

^{166}Hf $Z = 72$ $N = 94$ adopted link ENSDF link

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

BE = 1337.369 (0.028) MeV

Qbeta+ = 2.162 (0.041) MeV

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

S-alpha=	-3.537	(0.032)	-----		
166HF 1	0.000	0+			1 6.77 M 30
166HF 2	0.159	2+			2 497 PS 23
166HF 3	0.470	4+			3 16.4 PS 5
166HF 4				0.810 (2+)	4
166HF 5	0.897	6+			5 3.24 PS 19
166HF 6				1.007 (3+)	6
166HF 7				1.065 (0+)	7
166HF 8				1.163	8
166HF 9	1.219	2+			9
166HF 10				1.332 (2+,3,4+)	10

166HF 11				1.405	11
166HF 12	1.406	8+			12 1.05 PS 10
166HF 13				1.419 (5+)	13
166HF 14				1.466 (5-)	14
166HF 15				1.551 (4-)	15
166HF 16				1.603 (2+,3,4+)	16
166HF 17				1.726 (7-)	17
166HF 18				1.841 (6-)	18
166HF 19	1.972	10+			19 0.7 PS 5
166HF 20				2.079 (9-)	20 1.7 PS 4

166HF 21				2.197 (8-)	21
166HF 22				2.376 (8-)	22
166HF 23				2.497 (11-)	23
166HF 24				2.540 (10-)	24
166HF 25	2.566	12+			25 0.9 PS 7
166HF 26				2.680 (10-)	26
166HF 27	2.735	12+			27
166HF 28				2.793 (11-)	28
166HF 29				2.911 (12-)	29
166HF 30				2.962 (13-)	30

166HF 31	3.009	14+			31 6.9 PS 7
166HF 32				3.024 (12+)	32
166HF 33				3.086 (12-)	33
166HF 34				3.211 14(+)	34
166HF 35				3.231 (13-)	35
166HF 36				3.375 (14-)	36

166HF	37	3.449	16+				37
166HF	38				3.473	(15-)	38
166HF	39				3.516	(14+)	39
166HF	40				3.586	(14-)	40

166HF	41				3.779	(15-)	41
166HF	42				3.817	(15-)	42
166HF	43				3.835	(16+)	43
166HF	44				3.920	(16-)	44
166HF	45				3.972	(15-)	45
166HF	46	4.009	18+				46
166HF	47				4.030	(17-)	47
166HF	48				4.065	(16+)	48
166HF	49				4.163	(16-)	49
166HF	50				4.228	(16-)	50

166HF	51				4.374	(17-)	51
166HF	52				4.400	(17-)	52
166HF	53				4.443	(17-)	53
166HF	54				4.445	(14-)	54
166HF	55				4.459	(18+)	55
166HF	56				4.516	(18-)	56
166HF	57				4.582	(15-)	57
166HF	58				4.625	(19-)	58
166HF	59				4.641	(18-)	59
166HF	60	4.671	20+				60

166HF	61				4.677	(18+)	61

S-p	=	4.706 (0.039)		-----			
166HF	62				4.745	(16-)	62
166HF	63				4.824	(18-)	63
166HF	64				4.937	(17-)	64
166HF	65				5.006	(19-)	65
166HF	66				5.031	(19-)	66
166HF	67				5.071	(19-)	67
166HF	68				5.087	(19-)	68
166HF	69				5.090	(20-)	69
166HF	70				5.122	(20+)	70

166HF	71				5.157	(19+)	71
166HF	72				5.160	(18-)	72
166HF	73				5.214	(20-)	73
166HF	74				5.253	(21-)	74
166HF	75				5.313	(20+)	75
166HF	76	5.410	22+				76
166HF	77				5.410	(19-)	77
166HF	78				5.510	(20-)	78
166HF	79				5.666	(21-)	79
166HF	80				5.673	(21-)	80

166HF 81						5.679	(22-)	81
166HF 82						5.687	(20-)	82
166HF 83						5.720	(21-)	83
166HF 84						5.784	(21-)	84
166HF 85						5.799	(21+)	85
166HF 86						5.852	(22+)	86
166HF 87						5.897	(22-)	87
166HF 88						5.927	(23-)	88
166HF 89						5.986	(22+)	89
166HF 90						5.988	(21-)	90

166HF 91		6.201	24+					91
166HF 92						6.243	(22-)	92
166HF 93						6.311	(22-)	93
166HF 94						6.331	(23-)	94
166HF 95						6.356	(24-)	95
166HF 96						6.386	(23-)	96
166HF 97						6.441	(23-)	97
166HF 98						6.531	(23-)	98
166HF 99						6.536	(23+)	99
166HF 100						6.615	(24+)	100

166HF 101						6.641	(24-)	101
166HF 102						6.651	(23-)	102
166HF 103						6.666	(25-)	103
166HF 104						6.978	(24-)	104
166HF 105						7.007	(24-)	105
166HF 106		7.030	26+					106
166HF 107						7.078	(25-)	107
166HF 108						7.137	(26-)	108
166HF 109						7.145	(25-)	109
166HF 110				7.199	25-			110

166HF 111						7.314	(25-)	111
166HF 112						7.342	(25+)	112
166HF 113						7.364	(25-)	113
166HF 114						7.392	(26+)	114

S-2p	=	7.425	(0.032)	-----				
166HF 115						7.444	(26-)	115
166HF 116						7.481	(27-)	116
166HF 117						7.714	(26-)	117
166HF 118						7.770	(26-)	118
166HF 119		7.895	28+					119
166HF 120						7.899	(27-)	120

166HF 121						7.954	(27-)	121
166HF 122						8.007	(27-)	122
166HF 123						8.017	(28-)	123
166HF 124						8.063	(27-)	124
166HF 125						8.222	(28+)	125

166HF 126						8.303	(28-)	126
166HF 127						8.375	(29-)	127
166HF 128						8.426	(28-)	128
166HF 129						8.767	(29-)	129
166HF 130		8.801	30+					130

166HF 131						8.808	(29-)	131
166HF 132						8.817	(29-)	132
166HF 133						8.871	(29-)	133
166HF 134						8.980	(30-)	134
166HF 135						9.116	(30+)	135
166HF 136						9.212	(30-)	136
166HF 137						9.216	(30-)	137
166HF 138						9.338	(31-)	138
166HF 139						9.635	(31-)	139
166HF 140						9.682	(31-)	140

166HF 141						9.734	(31-)	141
166HF 142		9.753	32+					142
166HF 143						9.771	(31-)	143
166HF 144						9.991	(32-)	144

S-p = 4.706 (0.039)-----
S-n = 10.295 (0.040)-----
S-2p = 7.425 (0.032)-----
S-2n = 18.183 (0.032)-----
S-alpha= -3.537 (0.032)-----

S+p = -1.781 (0.040)
S+n = -7.680 (0.040)
S+2p = -5.612 (0.031)
S+2n = -17.644 (0.040)
S+alpha = 4.143 (0.031)

gap p = 2.925 (0.055)
gap n = 2.615 (0.056)
gap 2p = 1.813 (0.044)
gap 2n = 0.539 (0.051)
gap alpha = 0.606 (0.044)