

^{140}Gd $Z = 64$ $N = 76$ adopted link ENSDF link

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

BE = 1141.697 (0.028) MeV

Qbeta+ = 5.204 (0.059) MeV

	Energy T	J+	J-	J-other	T1/2

S-alpha=	-2.604	(0.031)	-----		
140GD 1	0.000	0+			1 15.8 S 4
140GD 2	0.329	2+			2
140GD 3				0.713 (2+)	3
140GD 4	0.836	4+			4
140GD 5				1.068 (3+)	5
140GD 6				1.281 (4+)	6
140GD 7	1.464	6+			7
140GD 8				1.693 (5+)	8
140GD 9				1.881 (6+)	9
140GD 10	2.140	8+			10

140GD 11			2.211 8-		11 1.5 NS 4
140GD 12				2.411 (7+)	12
140GD 13			2.457 9-		13
140GD 14				2.632 (8+)	14
140GD 15			2.744 10-		15
140GD 16	2.797	10+			16
140GD 17	2.927	10+			17
140GD 18				3.034 9(-)	18
140GD 19			3.061 11-		19
140GD 20	3.268	12+			20

140GD 21			3.403 12-		21
140GD 22				3.617 (12+)	22
140GD 23				3.625 11(-)	23
S-p	= 3.673	(0.031)	-----		
140GD 24			3.767 13-		24
140GD 25	3.849	14+			25
140GD 26				4.026 (12,13)	26
140GD 27				4.150 (14-)	27
140GD 28				4.320 (13-)	28
140GD 29				4.553 (15-)	29
140GD 30	4.593	16+			30

S-2p	= 4.863	(0.030)	-----		
140GD 31				4.976 (16-)	31
140GD 32				5.461 (18+)	32
140GD 33				6.423 (20+)	33

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S-p    =  3.673 ( 0.031)-----  
S-n    = 12.183 ( 0.142)-----  
S-2p   =  4.863 ( 0.030)-----  
S-2n   = 22.241 ( 0.141)-----  
S-alpha= -2.604 ( 0.031)-----  
  
S+p     = -0.047 ( 0.109)  
S+n     = -9.513 ( 0.034)  
S+2p    = -2.965 ( 0.711)  
S+2n    = -21.320 ( 0.040)  
S+alpha =  2.787 ( 0.029)  
  
gap p   =  3.626 ( 0.113)  
gap n   =  2.669 ( 0.146)  
gap 2p  =  1.897 ( 0.711)  
gap 2n  =  0.921 ( 0.146)  
gap alpha = 0.184 ( 0.042)
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