^{150}Gd $Z = 64$ $N = 86$ link to full NNDC output

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

BE = 1236.391 (0.006) MeV

	Energy T	J+	J-	J-other	T1/2	
S-alpha= -2.807 (0.007)						
150GD 1	0.000	0+			1	1.79E+6 Y 8
150GD 2	0.638	2+			2	
150GD 3			1.134 3-		3	
150GD 4	1.207	0+			4	
150GD 5	1.288	4+			5	
150GD 6				1.430 (2)+	6	
150GD 7	1.518	2+			7	
150GD 8				1.592 1	8	
150GD 9			1.700 5-		9	
150GD 10			1.814 3-		10	
150GD 11	1.936	6+			11	
150GD 12				1.947 2-,3-,4-	12	
150GD 13	1.955	2+			13	
150GD 14				1.970	14	
150GD 15				1.980	15	
150GD 16				1.988 2+,3+,4+	16	
150GD 17				2.081 (2,3,4)+	17	
150GD 18				2.084 2-,3-	18	
150GD 19	2.092	2+			19	
150GD 20	2.116	6+			20	
150GD 21				2.158	21	
150GD 22	2.180	2+			22	
150GD 23				2.210 2-,3-	23	
150GD 24			2.211 7-		24	
150GD 25				2.262	25	
150GD 26				2.306 (5-,6+)	26	
150GD 27				2.326	27	
150GD 28				2.365 1,2+	28	
150GD 29				2.392 (7)+	29	
150GD 30	2.409	2+			30	
150GD 31				2.417 3	31	
150GD 32				2.426 1-,2+	32	
150GD 33				2.434	33	
150GD 34				2.522 (2+,3,4+)	34	
150GD 35	2.554	8+			35	
150GD 36				2.559 1,2+	36	
150GD 37				2.565 (1-,2-,3-)	37	

150GD	38				2.594		38
150GD	39				2.628		39
150GD	40				2.654		40
150GD	41				2.678	1,2+	41
150GD	42				2.687	1-,2,3-	42
150GD	43				2.755	2+,3,4+	43
150GD	44				2.767	(8+)	44
150GD	45				2.786	1-,2+	45
150GD	46		2.816	9-			46
150GD	47				2.828		47
150GD	48		2.835	8-			48
150GD	49				2.845	1,2+	49
150GD	50				2.868		50
150GD	51	2.906	8+				51
150GD	52				2.956		52
150GD	53				2.985	1,2+	53
150GD	54				3.025		54
150GD	55				3.036	1-,2+	55
150GD	56				3.043		56
150GD	57				3.084		57
150GD	58				3.119		58
150GD	59				3.134		59
150GD	60				3.177		60
150GD	61				3.178		61
150GD	62		3.220	10-			62
150GD	63				3.251		63
150GD	64				3.269		64
150GD	65	3.288	10+				65
150GD	66				3.298		66
150GD	67				3.329		67
150GD	68				3.345	(2+)	68
150GD	69		3.366	11-			69
150GD	70				3.376		70
150GD	71				3.378		71
150GD	72				3.389		72
150GD	73	3.462	2+				73
150GD	74				3.511	(1-,2+)	74
150GD	75				3.522		75
150GD	76				3.631		76
150GD	77	3.657	2+				77
150GD	78				3.712		78
150GD	79				3.727		79
150GD	80				3.772		80
150GD	81				3.828	(1,2+)	81
150GD	82				3.840		82

150GD 83				3.964		83
150GD 84				4.021	(1,2+)	84
150GD 85	4.105	12+				85
150GD 86				4.111	1-,2+	86
150GD 87			4.131	13-		87
150GD 88				4.144	(1-,2+)	88
150GD 89				4.151		89
150GD 90	4.164	2+				90
150GD 91				4.179		91
150GD 92				4.187	(12)-	92
150GD 93				4.207	(1,2+)	93
150GD 94				4.235	(1-,2+)	94
150GD 95				4.246	(1,2+)	95
150GD 96				4.258	(1-,2+)	96
150GD 97	4.265	2+				97
150GD 98				4.283	(1,2+)	98
150GD 99				4.289	(1,2+)	99
150GD 100				4.297		100
150GD 101				4.303		101
150GD 102				4.314	1,2+	102
150GD 103	4.322	2+				103
150GD 104				4.344	(1,2+)	104
150GD 105				4.379	(1+,2+)	105
150GD 106				4.405	(1,2+)	106
150GD 107				4.420	(13)	107
150GD 108				4.435		108
150GD 109				4.446	1,2+	109
150GD 110				4.462		110
150GD 111				4.493		111
150GD 112				4.500		112
150GD 113				4.523		113
150GD 114				4.529	(1,2+)	114
150GD 115				4.546		115
150GD 116				4.557		116
150GD 117				4.563		117
150GD 118	4.740	14+				118
150GD 119				4.745		119
150GD 120			4.835	15-		120
150GD 121	5.429	16+				121
150GD 122			5.451	17-		122
150GD 123	5.633	17+				123
150GD 124	5.765	18+				124
150GD 125				6.312	(19-)	125
150GD 126				6.451	(20+)	126
150GD 127				6.496	(21-)	127

S-p = 6.612 (0.007)

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150GD 128 |                |                |   7.276     (23-)          128
150GD 129 |                |                |   7.930     (25-)          129
150GD 130 |                |                |   8.325     (27-)          130
----------                                                               -----------------
S-n    =   8.708 ( 0.007)-------------------------------------------------------------------
150GD 131 |                |                |   9.410     (28+)          131
150GD 132 |                |                |   9.497     (29-)          132
150GD 133 |                |                |   9.582     (29+)          133
150GD 134 |                |                |   9.851     (30+)          134
150GD 135 |                |                |  10.532     (31+)          135
S-2p   =  11.006 ( 0.006)-------------------------------------------------------------------
150GD 136 |                |                |  11.231     (33+)          136
150GD 137 |                |                |  12.185     (34-)          137
150GD 138 |                |                |  12.678     (36-,34+)      138
150GD 139 |                |                X                             139
150GD 140 |                |                815.00+X                      140
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150GD 141 |                |                1021.1+X                      141
150GD 142 |                |                1664.10+X                     142
150GD 143 |                |                1931.3+X                      143
150GD 144 |                |                2156.6+X                      144
150GD 145 |                |                2552.00+X                     145
150GD 146 |                |                2897.4+X                      146
150GD 147 |                |                3012.6+X                      147
150GD 148 |                |                3480.90+X                     148
150GD 149 |                |                3893.0+X                      149
150GD 150 |                |                3960.6+X                      150
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150GD 151 |                |                4451.79+X                     151
150GD 152 |                |                4861.7+X                      152
150GD 153 |                |                5465.28+X                     153
150GD 154 |                |                5860.7+X                      154
150GD 155 |                |                6521.8+X                      155
150GD 156 |                |                6907.6+X                      156
150GD 157 |                |                7621.8+X                      157
150GD 158 |                |                8005.2+X                      158
150GD 159 |                |                8766.4+X                      159
150GD 160 |                |                9154.0+X                      160
----------                                                               -----------------
150GD 161 |                |                9956.9+X                      161
150GD 162 |                |                10354.0+X                     162
150GD 163 |                |                11194.8+X                     163
150GD 164 |                |                11604.9+X                     164
150GD 165 |                |                12481.4+X                     165
150GD 166 |                |                12906.1+X                     166
150GD 167 |                |                13818.0+X                     167
150GD 168 |                |                14257.7+X                     168
150GD 169 |                |                15205.8+X                     169
150GD 170 |                |                15658.7+X                     170
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150GD 171		16645.9+X	171
150GD 172		17109.1+X	172
150GD 173		18139.1+X	173
150GD 174		18608.2+X	174
150GD 175		19686.1+X	175
150GD 176		20155.8+X	176
150GD 177		21287.8+X	177
150GD 178		21751.8+X	178
150GD 179		23397.3+X	179
150GD 180		Y	180
150GD 181		688.1+Y	181
150GD 182		1287.6+Y	182
150GD 183		1423.8+Y	183
150GD 184		2015.5+Y	184
150GD 185		2208.9+Y	185
150GD 186		2787.0+Y	186
150GD 187		3043.3+Y	187
150GD 188		3601.3+Y	188
150GD 189		3928.6+Y	189
150GD 190		4458.6+Y	190
150GD 191		4865.1+Y	191
150GD 192		5359.3+Y	192
150GD 193		5853.7+Y	193
150GD 194		6304.6+Y	194
150GD 195		6894.6+Y	195
150GD 196		7295.2+Y	196
150GD 197		7989.9+Y	197
150GD 198		8331.9+Y	198
150GD 199		9139.2+Y	199
150GD 200		9415.2+Y	200
150GD 201		10343.1+Y	201
150GD 202		10546.6+Y	202
150GD 203		11602.4+Y	203
150GD 204		11725.9+Y	204
150GD 205		12916.1+Y	205
150GD 206		12955.8+Y	206
150GD 207		14229.1+Y	207
150GD 208		14293.5+Y	208
150GD 209		15557.7+Y	209
150GD 210		15721.8+Y	210
150GD 211		16936.3+Y	211
150GD 212		17208.2+Y	212
150GD 213		18366.7+Y	213
150GD 214		18751.4+Y	214
150GD 215		19848.9+Y	215
150GD 216		20351.6+Y	216

150GD 217		21384.3+Y	217
150GD 218		22010.0+Y	218
150GD 219		22972.1+Y	219
150GD 220		Z	220
150GD 221		712.5+Z	221
150GD 222		1473.7+Z	222
150GD 223		2284.2+Z	223
150GD 224		3144.2+Z	224
150GD 225		4054.7+Z	225
150GD 226		5017.2+Z	226
150GD 227		6032.1+Z	227
150GD 228		7100.3+Z	228
150GD 229		8222.7+Z	229
150GD 230		9399.8+Z	230
150GD 231		10632.1+Z	231
150GD 232		11919.8+Z	232
150GD 233		13263.6+Z	233
150GD 234		14664.1+Z	234
150GD 235		16121.2+Z	235
150GD 236		17635.1+Z	236
150GD 237		19204.2+Z	237
150GD 238		U	238
150GD 239		771.5+U	239
150GD 240		1588.6+U	240
150GD 241		2451.5+U	241
150GD 242		3359.9+U	242
150GD 243		4313.1+U	243
150GD 244		5311.3+U	244
150GD 245		6353.7+U	245
150GD 246		7441.4+U	246
150GD 247		8574.4+U	247
150GD 248		9753.9+U	248
150GD 249		10980.9+U	249
150GD 250		12256.0+U	250
150GD 251		13581.2+U	251
150GD 252		14956.3+U	252
150GD 253		16382.4+U	253
150GD 254		17862.5+U	254
150GD 255		19379.2+U	255
150GD 256		20915.2+U	256
150GD 257		22505.2+U	257
150GD 258		V	258
150GD 259		733.20+V	259
150GD 260		1511.4+V	260
150GD 261		2341.2+V	261

150GD 262		3221.1+V	262
150GD 263		4151.2+V	263
150GD 264		5132.6+V	264
150GD 265		6166.5+V	265
150GD 266		7253.5+V	266
150GD 267		8394.9+V	267
150GD 268		9590.4+V	268
150GD 269		10841.4+V	269
150GD 270		12147.9+V	270
150GD 271		13510.5+V	271
150GD 272		14929.5+V	272
150GD 273		16404.8+V	273
150GD 274		17937.1+V	274
150GD 275		19527.0+V	275
150GD 276		21171.8+V	276
150GD 277		W	277
150GD 278		711.1+W	278
150GD 279		1469.4+W	279
150GD 280		2275.8+W	280
150GD 281		3131.3+W	281
150GD 282		4036.7+W	282
150GD 283		4993.1+W	283
150GD 284		6001.3+W	284
150GD 285		7062.1+W	285
150GD 286		8176.0+W	286
150GD 287		9344.4+W	287
150GD 288		10567.0+W	288
150GD 289		11845.0+W	289
150GD 290		13178.7+W	290
150GD 291		14568.9+W	291
150GD 292		16015.7+W	292
150GD 293		17519.6+W	293
150GD 294		19080.3+W	294
150GD 295		20698.2+W	295
150GD 296		S	296
150GD 297		800.4+S	297
150GD 298		1650.3+S	298
150GD 299		2552.7+S	299
150GD 300		3507.9+S	300
150GD 301		4518.1+S	301
150GD 302		5584.2+S	302
150GD 303		6706.4+S	303
150GD 304		7886.2+S	304
150GD 305		9124.2+S	305
150GD 306		10420.8+S	306
150GD 307		11776.5+S	307

150GD 308		13191.5+S		308
150GD 309		14665.5+S		309
150GD 310		16199.5+S		310
150GD 311		17793.6+S		311
150GD 312		19446.1+S		312
150GD 313		-0.001	J3 AP (33+)	313
150GD 314		827.6+T		314
150GD 315		1702.9+T		315
150GD 316		2627.2+T		316
150GD 317		3601.5+T		317
150GD 318		4626.6+T		318
150GD 319		5703.4+T		319
150GD 320		6832.3+T		320
150GD 321		8014.8+T		321
150GD 322		9250.8+T		322
150GD 323		10540.9+T		323
150GD 324		11885.9+T		324
150GD 325		13286.0+T		325
150GD 326		14741.9+T		326
150GD 327		16253.7+T		327
150GD 328		17821.0+T		328
150GD 329		A		329
150GD 330		804.0+A		330
150GD 331		1655.6+A		331
150GD 332		2555.8+A		332
150GD 333		3507.0+A		333
150GD 334		4508.5+A		334
150GD 335		5562.2+A		335
150GD 336		6660.4+A		336
150GD 337		7822.2+A		337
150GD 338		9034.6+A		338
150GD 339		10300.5+A		339
150GD 340		11621.0+A		340
150GD 341		12996.6+A		341
150GD 342		14427.3+A		342
150GD 343		15912.7+A		343
150GD 344		17451.6+A		344
150GD 345		B		345
150GD 346		830.0+B		346
150GD 347		1706.5+B		347
150GD 348		2629.1+B		348
150GD 349		3599.1+B		349
150GD 350		4615.7+B		350
150GD 351		5680.0+B		351
150GD 352		6792.0+B		352

150GD 353		7952.0+B	353
150GD 354		9159.7+B	354
150GD 355		10414.1+B	355
150GD 356		11716.8+B	356
150GD 357		13068.5+B	357
150GD 358		14468.6+B	358
150GD 359		15917.5+B	359
150GD 360		17412.5+B	360
150GD 361		C	361
150GD 362		815.1+C	362
150GD 363		1664.1+C	363
150GD 364		2553.1+C	364
150GD 365		3430.8+C	365
150GD 366		4353.5+C	366
150GD 367		5322.9+C	367
150GD 368		6338.5+C	368
150GD 369		7403.9+C	369
150GD 370		8516.3+C	370
150GD 371		9682.2+C	371
150GD 372		10901.0+C	372
150GD 373		12172.4+C	373
150GD 374		13499.3+C	374
150GD 375		14881.7+C	375
150GD 376		16320.1+C	376
150GD 377		17816.2+C	377
150GD 378		19373+C	378
150GD 379		D	379
150GD 380		808.9+D	380
150GD 381		1667.4+D	381
150GD 382		2577.0+D	382
150GD 383		3433.3+D	383
150GD 384		4334.0+D	384
150GD 385		5279.6+D	385
150GD 386		6271.1+D	386
150GD 387		7311.5+D	387
150GD 388		8404.3+D	388
150GD 389		9544.6+D	389
150GD 390		10736.6+D	390
150GD 391		11981.5+D	391
150GD 392		13280.5+D	392
150GD 393		14635.3+D	393
150GD 394		16047+D	394
150GD 395		17515+D	395
150GD 396		19046+D	396
150GD 397		20638+D	397

```
S-p    =   6.612 ( 0.007)----------------------------------------------------------------------
S-n    =   8.708 ( 0.007)----------------------------------------------------------------------
S-2p   =  11.006 ( 0.006)----------------------------------------------------------------------
S-2n   =  15.637 ( 0.006)----------------------------------------------------------------------
S-alpha=  -2.807 ( 0.007)----------------------------------------------------------------------

S+p       =  -3.149 ( 0.007)
S+n       =  -6.496 ( 0.007)
S+2p      =  -8.932 ( 0.008)
S+2n      = -15.086 ( 0.006)
S+alpha   =   2.945 ( 0.010)

gap p     =   3.463 ( 0.010)
gap n     =   2.212 ( 0.010)
gap 2p    =   2.074 ( 0.010)
gap 2n    =   0.552 ( 0.009)
gap alpha =   0.138 ( 0.012)
```