

$^{158}\text{Gd}$        $Z = 64$        $N = 94$       adopted link      ENSDF link

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

BE = 1295.888 ( 0.001) MeV

	Energy T	J+	J-	J-other	T1/2
158GD 1	0.000	0+			1 STABLE
158GD 2	0.080	2+			2 2.56 NS 5
158GD 3	0.261	4+			3 0.148 NS 2
158GD 4	0.539	6+			4
S-alpha=	0.660 ( 0.002)				
158GD 5	0.904	8+			5 5.1 PS 4
158GD 6			0.977 1-		6 1.43 PS +19-80
158GD 7			1.024 2-		7
158GD 8			1.042 3-		8 0.54 PS 15
158GD 9			1.159 4-		9 3.3 PS +5-23
158GD 10			1.176 5-		10 0.32 PS +4-17
158GD 11	1.187	2+			11 0.61 PS 4
158GD 12	1.196	0+			12 5.5 PS +7-43
158GD 13	1.260	2+			13 3.6 PS 3
158GD 14			1.264 1-		14 13 FS 4
158GD 15	1.266	3+			15 1.11 PS +13-72
158GD 16	1.349	10+			16 1.85 PS 15
158GD 17	1.358	4+			17 0.69 PS +10-41
158GD 18			1.372 6-		18
158GD 19	1.381	4+			19
158GD 20			1.391 7-		20
158GD 21			1.403 3-		21 4.6 FS +8-7
158GD 22	1.407	4+			22 1.11 PS +19-74
158GD 23				1.414	23
158GD 24				1.440	24
158GD 25	1.452	0+			25 1.04 PS +16-90
158GD 26	1.481	5+			26
158GD 27	1.499	5+			27
158GD 28	1.517	2+			28 1.39 PS 15
158GD 29				1.554	29
158GD 30	1.577	0+			30
158GD 31	1.623	6+			31
158GD 32	1.635	6+			32
158GD 33			1.636 4-		33
158GD 34				1.639 (5-)	34
158GD 35				1.653	35
158GD 36				1.667 (4)+	36
158GD 37				1.684 (9-)	37

158GD	38				1.717	5-						38	
158GD	39		1.743			0+						39	0.75 PS GT
158GD	40		1.792			2+						40	
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158GD	41				1.794	2-						41	6.3 PS +9-60
158GD	42				1.814	6-						42	
158GD	43							1.819				43	
158GD	44		1.848			1+						44	
158GD	45				1.856	1-						45	
158GD	46				1.861	3-						46	
158GD	47		1.865			12+						47	0.98 PS 8
158GD	48							1.895	(2+)			48	
158GD	49				1.895	2-						49	
158GD	50		1.902			4+						50	
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158GD	51							1.917	(4,5,6)-			51	
158GD	52		1.920			4+						52	
158GD	53		1.930			1+						53	
158GD	54		1.954			0+						54	

S-p = 8.520 ( 0.004)-----  
 S-n = 7.938 ( 0.001)-----  
 S-2p = 15.907 ( 0.009)-----  
 S-2n = 14.297 ( 0.001)-----  
 S-alpha = 0.660 ( 0.002)-----

S+p = -6.131 ( 0.001)  
 S+n = -5.943 ( 0.001)  
 S+2p = -13.560 ( 0.001)  
 S+2n = -13.395 ( 0.001)  
 S+alpha = 0.084 ( 0.001)

gap p = 2.388 ( 0.005)  
 gap n = 1.994 ( 0.002)  
 gap 2p = 2.347 ( 0.009)  
 gap 2n = 0.903 ( 0.002)  
 gap alpha = 0.744 ( 0.002)