

$^{137}\text{Pr}$        $Z = 59$        $N = 78$       adopted link      ENSDF link

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

BE = 1142.814 ( 0.008) MeV

Qbeta+ = 2.717 ( 0.008) MeV

	Energy T	J+	J-	J-other	T1/2
137PR 1	0.000	5/2+			1 1.28 H 3
137PR 2	0.075	3/2+			2 0.38 NS 3
S-alpha= 0.132 ( 0.029)-----					
137PR 3	0.230	7/2+			3
137PR 4				0.314 (5/2+)	4
137PR 5				0.382 (3/2,1/2)+	5 0.5 NS 2
137PR 6			0.561 11/2-		6 2.66 US 7
137PR 7	0.562	9/2+			7
137PR 8	0.581	3/2+			8
137PR 9				0.725 (5/2+)	9
137PR 10	0.762	3/2+			10
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137PR 11				0.825 (11/2+)	11
137PR 12				0.857 (1/2)+	12
137PR 13				0.929 (3/2+)	13
137PR 14				0.959	14
137PR 15				1.001 (1/2)+	15
137PR 16			1.078 15/2-		16
137PR 17			1.189 13/2-		17
137PR 18				1.248	18
137PR 19				1.294	19
137PR 20				1.310	20
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137PR 21	1.349	13/2+			21
137PR 22				1.485	22
137PR 23				1.625 1/2,3/2	23
137PR 24				1.746 (15/2-)	24
137PR 25			1.837 17/2-		25
137PR 26			1.871 19/2-		26
137PR 27				1.941	27
137PR 28				1.969 (1/2+)	28
137PR 29				1.977 (1/2+)	29
137PR 30				2.009 (3/2)	30
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137PR 31				2.045	31
137PR 32				2.127 (1/2+)	32
137PR 33	2.287	17/2+			33
137PR 34	2.307	17/2+			34
137PR 35				2.365	35
137PR 36				2.410	36

137PR 37		2.435	19/2+					37
137PR 38						2.507		38
137PR 39						2.543		39
137PR 40						2.590		40
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137PR 41					2.623	21/2-		41
137PR 42		2.644	21/2+					42
137PR 43					2.714	21/2-		43
137PR 44					2.776	23/2-		44
137PR 45		2.843	23/2+					45
137PR 46		2.921	23/2+					46
137PR 47							3.001 (21/2+)	47
137PR 48		3.031	25/2+					48
137PR 49							3.050	49
137PR 50							3.096 (25/2+)	50
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137PR 51		3.177	25/2+					51
137PR 52					3.308	25/2-		52
137PR 53		3.363	23/2+					53
137PR 54					3.440	25/2-		54
137PR 55		3.521	25/2+					55
137PR 56					3.551	27/2-		56
137PR 57		3.614	27/2+					57
137PR 58					3.687	27/2-		58
137PR 59							3.746 (27/2+)	59
137PR 60		3.792	29/2+					60
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137PR 61							3.845	61
137PR 62					3.872	29/2-		62
137PR 63		3.904	27/2+					63
137PR 64							3.953	64
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S-p	=	3.982 ( 0.008)			-----			
137PR 65							4.103	65
137PR 66		4.118	29/2+					66
137PR 67					4.213	31/2-		67
137PR 68							4.222 (29/2-)	68
137PR 69							4.304	69
137PR 70							4.318	70
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137PR 71		4.580	31/2+					71
137PR 72					4.622	31/2-		72
137PR 73					4.696	33/2-		73
137PR 74							4.700	74
137PR 75		4.735	33/2+					75
137PR 76					4.813	33/2-		76
137PR 77							4.970	77
137PR 78							5.024 (33/2+)	78
137PR 79							5.131	79
137PR 80							5.171	80
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137PR 81			5.175	35/2-		81
137PR 82					5.470 (35/2+)	82
137PR 83					5.471	83
137PR 84			5.515	37/2-		84
137PR 85					5.615	85
137PR 86					5.624 (37/2+)	86
137PR 87					5.657 (35/2-)	87
137PR 88					5.719	88
137PR 89			5.924	39/2-		89
137PR 90					6.016	90
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137PR 91					6.070 (37/2+)	91
137PR 92					6.389 (41/2-)	92
137PR 93					6.446 (39/2+)	93
137PR 94					7.434 (43/2+)	94

S-p = 3.982 ( 0.008)-----  
S-n = 9.933 ( 0.014)-----  
S-2p = 11.136 ( 0.012)-----  
S-2n = 18.408 ( 0.014)-----  
S-alpha= 0.132 ( 0.029)-----

S+p = -6.104 ( 0.014)  
S+n = -7.999 ( 0.013)  
S+2p = -8.877 ( 0.016)  
S+2n = -17.770 ( 0.009)  
S+alpha = 0.254 ( 0.016)

gap p = -2.122 ( 0.016)  
gap n = 1.934 ( 0.019)  
gap 2p = 2.259 ( 0.020)  
gap 2n = 0.639 ( 0.017)  
gap alpha = 0.386 ( 0.033)