

$^{142}\text{Nd}$        $Z = 60$        $N = 82$       [link to full NNDC output](#)

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

BE = 1185.136 ( 0.001) MeV

	Energy T	J+	J-	J-other	T1/2
142ND 1	0.000	0+			1 STABLE
S-alpha= 0.804 ( 0.005)					
142ND 2	1.576	2+			2 0.110 PS 2
142ND 3			2.084	3-	3 0.44 PS +37-14
142ND 4	2.101	4+			4 28 NS 2
142ND 5	2.209	6+			5 16.5 US
142ND 6	2.217	0+			6
142ND 7			2.244	1-	7
142ND 8				2.340	8
142ND 9	2.384	2+			9 0.14 PS 3
142ND 10	2.437	4+			10
142ND 11	2.514	5+			11
142ND 12				2.515 (1-)	12
142ND 13				2.529	13
142ND 14	2.547	3+			14
142ND 15	2.583	2+			15
142ND 16				2.586 1(+)	16 0.17 PS GT
142ND 17	2.656	0+			17
142ND 18	2.737	4+			18
142ND 19				2.776 (1-)	19
142ND 20	2.846	2+			20 34 FS 7
142ND 21				2.873 (4+)	21
142ND 22	2.886	6+			22
142ND 23	2.958	0+			23
142ND 24			2.976	5-	24
142ND 25	2.983	0+			25
142ND 26	3.010	4+			26
142ND 27	3.045	2+			27
142ND 28	3.081	4+			28
142ND 29	3.086	5+			29
142ND 30	3.128	2+			30
142ND 31			3.243	7-	31
142ND 32			3.245	4-	32
142ND 33			3.246	7-	33
142ND 34			3.248	4-	34
142ND 35				3.296 (5-)	35
142ND 36	3.319	4+			36
142ND 37	3.359	2+			37

142ND	38					3.365	(3-)		38
142ND	39	3.408	6+						39
142ND	40					3.414	(5)-		40
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142ND	41			3.424	1-				41 1.55 FS 3
142ND	42					3.440			42
142ND	43					3.449			43
142ND	44	3.453	8+						44
142ND	45			3.456	8-				45
142ND	46					3.467			46
142ND	47	3.470	2+						47
142ND	48			3.485	9-				48 1.6 NS 2
142ND	49					3.499	(7-)		49
142ND	50					3.512			50
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142ND	51					3.520	(7+)		51
142ND	52					3.541	(7-)		52
142ND	53					3.577	(3-)		53
142ND	54	3.579	2+						54
142ND	55					3.584	(0+)		55
142ND	56			3.598	5-				56
142ND	57	3.633	6+						57
142ND	58					3.670			58
142ND	59	3.675	6+						59
142ND	60					3.709	(5)-		60
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142ND	61					3.710	(3)-		61
142ND	62					3.744	(1-,2+)		62
142ND	63					3.758	1,2+		63
142ND	64					3.763	(0+)		64
142ND	65					3.766	(8-)		65
142ND	66			3.781	3-				66
142ND	67					3.785	1,2+		67
142ND	68					3.804	(4+)		68
142ND	69			3.831	2-				69
142ND	70	3.832	8+						70
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142ND	71					3.834	(0+)		71
142ND	72					3.861			72
142ND	73					3.872			73
142ND	74					3.896	(2+)		74
142ND	75	3.897	0+						75
142ND	76					3.908	(2)-		76
142ND	77					3.918	(5-)		77
142ND	78					3.923	(1-)		78
142ND	79	3.925	10+						79 0.6 NS 1
142ND	80					3.939			80
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142ND	81					3.954	(8-)		81
142ND	82					3.982	1		82

142ND 83						3.986				83
142ND 84						4.004	(4+)			84
142ND 85						4.054				85
142ND 86						4.069				86
142ND 87						4.094	1(+)			87 4.1 FS 6
142ND 88		4.104	4+							88
142ND 89						4.127				89
142ND 90						4.145	1(-)			90 3.4 FS 5
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142ND 91				4.146	5-					91
142ND 92		4.169	2+							92
142ND 93						4.174	(4+)			93
142ND 94				4.189	1-					94
142ND 95		4.203	2+							95
142ND 96						4.243	(9+)			96
142ND 97						4.256	1,2+			97
142ND 98						4.269				98
142ND 99				4.272	5-					99
142ND 100		4.286	4+							100
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142ND 101				4.286	3-					101
142ND 102						4.298	(5-)			102
142ND 103						4.319				103
142ND 104						4.320	(9)			104
142ND 105		4.326	6+							105
142ND 106						4.335	(1-)			106
142ND 107		4.346	6+							107
142ND 108						4.363				108
142ND 109						4.390	(1-)			109
142ND 110						4.403	(4+)			110
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142ND 111						4.423	(3-)			111
142ND 112				4.456	3-					112
142ND 113						4.464				113
142ND 114						4.480	(4+,5-)			114
142ND 115		4.500	2+							115
142ND 116				4.511	3-					116
142ND 117						4.530				117
142ND 118						4.553				118
142ND 119		4.567	2+							119
142ND 120		4.581	2+							120
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142ND 121						4.605	(10+)			121
142ND 122				4.606	10-					122
142ND 123		4.615	2+							123
142ND 124						4.617	(10)			124
142ND 125						4.625	1			125 4.7 FS 8
142ND 126						4.638	(2+)			126
142ND 127				4.662	5-					127
142ND 128				4.688	5-					128

142ND 129			4.707	3-			129		
142ND 130			4.717	11-			130		
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142ND 131					4.725	(3-)	131		
142ND 132					4.744	(0+)	132		
142ND 133	4.752	6+					133		
142ND 134			4.798	3-			134		
142ND 135					4.818	(2+,3-)	135		
142ND 136					4.838	(3-)	136		
142ND 137					4.847		137		
142ND 138					4.862		138		
142ND 139			4.892	3-			139		
142ND 140					4.902	1	140	5.8 FS	10
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142ND 141					4.908	(3-,4+)	141		
142ND 142					4.971		142		
142ND 143					4.986	(11-)	143		
142ND 144	4.993	4+					144		
142ND 145			5.040	3-			145		
142ND 146					5.054		146		
142ND 147					5.088	(11-)	147		
142ND 148			5.089	3-			148		
142ND 149					5.102	(0+,1-)	149		
142ND 150					5.130	(3-)	150		
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142ND 151	5.145	2+					151		
142ND 152					5.165	1(-)	152	7.4 FS	14
142ND 153					5.172	(3-)	153		
142ND 154					5.182	(11)	154		
142ND 155					5.193		155		
142ND 156					5.202	(12-)	156		
142ND 157					5.220	1	157	2.2 FS	3
142ND 158	5.228	4+					158		
142ND 159	5.252	2+					159		
142ND 160					5.260	(13-)	160		
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142ND 161	5.266	4+					161		
142ND 162	5.277	2+					162		
142ND 163					5.307	(12-)	163		
142ND 164					5.316		164		
142ND 165					5.322		165		
142ND 166			5.332	3-			166		
142ND 167					5.355	(2+,3-)	167		
142ND 168	5.377	0+					168		
142ND 169					5.382	1	169	6.6 FS	15
142ND 170					5.413	1(-)	170	3.2 FS	6
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142ND 171					5.433	1	171	3.3 FS	5
142ND 172					5.438		172		
142ND 173					5.447		173		

142ND 174			5.468	(13-)	174		
142ND 175			5.471		175		
142ND 176			5.496		176		
142ND 177		5.511 3-			177		
142ND 178			5.514		178		
142ND 179			5.523	(3-,1)	179	1.0 FS	15
142ND 180			5.551	1	180	2.9 FS	5
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142ND 181			5.587	1	181	4.3 FS	9
142ND 182			5.651		182		
142ND 183			5.661	1	183	3.0 FS	6
142ND 184			5.714	1	184	3.7 FS	7
142ND 185			5.728		185		
142ND 186			5.733	1	186	3.4 FS	7
142ND 187			5.746	(14-)	187		
142ND 188			5.825	1	188	1.9 FS	3
142ND 189			5.863	1	189	3.4 FS	7
142ND 190			5.912	1	190	0.88 FS	14
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142ND 191			5.956	1	191	4.5 FS	10
142ND 192			5.996	1	192	1.50 FS	24
142ND 193			6.016	1	193	1.45 FS	23
142ND 194			6.035	1	194	0.89 FS	14
142ND 195			6.048	1	195	1.48 FS	24
142ND 196			6.150	1	196	0.52 FS	8
142ND 197			6.172	1	197	0.52 FS	8
142ND 198			6.224	1	198	0.85 FS	13
142ND 199			6.247	(14+)	199		
142ND 200			6.322	1	200	0.36 FS	5
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142ND 201			6.364	1	201	0.51 FS	8
142ND 202			6.440	(14+)	202		
142ND 203			6.555	1	203	2.0 FS	4
142ND 204			6.562	1	204	1.07 FS	18
142ND 205			6.587	1	205	1.22 FS	23
142ND 206			6.596	1	206	1.18 FS	21
142ND 207			6.606		207		
142ND 208			6.615	1	208	1.8 FS	4
142ND 209			6.618		209		
142ND 210			6.626	1	210	0.96 FS	17
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142ND 211			6.653	1	211	2.2 FS	5
142ND 212			6.656	(15+)	212		
142ND 213			6.678	1	213	1.23 FS	21
142ND 214			6.734	1	214	0.89 FS	15
142ND 215			6.760		215		
142ND 216			6.803	1	216	1.23 FS	22
142ND 217			6.815		217		
142ND 218		6.878 1-			218	1.34 FS	16
142ND 219			6.888		219		

142ND 220			6.932	1	220	1.6 FS	3
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142ND 221			7.005	(15+)	221		
142ND 222			7.069	1	222	0.42 FS	7
142ND 223			7.114	1	223	0.56 FS	9
142ND 224			7.123		224		
142ND 225			7.129	(16+)	225		
142ND 226			7.184		226		
S-p	=	7.223	( 0.002)	-----			
142ND 227			7.403		227		
142ND 228			7.650		228		
142ND 229			7.751		229		
142ND 230			7.760		230		
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142ND 231			7.901		231		
142ND 232			7.921	(16+)	232		
142ND 233			8.077		233		
142ND 234			8.152		234		
142ND 235			8.409		235		
142ND 236			8.518		236		
142ND 237			8.525	(18+)	237		
142ND 238			8.913		238		
142ND 239			9.257		239		
142ND 240			9.533	(20+)	240		
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142ND 241			9.661		241		
S-n	=	9.829	( 0.004)	-----			
142ND 242			10.343	(22+)	242		
142ND 243			11.080	(24+)	243		
142ND 244			11.487		244		
142ND 245			12.159		245		
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S-p	=	7.223	( 0.002)	-----			
S-n	=	9.829	( 0.004)	-----			
S-2p	=	12.452	( 0.002)	-----			
S-2n	=	17.834	( 0.004)	-----			
S-alpha	=	0.804	( 0.005)	-----			
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S+p	=	-4.300	( 0.003)				
S+n	=	-6.124	( 0.002)				
S+2p	=	-10.594	( 0.002)				
S+2n	=	-13.941	( 0.002)				
S+alpha	=	2.529	( 0.003)				
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gap p	=	2.924	( 0.004)				
gap n	=	3.705	( 0.004)				
gap 2p	=	1.858	( 0.003)				
gap 2n	=	3.893	( 0.004)				
gap alpha	=	3.333	( 0.006)				