

^{160}Hf $Z = 72$ $N = 88$ [link to full NNDC output](#)

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

BE = 1281.021 (0.010) MeV

Qbeta+ = 4.331 (0.058) MeV

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

S-alpha=	-4.902	(0.013)	-----		
160HF 1	0.000	0+			1 13.6 S 2
160HF 2	0.389	2+			2
160HF 3	0.898	4+			3
160HF 4	1.493	6+			4
160HF 5	2.147	8+			5
160HF 6				2.255 (7-)	6
160HF 7			2.714 9-		7
160HF 8			2.748 9-		8
160HF 9	2.815	10+			9
160HF 10			2.964 10-		10

160HF 11			3.026 11-		11
160HF 12	3.475	12+			12
160HF 13				3.503 (12-)	13
S-p =	3.519	(0.039)	-----		
160HF 14			3.530 13-		14
160HF 15				4.076 (14+)	15
160HF 16				4.108 (14-)	16
160HF 17			4.120 15-		17
S-2p =	4.507	(0.013)	-----		
160HF 18				4.735 (16+)	18
160HF 19			4.747 17-		19
160HF 20				4.762 (16-)	20

160HF 21				5.351 (18-)	21
160HF 22				5.415 (18+)	22
160HF 23				5.506 (19-)	23
160HF 24				6.087 (20-)	24
160HF 25				6.284 (21-)	25
160HF 26				7.000 (23-)	26
160HF 27				7.747 (25-)	27

S-p =	3.519	(0.039)	-----		
S-n =	11.158	(0.019)	-----		
S-2p =	4.507	(0.013)	-----		
S-2n =	19.979	(0.020)	-----		
S-alpha=	-4.902	(0.013)	-----		

S+p = -0.129 (0.026)
S+n = -8.447 (0.024)
S+2p = -2.638 (0.020)
S+2n = -19.373 (0.013)
S+alpha = 5.278 (0.014)

gap p = 3.390 (0.047)
gap n = 2.711 (0.031)
gap 2p = 1.868 (0.024)
gap 2n = 0.606 (0.024)
gap alpha = 0.377 (0.019)