

^{136}Pr $Z = 59$ $N = 77$ adopted link ENSDF link

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

BE = 1132.881 (0.011) MeV

Qbeta+ = 5.168 (0.011) MeV

	Energy T	J+	J-	J-other	T1/2
136PR 1	0.000	2+			1 13.1 M 1
136PR 2				0.040 1+,2+	2 9.25 NS 20
S-alpha=	0.042 (0.038)				
136PR 3				0.131 (3)+	3
136PR 4				0.141 0+,1+	4
136PR 5	0.149	1+			5 0.8 NS LT
136PR 6				0.174 (4)-	6
136PR 7	0.184	1+			7
136PR 8				0.335 (1+)	8
136PR 9	0.338	4+			9
136PR 10				0.352	10
136PR 11	0.477	1+			11
136PR 12				0.548 (4)+	12
136PR 13	0.575	1+			13
136PR 14				0.595 (6)+	14 91 NS 1
136PR 15				0.673 (1)+	15
136PR 16				0.793 0+,1+	16
136PR 17				0.804 (7+)	17
136PR 18				0.940 (1)+	18
136PR 19				0.972 (1)+	19
136PR 20				1.005 (0+,1+)	20
136PR 21				1.049 (8+)	21
136PR 22				1.063 (0,1)+	22
136PR 23				1.116 (7)	23
136PR 24				1.172 (1+)	24
136PR 25				1.184 0,1	25
136PR 26				1.185 (9+)	26
136PR 27				1.316 (8+)	27
136PR 28				1.346 (8+)	28
136PR 29				1.489 (0,1)+	29
136PR 30				1.551 (10+)	30
136PR 31				1.803 (10+)	31
136PR 32				1.837 (10+)	32
136PR 33				1.912 (11+)	33
136PR 34				2.102 (9)	34
136PR 35				2.153 (11)	35
136PR 36				2.223 (10+)	36

136PR 37				2.235	(10+)	37
136PR 38				2.266	(10+)	38
136PR 39				2.332	(10+)	39
136PR 40				2.382	(12+)	40

136PR 41				2.445	(11)	41
136PR 42				2.466	(11)	42
136PR 43				2.529	(12+)	43
136PR 44				2.569	(13)	44
136PR 45				2.637	(12)	45
136PR 46				2.680	(12+)	46
136PR 47				2.779	(12)	47
136PR 48				2.819	(13+)	48
136PR 49				2.847	(13+)	49
136PR 50				2.920	(13)	50

136PR 51				3.010	(13)	51
136PR 52				3.066	(14+)	52
136PR 53				3.123	(14+)	53
136PR 54				3.237	(14)	54
136PR 55				3.314	(14+)	55
136PR 56				3.341	(14+)	56
136PR 57				3.415	(14)	57
136PR 58				3.594	(15)	58
136PR 59				3.678	(15)	59
136PR 60				3.729	(14)	60

136PR 61				3.784	(16+)	61
136PR 62				3.802	(15+)	62
136PR 63				3.861	(15+)	63
136PR 64				3.937	(15)	64
136PR 65				3.999	(15)	65

S-p	=	4.013	(0.015)	-----		
136PR 66				4.098	(16)	66
136PR 67				4.173	(16)	67
136PR 68				4.210	(16)	68
136PR 69				4.241	(16+)	69
136PR 70				4.289		70

136PR 71				4.356	(17+)	71
136PR 72				4.412	(16+)	72
136PR 73				4.436	(17)	73
136PR 74				4.473	(18+)	74
136PR 75				4.530	(17)	75
136PR 76				4.544	(17)	76
136PR 77				4.581	(17)	77
136PR 78				4.884	(18)	78
136PR 79				4.959	(17+)	79
136PR 80				4.990	(18)	80

136PR 81				5.030	(18)	81
136PR 82				5.086	(18)	82
136PR 83				5.143	(19+)	83
136PR 84				5.175	(18+)	84
136PR 85				5.324	(19)	85
136PR 86				5.371	(20+)	86
136PR 87				5.394	(19)	87
136PR 88				5.422	(19)	88
136PR 89				5.430	(19)	89
136PR 90				5.847	(20)	90

136PR 91				5.934	(20)	91
136PR 92				6.066	(20)	92
136PR 93				6.075	(20+)	93
136PR 94				6.113	(19+)	94
136PR 95				6.427	(21)	95
136PR 96				6.444	(21)	96
136PR 97				6.470	(21)	97
136PR 98				6.471	(22+)	98
136PR 99				6.548	(21)	99
136PR 100				6.975	(22)	100

136PR 101				7.021	(22)	101
136PR 102				7.115	(22+)	102
136PR 103				7.562	(23)	103
136PR 104				7.728	(24+)	104
136PR 105				7.752	(23)	105
136PR 106				7.824	(23)	106

S-p = 4.013 (0.015)-----
S-n = 8.476 (0.016)-----
S-2p = 10.700 (0.023)-----
S-2n = 18.955 (0.023)-----
S-alpha= 0.042 (0.038)-----

S+p = -5.532 (0.016)
S+n = -9.933 (0.014)
S+2p = -8.152 (0.016)
S+2n = -17.931 (0.015)
S+alpha = 0.703 (0.027)

gap p = -1.519 (0.022)
gap n = -1.457 (0.022)
gap 2p = 2.548 (0.028)
gap 2n = 1.024 (0.028)
gap alpha = 0.745 (0.047)