

$^{150}\text{Gd}$        $Z = 64$        $N = 86$       adopted link      ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 1236.391 ( 0.006) MeV

	Energy T	J+		J-		J-other	T1/2	
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S-alpha=	-2.808	( 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	
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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	
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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	
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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
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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
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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
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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
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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
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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	
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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	
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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	
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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	
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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	
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S-p	=	6.612 ( 0.007)							

150GD 128				7.276	(23-)	128
150GD 129				7.930	(25-)	129
150GD 130				8.325	(27-)	130

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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

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= -2.808 ( 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 = 0.551 ( 0.009)

gap alpha = 0.138 ( 0.012)