (0.012)						
140ND 190				18.723	(39-)	190
140ND 191				19.155		191
140ND 192		19.701	40-			192
140ND 193				X		193
140ND 194				X+312.7		194
140ND 195				X+666.0		195
140ND 196				X+1035.2		196
140ND 197				X+1452.5		197
140ND 198				X+1886.8		198
140ND 199				X+2355.2		199
140ND 200				X+2363.2		200
140ND 201				X+3143.7		201
140ND 202				X+4203.6		202
140ND 203				X+5522.9		203
140ND 204				X+7066.2		204
140ND 205				X+8802.1		205
140ND 206				X+10725.2		206
140ND 207				Y		207
140ND 208				Y+1023.2		208
140ND 209				Y+2166.6		209
140ND 210				Y+3462.9		210
140ND 211				Y+4934.5		211
140ND 212				Y+6605.4		212
140ND 213				Y+8453.6		213
140ND 214				Z		214

140ND 215			Z+838.1	215
140ND 216			Z+1810.5	216
140ND 217			Z+2906.9	217
140ND 218			Z+4189.4	218
140ND 219			Z+5668.1	219
140ND 220			Z+7292.2	220

140ND 221			U	221
140ND 222			U+954.7	222
140ND 223			U+2068.6	223
140ND 224			U+3382.4	224
140ND 225			U+4906.4	225
140ND 226			U+6612.6	226
140ND 227			V	227
140ND 228			V+1026.2	228
140ND 229			V+1825.4	229
140ND 230			V+2842.4	230

140ND 231			V+4086.5	231
140ND 232			V+5572.8	232
140ND 233			V+7291.6	233
140ND 234			V+9218.7	234
140ND 235			V+11354.4	235
140ND 236			W	236
140ND 237			W+1069	237
140ND 238			W+2195	238
140ND 239			W+3379	239
140ND 240			W+4625	240

140ND 241			W+5930	241
140ND 242			W+7295	242
140ND 243			W+8720	243
140ND 244			W+10203	244
140ND 245			W+11731	245
140ND 246			W+11767	246
140ND 247			W+13284	247
140ND 248			W+13529	248
140ND 249			W+14887	249
140ND 250			W+16548	250

140ND 251			W+18272	251
140ND 252			W+20060	252
140ND 253			W+21914	253
140ND 254			W+23833	254
140ND 255			W+25818	255

S-p = 6.729 (0.009)-----
S-n = 10.316 (0.028)-----
S-2p = 11.266 (0.006)-----

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S-2n = 18.383 ( 0.012)-----  
S-alpha= 0.175 ( 0.004)-----  
  
S+p = -3.553 ( 0.014)  
S+n = -8.005 ( 0.005)  
S+2p = -9.306 ( 0.005)  
S+2n = -17.834 ( 0.004)  
S+alpha = -0.132 ( 0.004)  
  
gap p = 3.176 ( 0.017)  
gap n = 2.311 ( 0.028)  
gap 2p = 1.960 ( 0.008)  
gap 2n = 0.550 ( 0.013)  
gap alpha = 0.044 ( 0.005)
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